

PARADAPTIVE INTELLIGENCE NETWORK

Note: This article is not intended to be a scholarly work with references and citations. That article is in process. The function of this article is to provide the reader with the broad-stroke, foundational concepts to understand works presented in books and articles published by Scott Syverson.

ABSTRACT

“The greatest obstacle to discovery is not ignorance – it is the illusion of knowledge.”
Daniel J. Boorstin, Librarian of Congress

Paradaptive Intelligence is a theory, portions of which, were first published by Scott Syverson in his 2014 book *Sales Psychology 101, Paradaptive Intelligence ~ The Grand Unifying Theory of Adaptation, Consumer Behavior and Sales*. The main constructs of the theory, Paradaptive Intelligence, is there are two types of adaptation, Type I and Type II. Speciation via morphological and biological mutation is Type I adaptation. Type I adaptation, as described by Darwin, and later refined to become known as the theory of evolution which is based on DNA genetic mutation to alter body physiology, DNA encoded behavior, and bodily characteristics to increase survivability that is selected for by the environment and mating. Type II adaptation is concerned with mental mechanism and functions of behavioral changes to take full advantage of the physiological alterations being selected for in an organism’s DNA in Type I adaptation.

Currently, the theory of evolution holds that organisms will be selected by the environment or species mating preferences through incremental mutations. The theory is dependent upon DNA mutations to morph organism physiologically, the roots of speciation, which will give an organism an improved chances of survival or mating preference, thus creating an opportunity to inject and standardize a mutation into the gene pool. However, this simplistic approach to speciation is flawed in that it does not recognize that behavioral changes are required and necessary for survival or mating mutations to be taken advantage of to increase survival or mating preference to reach any level of efficacy. Mutation without a corresponding behavioral change to take advantage of the new mutation has a much lower probability of becoming resident in the gene pool.

The main thrust of this flaw is that as an organism morphs physiologically to exploit a new energy source in the environment or for mating purposes, there is no explanation for change in behavior to extract the benefit of the selected morphology without explaining how that behavioral change occurs. As currently exists, there is an assumption that the behavior will follow physical changes. In the case of Darwin, he describes the changes in Galapagos Finches’ beak morphology, but doesn’t explain the mechanism for the changing of the behavior of these creatures to exploit their new capabilities. How would one finch know to specialize in feeding from nectar with its beak morphology while another finch should exploit a specific seed or nut more easily processed with its beak configuration? Without a behavioral adaptation mechanism to guide an organism and provide internal feedback to change behavior to exploit morphology changes, then that organism would starve and the DNA mutation would be lost to the gene pool. The lone exception to this is mutation that confers resistance to disease or pathogens present in the environment, which requires no action, hence no adaptive behavior change..

As an example, a lizard may have skin/scale patterns that camouflage it in certain parts of its environment, but unless it restricts itself to that particular area, which requires a behavioral change to exploit this advantage of

camouflage pattern, then this mutation in the gene pool would be lost when the lizard loiters in an area contra-indicated by its mutation that highlights its presence to predators. In the case of mating, without a learning mechanism to provide internal feedback while selecting the characteristics of desired mates, the selector would fail to prefer mating partners with the mutated morphology. The underlying assumption that behavior will follow environmentally or mated selected mutations cannot stand alone without an internal feedback system to modify organism's behavior to exploit mutation. As another example, let's examine a species driven mating preference in the bright and abstentious display a male peacock's plumage. Under Type I adaptation, the theory holds that males experienced a series of incremental mutations leading to brighter and bigger plumages. But mutations leading to bigger plumages in males can't occur or be explained unless there is a feedback system in females comparing differing male plumages and selecting for desirous mutations. This implies a mental process in the females as the force driving male adaptation that has a motive, action, outcome, evaluation, and corrections process leading to an outcome of action in signally and commencing mating with the selected male. In the case of this mating preference, the female is desirous of mating with the male with the best genes to pass on to its offspring and in the speciation process, an instinctual, DNA encoded desire for symmetrical, bright, and large plumage as an indicator of health (wholesomeness) lead to behavior to determined for bright and large tail plumages as the greatest indicator of suitability and health. The female peacock's motive is to mate with the best male and obtain his genes for her offspring, so she takes the action of inspecting and comparing various males in attendance via courting rituals. The outcome of her actions is she identifies which males are interested in mating with her. The female will evaluate if any of the suitors meets her preference criteria. This evaluation will take the shape of one of two different emotions, lust towards one suitor or dislike, a mild form of disgust signaling unwholesomeness, towards those viewed. In the case of lust, she'll commence mating. If dislike is signaled as the evaluation, she will move away to find other potential mates and start the process over again.

The primary function of a central nervous system, any central nervous system, is adaptation. Central nervous systems exist in the animal kingdom. Central nervous systems facilitate movement. Plants have no central nervous system and are devoid of locomotion capabilities. Locomotion confers greater survival potential through increased range and thus greater potential for contact with food sources and breeding mates. Locomotion and movement are adaptation strategies. Rather than being part of the environment, like plants, organisms that possess the power of locomotion and movement, or stated another way – the ability to make changes to the organism's circumstances via locomotion and movement, not only are still part of the environment, but can also move through the environment. The genesis of behavior is movement. Without movement, there can be no behavior. Behavior is a collection of movements that creates a pattern. And as such, all examination of behavior must be evaluated in terms of furtherance of adaptation which controls and directs all movement. Additions to the central nervous system in the way of sensory organs, such as those that detect light, sample chemicals via taste or smell, or interpret the environment by pressure differential via touch and hearing provide information about the environment. But a mechanism is needed to interpret that information to guide locomotion or movement. In its simplest form, this mechanism can determine whether to approach or avoid (move away from) objects in the environment as it seeks pleasure and avoids pain. At a basic level, this system works in conjunction with the Theory of Chaos as an organism randomly moves about its environment. A large number of simple multi-cellular organisms to quadrupeds function at this level. But even so, a mechanism in the central nervous system must coordinate the approach pleasure/ avoid pain response and this requires a feedback system.

As a general construct, Type II adaptation is a feedback loop described as a process with an actions, outcomes, evaluations, and corrections phase. Additionally, this process must also have a motives element, something that the process is trying to accomplish which drives the whole process. This could be something as primitive and instinctual as continuation of survival. Or it could be complex behavior like a bear trying to obtain honey from a bee's nest. With a motive, actions, outcomes, evaluations, and corrections, you have a basic behavioral feedback system. The motive dictates the direction the process will take and define the sought outcome. Action is enacted in the physical world to attempt achievement of the desired outcome. These actions can either instinctual, pre-

programmed, DNA encoded actions or in the case of higher animals they maybe thought contrived. The actions taken in the physical world interact and react with other elements and agents in the physical world and produce some sort of outcome. The organism will evaluate the outcome and compare it to desired outcome and issue a correction. The correction is issued in the form of an emotion. This emotion directs the organism to try again and change its action to produce a different result; this process is repeated until the desired outcome is achieved and signaled by a growth emotion signal the desired result has been achieved and the organism has grown by this achievement. This is Type II adaptation - a mechanism for behavioral change.

It is improbable that Type I adaptation will occur in the presence of Type II adaptation. Due to Type II's shorter response cycle, Type II adaptation will produce either a behavioral or environmental change before Type I adaptation can start to successfully start to select for mutation variations specifically suited for a environment.

So both mutations, those that changes physiology and biology that support speciation and those that are selected for in mating all have a motive, actions, outcomes, evaluations, and corrective phase. Without a goal or objective as criteria, the evaluative phase can't be resolved or executed. So it is clear that their exist a motive: in our example of the finch beaks - to satisfy hunger or in the case of the peacock plumage - a primal drive to procreate in a way that insures progeny have the highest possible chance of survival. With the identification of a system that has a motive or goal as a driver of adaptation and a selective process that identifies possible alternatives, a comparative process that identifies differences between the alternatives, a qualitative process that examines values and costs of the identified differences, and an evaluative process that selects the greatest possible combination of preferred differences and risks between meeting the selection criteria, we can now see why Type II adaptation is a necessary and integral part of evolution.

Emotions in humans, the corrective phase of organism behavioral change, has been thought to be a vestigial left over from animals and it is for this reason they were ignored in science. The prevailing position in science was humans shared emotions with animal so therefore they could not be responsible for making us uniquely human. This position is diametrically opposed to the facts of the matter – while we do share many emotions with animals it is because we have an expanded suite of emotions and additional mechanisms in the Paradaptive Intelligence Network over animals that make us far more adaptable and thus uniquely human.

Humans have greatly expanded adaptational capabilities. While it is clear that Type I adaptation came first evolutionary wise, Type II evolution soon followed allowing organisms to make behavioral changes that could best take advantage of mutations over other organisms that with the same mutation, but lacked enhanced Type II adaptation powers. All organisms and animals have internal feedback systems for behavior modification, which is the crux of Peil's research and her EFS model, even down to single cell organisms such as bacteria that chemically signal their presence and numbers that elicit increased growth rates among the collection of bacteria that can create biofilms.

There are instances where Type I adaptation does occur without the concurrence of Type II adaptation, such as mutation insertions into the gene pool that provide resistance to environmental pathogens. These lay may dormant in the gene pool until the appearance of that particular pathogen and selection for it begins. Even so, an argument can be made in that most organisms have a behavioral feedback mechanism to shun unwholesomeness, and sickness is unwholesome. So while Type I adaptation may provide a primary line of defense against environmental pathogens, Type II adaptation provides a secondary line of defense if the organism has mobility to make behavioral changes to move away from the areas and individuals of unwholesomeness (illness and pathogens).

There has been much discussion in psychology and biology regarding the layering of newer brain structures like Paul D. Maclean's Triune brain structures that purports to organize the brain into the Reptilian Complex, the limbic system and the cerebral cortex based upon appearance in the evolutionary time line. There has even been division and definitions based upon different phylum of animals like the reptilian, mammalian, and man's brain. These

transitional models are fatally flawed in that they offer no pragmatic model as to the basic function of the brain. The basic purpose and function of the mind is adaptation and it performs this function through the impulses we call emotions which all levels of the brain, from earliest structures to the most recent, can produce. The real difference is in the type of emotion these structures produce. The archaic parts of the brain produce and coordinate approach and avoid behaviors and are autonomous to later structures. This is why you are able to duck something thrown at your head (pain/move away) without thinking. Evolutionary later parts of the brain shared with mammals produce a moderate range of basic emotions such as joy, anger, disgust, loss, fear, and surprise. The uniquely human portions of our brains, evolutionary-speaking that are very recent additions, allow us to not only receive the other two types of emotional signals, but to blend the basic emotion signals together to give us greater range of evaluations in the feedback portion of the cycle on multiple axis of evaluation. In this way, for example, feedback can be given by an emotion that signals both disgust and anger which the blended emotion resentment communicates. This process of basic emotion tones and blending will be expanded upon later, but first a very simple example of complex Type II adaptation on display: a bear trying to get honey from a bee's nest in a tree trunk. There are two major axes of behavioral adaptation and in which emotions guide organisms. One axis is to change the organism's behavior, while the other axis is to change organism's environment. A bear locates a bee's nest in a tree trunk and positions its head so that it can try and insert its tongue into the opening but it can't reach the honey cells of the bee's nest. So it repositions its self to try from a different angle. This doesn't work either. So it starts to rip open the tree with its claws, exposing the honey and consumes it. The motive is apparent, it was desirous of consuming the honey which it has learned is a high source of energy and represents pleasure. It forms a plan to position its mouth in the nest entrance to try to get at the honey and does so. This covers the action phase. This action has an outcome – the honey can't be obtained. The bear evaluates the outcome as negative and receives an internal impulse, and emotion, a weak impulse of anger such as annoyance. It changes its behavior to try a new angle, tries again with no luck and no partial results (the action, outcome, and evaluation phases). This time it receives a stronger impulse of anger, such as form of fury which causes the bear to push back with aggression so it starts to attack the tree, ripping it open and exposing the honey.

Type II adaptation, at its fullest extent as exemplified in humans, is characterized by a lack of specialized body morphology specific to an environment or exploitation of energy source in that environment, but rather a generalized body plan built for maximum flexibility that is dependent upon DNA encoded behavioral adaptation algorithms that guide organisms to either adapt their behavior to the environment or alter their environment to suit their behavior. In this way, organism adaptation to a wide variety of environments can be accomplished within a lifetime or less rather than taking many generations of mutations to accomplish body morphology, physiology, or behavioral specialization by DNA encoding (instincts).

The family Hominidae within the order of primates is the only organism known to be fully dependent upon and specialized in morphology specifically to support Type II adaptation. While Type II adaptive behavior has been observed in other primates, primarily the great apes, a few bird species, and octopodiformes, these examples represent modest capabilities of tool making and problem solving, which is a byproduct of a rudimentary paradaptive intelligence network. The observation of rudimentary tool making capability across multiple kingdoms and classes of animals signals the nascent development of a paradaptive intelligence networks approaching some aspects of human capabilities adds weight to the theory that Type II adaptation is part of a broader evolutionary progression as demonstrated by this convergent evolutionary trait. While derived from and still subject to Type I adaptation, Type II adaptation represents a shift from morphology and physiological specialization to behavioral flexibility and environmental manipulation as the primary mechanism of adaptation to increase survivability.

Human beings, specifically *Homo sapiens*, represent the highest form of Type II adaptation thus yet achieved of any species. Archaic hominids, such as *Homo habilis*, *neanderthalensis*, *heidelbergensis*, *floresiensis*, and *Homo sapiens idaltu* were all of comparable morphology and relative brain volume, yet failed to achieve wide spread environmental diversification or even continuation as a species. This suggests that while brain size is important to

Type II adaptation, organization of the brain is the more crucial factor. In *Homo sapiens*, this crucial organization centers around the Paradaptive Intelligence Network and its adaptation function, whose central feature is emotions.

The theory of Paradaptive Intelligence is based upon the theory and concepts of the Emotional Feedback System (EFS) developed by Katherine Peil. This started out as her doctoral thesis while at the University of Washington, in Seattle, Washington. Development and research continued through the years at other universities including Northwestern University and Harvard University and through Ms. Peil's non-profit organization, EFS International, Inc. In 1985 Syverson became vice president of EFS International, Inc. and has held that post since. Peil's EFS theory originally was intended to be a broad spectrum psychological diagnostic tool, but the power and versatility of the model lent itself to other applications beyond its original intent. Peil's research was peer reviewed and published in the *Global Advances in Health and Medicine* which published the works in three languages in March of , 2014.

The core of Peil's EFS theory states that emotions serve as feedback signals to help regulate human behavior to obtain goals. Under EFS, there are only six emotions, called basic emotions, which are joy, anger, fear, sadness, disgust, and surprise. In each one of these basic emotions, there are different gradients called complex emotions. Examples of some complex emotions within the basic emotion fear are growing pain, trepidations, anxiety, and paranoia. Complex emotions that are specific to one of six basic emotions are called tones. However, basic emotions can be mixed together to create blends of complex emotions, with one of the basic emotions being primary. In this way feedback can be enhanced to give broader information of performance along two axes. In EFS, humans respond to only two types of stimuli: pleasure and pain. Pleasure is sought, while pain is avoided. This is also a central dynamic of EFS's organization of emotions. Pleasure creates an impulse to move towards that which has been identified as pleasurable, while identified sources of pain creates impulses to avoid or move away. In EFS's construct, every emotion contains three elements: approach/avoid impulse, basic emotion and a complex emotion that can be a tone or a blend. The Paradaptive Intelligence model call the approach/avoid impulse the Agitation Expression. This construct is further extended to organize the six basic emotion types into three different categories: growth signals, corrective signals, and surprise. Growth signals contain the impulse to move towards pleasure and all complex emotion tones are varieties of the basic emotion joy. Corrective signals contain the impulse to avoid/move away from and include the emotions anger, fear, sadness, and disgust. Surprise is approach/avoid neutral and signals results of actions that were not expected and comes in only one form. The corrective signal the emotion fear signifies is a threat to the body or self and the course of action is to flee; anger signifies obstacles to goal achievement or boundary violations have occurred and the course of action is to push back/fight; sadness signals loss and the course of action is replacement; and disgust signifies unwholesomeness and invokes the impulse to either fight or flee.

In Peil's EFS model, there are five mechanisms that work in coordination together to achieve goals and motivations of the individual: mover, teacher, wizard, Human Action Cycle (HAC), and ego. In the theory of Paradaptive Intelligence, Syverson renames the mover to reactor, teacher to adaptor, wizard to conductor, and adds a new mechanism, the Mirror Neuron System. The primary directive of the reactor, the unconscious mind, is to protect the body; its main job is to connect the mind to the body via the central nervous system; it learns via conditioned learning; its bias is to approach pleasure and avoid pain. The adaptor's (the conscious mind) prime directive is to learn, which it does through active learning; its primary job is adaptation; its bias is cooperation. The prime directive of the conductor (perhaps thought of as the soul) is maximize motives; its primary job is to direct all activities towards optimal outcomes; its bias is self optimization (self actualization + tribal benefit maximization). The ego's prime directive is to prevent the adaptor overload from recalled information and sensory feeds from the central nervous system; its primary job is the custodian of learning input and recall, filtration of information and input feeds from the central nervous system to the adaptor; its bias is confirmatory. The ego stores memories and the key features of those memories so that they can be recalled as exemplars to be used in other mental processes of the reactor's adaptation functionality.

Ego, reactor, adaptor, conductor activities are coordinated by the Human Action Cycle (HAC). In Peil's EFS model, the HAC is a standard, five-step feedback cycle of motivation, actions, outcomes, evaluations, and corrections (adjustments). In Syverson's Paradaptive Intelligence Model, an additional element is inserted called an Action Plan. The adaptor formulates a goal which becomes the motive. The conductor influences the formation of that goal for self optimization and the development of an action plan to implement specific actions designed to produce maximum benefit. The action plan is derived from exemplars drawn from memory, deductive and inductive reasoning, imagination, or a combination thereof. When the action plan is complete, a request for action is given to the reactor, which controls the central nervous system, thus the body and all its functions and activities. The reactor implements the request for activity creating actions in the world outside the body and then via the central nervous system catalogs and evaluates the outcomes of the actions performed in the world outside the body. The reactor then issues an evaluation of the outcome based on all the central nervous system's sensory feeds and delivers that evaluation to the adaptor in the form of a three layered emotion containing an approach/avoid agitation signal, basic emotion, and complex emotion signal. The adaptor then formulates a correction or adjustment adaptation plan to achieve the motivation and sends this new plan in the form of action request back into the HAC which repeats the whole cycle over again. This process continues until the motivation is achieved, paused to wait for or obtain a needed element, or the HAC is abandoned because it is not achievable. Peil's research has shown that various elements of the feedback mechanism as described herein is present to one degree or another in every animal and organism traceable back to single cell creatures responding to pleasure and pain as a regulatory system.

The human mind only responds to two things pleasure and pain. The pleasure is a mental stimulus as is psychic pain, both of which are generated by the basic emotion signal in every emotion. In this way the reactor is geared to seek known or anticipated pleasure in the environment and avoid known situations or entities that are known to induce pain. This library of known pleasures and pains is managed by the ego which determines which memories are placed in memory and which are pulled from memory for use as exemplars to compare to present circumstances. The ego determines what is placed before the adaptor not only from memory, but also what is allowed into the adaptor from the central nervous system. The adaptor's focus is singular while the reactor's focus is broadband monitoring the entire central nervous system. The ego's selection of material and central nervous system feeds is bias towards confirmatory or what the adaptor expects to happen based on the actions requested through the HAC. In this respect it acts as a filter seeking to confirm anticipated outcomes in the world outside the body.

Syverson's theory of Paradaptive Intelligence departs from Peil, in that it also includes the Mirror Neuron System. This is a system long known in animals and suspected in humans. Its presence was not confirmed in humans until approximately 2008. The purpose of this system is to signal and decipher internal emotion states in and to others via facial expressions. Humans are born with the innate ability to only recognize only six facial expressions: joy, anger, fear, sadness, disgust, and surprise. All other facial expressions must be learned. Human DNA allows for the building of a library to store learned facial expression beyond the innate six. This library is the Mirror Neuron System. All cultures hold infants up to their faces and make exaggerated expressions. It is believed that this process helps build facial expressions in the Mirror Neuron System library. It is presumed that this library of exemplars ceases development around age five. The mechanism of operation of the Mirror Neuron System is micro expressions. By mimicking another person expression ever so briefly allows the Mirror Neuron System to identify that emotion in its library and the associated emotional state to that expression, and deliver the corresponding emotion state upon the adaptor which momentarily adopts that emotion before reverting back to the emotional state that was interrupted. This is also the mechanism of empathy. Understanding the internal emotional state of others is directed at the cooperation bias of the adaptor. By knowing and understanding others emotional states, we are able to shape our communications and actions to assist them in cooperative action (adaptor bias) in achieving their motivations and goals. People with high levels of empathy, thus are able recognize a wide array of emotions in others, which contributes to having high Paradaptive Intelligence skills.

The six mechanisms of Paradaptive Intelligence Network, reactor, adaptor, conductor, ego, HAC, and Mirror Neuron System form a system for achieving goals both separately and internally, and while working in conjunction cooperatively with others for mutual benefit. This feedback system at the core of the Paradaptive Intelligence Network in *H. sapiens*. It is much expanded over other animals giving us a broader range of adaptability via an expanded capability for forming motives and plans to achieving goals in addition to greater feedback due to an ability to blend variations of basic emotions to give greater and more precise corrections to actions taken in the world outside the body. In addition to the fore mentioned capabilities, there is one more element of the Paradaptive Intelligence Network that is also uniquely human. Specific emotions are organized into specific algorithms to accomplish problem solving/innovation or specific types of relationships.

Type II adaption has two broad strategies: changing behavior or changing the environment. There are two modalities in which humans achieve adaptation through either self-directed problem solving or relationships when self directed problem solving lacks elements of knowledge or resources. The expansion of the emotion suite includes sets of algorithms designed for on-the-fly adaption to accomplish the two main strategies. These algorithms are arrangements of emotions in a specific order and each emotion must be satisfied in a specific way. The emotions are hierarchal in that the previous emotion must be satisfied before attempting satisfaction of the next emotion in the hierarchy. The emotions of the algorithms are arranged in descending and then ascending order based upon the strength (undesirable or desirable) of emotional signal. In the accompanying graphs, the algorithms are read from left to right with corrective signals upon the left and growth signals on the right with the two weakest signals of both corrective and growth signals abutting each other in the middle. The corrective signals signifies that there may be exemplar memories of past failures, activities or actions similar to present circumstances that proved to be undesirable, creating corrective signals, in either relationships or problem solving that would agitate against an individual from attempting satisfaction presently. The gradient of undesirability of these memories and the corrective signal they produced corresponds to the level of resistance and individual will display towards pain nullification of their present circumstances. De-escalation of undesirable emotional gradient states occurs when the key features of the undesirable exemplar can be assuaged or nullified by different course actions. In problem solving/pain point nullification, the primary corrective signal is fear. In relationships, depending on the type of relationship, all four corrective signals will serve as a primary algorithm. The gradients emotional tones for the corrective signal fear are paranoia, anxiety, trepidations, and growing pains, read from strongest to weakest; for rage: rage, fury, frustration, and annoyance; for disgust: hate, repugnance, detest, dislike; for sadness, desolation, despondency, melancholy, loneliness. In this way an individual moves towards emotional state with lower negative agitation states until the positive emotion acceptance can be achieved.

These represent a continuum of emotions for each corrective signal. The terms selected were chosen to break the continuum into quadrants. There are other terms in the English language that represent gradients of emotions between the word chosen and other words with the approximate meanings of the chosen word. The concept of quadrants is helpful in creating understandings of behaviors. Each of the most potent emotions listed at the end of each continuum in each of the corrective signals is the full measure of that emotion at full strength and converges with the basic emotion. In addition, each of the full potency corrective signal emotions can also trigger the Fight, Flight, or Freeze mechanism.

On the other end of the spectrum coupled to corrective signal are the growth signals. All growth signals are joy based and also come in a continuum. What is different about growth signals are that many are built to perform a specific function or behavior, and the potency or strength of the joy received for completion of that function is an internal reward system for pursuing and completing tasks and functions of an algorithm. There are several different algorithm for behavior patterns that have evolved and while the function of a particular emotion may be different, the level or potency of the reward emotion may be equivalent to differing emotions in other algorithms. By in large, most growth signals start with the emotion acceptance, which has the weakest reward potency. The emotion acceptance signals the shift from past exemplars that prevent problem solving or entering into relationship to

focusing on present circumstances. While the reward potency for ending emotions tones of the growth signal for all algorithms may not be the same equivalency, none the less there is a class of the most desirable emotion tones due to the high internal reward they deliver of joy and reflect either the completion a portion of a algorithms, or completion of functions in the latter stages of an algorithm. In this way an internal reward system for adaption is back-loaded to give continuous or slightly differentiated high doses of joy to drive the individual to adapt. This class of most desirous emotions includes: exuberance, awe, love, justice, mirth, faith, compassion, respect, generosity, grace, honor, courage, gratitude, devotion, universal oneness, transcendence.

The innovation/tool seeking algorithm of adaptation is a corrective signal of – fear, coupled with growth signal -- joy. Innovation is an emotionally driven process that directs a person to change their behavior or their environment. Tool making is an environmental innovation, whereas a change in hunting technique is behavioral adaptation. Both behavioral and environmental adaptations are driven by the same algorithm.

Exemplars memories of previous failed innovation attempts whose key features resemble or match present circumstances agitate via the psychic pain of corrective signals to avoid attempting similar innovation again. The highest gradient of corrective signals is paranoia. The lowest is growing pain. These represent the two ends of a continuum of fear corrective signals. While the Paradaptive Intelligence model breaks the continuum of fear into four sections, growing pain, trepidations, anxiety and paranoia, there may be other intervening points representing emotions that may go by differing names or slightly varying gradients of the basic emotion. The intent was to create broad constructs that would make the model useful and practical in application and prediction. An example of this, while not related specifically to fear, is schadenfreude - which is the pleasure derived from other's misfortune. The Germanic language has a name for this specific feeling while English does not. This does not mean that English speaking people do not experience this particular emotion, it just illustrates that not all emotion tones and blends may be fully named in any one language. While emotions are consistent the same across all languages and cultures, naming conventions are not. While all humans are genetically geared for the same corrective signal continuum, not all human languages have names for all the intervening agitation states. These names serve as common language markers for various agitation states. For example, while all humans have the same corrective signal continuum for fear, not all cultures have the same attitude towards the emotion fear and it is culture that dictates naming trends of emotions in all cultures. This holds true for the other corrective signals.

All emotions emanate from the reactor. Emotions are an intra-brain communications language whereby the reactor communicates to the adaptor what is happening in the world outside the world based on the actions requested by the adaptor, or the conductor communicates to adaptor how proposed actions measure up to the conductor's directives. This occurs because the reactor is in control of the central nervous system and receives all its sensory information coming in from all five senses. In addition, all requests for physical activity emanating from the adaptor via the Human Action Cycle must be enacted through the reactor which controls all muscle activity via the central nervous system. Having initiated the requested physical activities and received the information about the motive(s) behind the activity, the reactor is now in a position, via the central nervous systems sensory suite, to evaluate the outcomes of the actions it executed in the world outside the body. It performs this evaluation and issues growth or corrective, or surprise signals in the form of emotions.

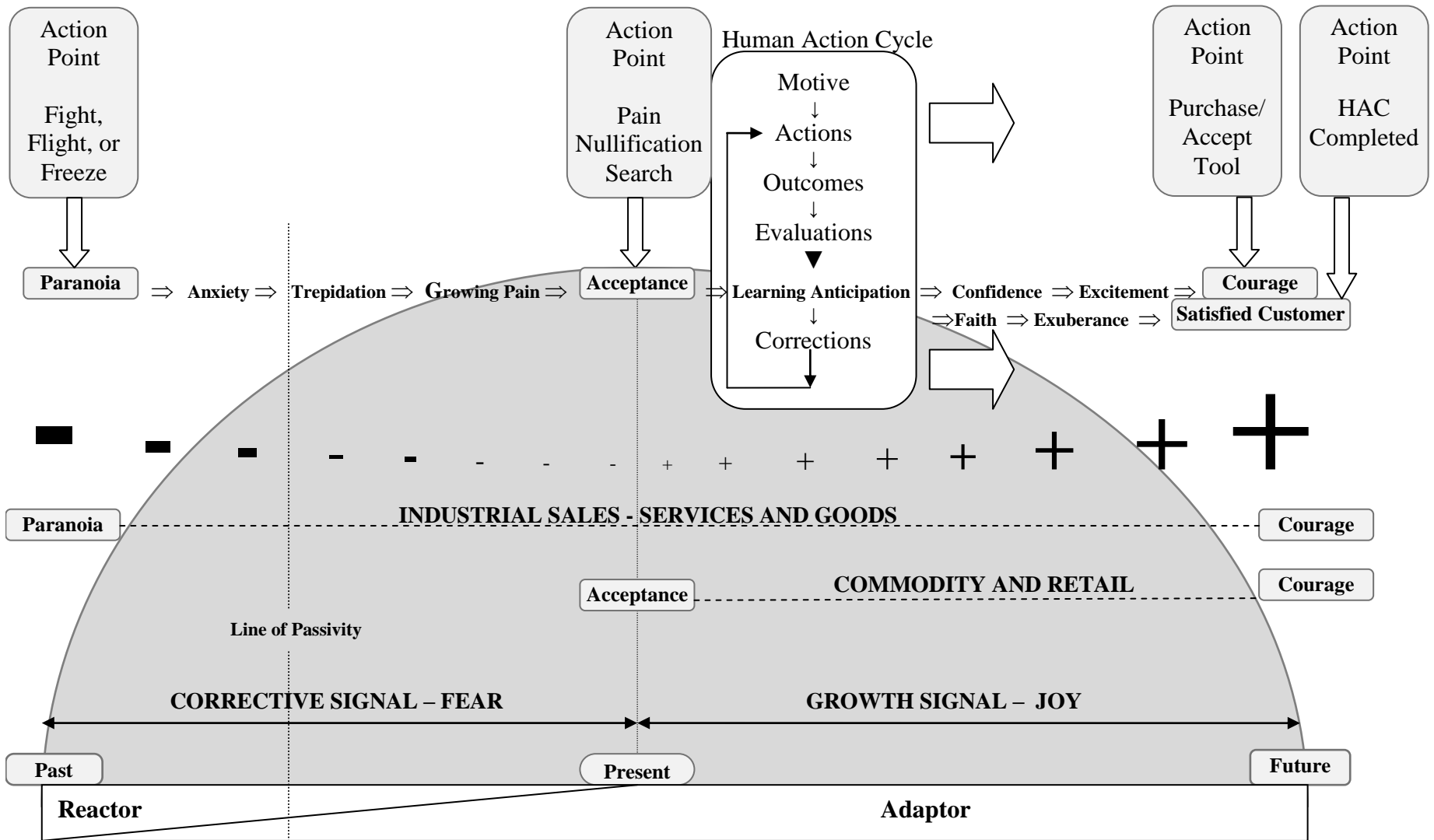
In Graph A, at the bottom we see the domains of reactor and adaptor. The adaptor's domain is the growth signal side of the Innovation/Tool Making Algorithm. The corrective side of the scale is split between reactor and adaptor in varying ratio proportionate with the agitation signal being generated by present circumstances. Of note is the Line of Passivity. This point demarks the change in dominance between reactor and adaptor. To the right of the Line of Passivity, to the beginning of the growth signal portion, in the presence of a artifact or situation that is generating a corrective signal the adaptor is the dominate mechanism. In the area of the graph of adaptor dominance, the adaptor may be agitating for a corrective signal response, but adaptor is able to override the call for the corrective response. The effect of this is that call for corrective signal response disrupts the reactor's functionality, which is uses greater and greater amounts of its capacity in overriding the call for flight, fight,

replacement, or unwholesomeness associated with fear, anger, sadness, or disgust. The greater the call for corrective signal, the greater the functions of reasoning, logic and imagination are degraded in the adaptor. To the right of the Line of Passivity, due to the ability of the adaptor to override the corrective signal, the corrective signal is passive, meaning that it is present, which may or may not be signaled outwardly via the Mirror Neuron System, but is not pre-eminent. The corrective signals remain passive and in the background. To the left of the line, the reactor becomes the dominant mechanism, and the reactor can only moderate the impulses reactor, but not exclude them from implementation. This then describes the passive/ aggressive nature of many human emotions and actions. When an individual demonstrates passive aggressive behavior, the adaptor is no longer predominant and the reactor is initiating a growth signal expression which the action is then attempted to be moderated or “walked back” by the reactor. Continuing to the left the Line of Passivity, marks the greater control of the reactor and the fading control of the adaptor until the full agitation of the correction signal is achieved, and the Fight, Flight or Freeze mechanism is activated. Activation of the Fight, Flight or Freeze mechanism marks the complete absence of the adaptor and full control of the reactor.

A person at this level represents the highest level of corrective signal agitation; only highest level of corrective signal can trigger the fight, flight or freeze mechanism. The fight, flight or freeze response is a mechanism of emotions whose purpose is a last line of survival when confronted with situations that trigger the highest agitation level of avoidance/ move away the basic corrective emotions fear, anger, sadness, and disgust. Extreme levels of anger trigger the impulse to fight by initiating the emotion rage. Fear triggers the impulse to flight by initiating the emotion panic. Extreme levels of fear and sadness trigger flight. When physical flight is not possible, the freeze response is initiated. Withdrawal inwards, such as induced by sadness, is a form of the freeze response which the highest form of this response is catatonic withdrawal. Rage may also be triggered by Disgust which can trigger either flight or fight, the calculation for which response is derived by the reactor based on environmental factors such as proximity and escape route availability.

The Innovation/Tool Making Emotional Tonal Algorithm (Innovation/Tool Making Algorithm) is used for on the fly, in the moment adaptation. It is the basis and source of all human decision making and is the mechanism of short and long term planning. The first stanza of Innovation /Tool Making Emotional Tonal Algorithm is comprised of the emotions paranoia, anxiety, trepidations, growing pain, acceptance, learning anticipation, confidence, excitement, and courage. The second stanza is comprised of faith, exuberance, and self-actualization, the latter being synonymous with customer satisfaction which is how it is listed in the Innovation/Tool Seeking algorithm. The first stanza is further broken down into two phases: Innovation /Tool Acquisition and Innovation/Tool Vetting. The second stanza is the self-actualization phase. The first phase called the Tool/Commodity Acquisition in the Paradaptive Intelligence model and corresponds to Peil’s self protection phase is comprised of paranoia, anxiety, trepidation, and growing pain. These are all corrective signals and represent the self-protection mechanism of adaptation whose function is to determine when adaptation is beneficial and when it is likely to produce undesirable results. This is a key element not previously discussed at large within business or biology which is unique to *H. sapiens*. The Innovation/Tool Acquisition phase determines which paths are likely to produce useful gains in adaptation and which paths will not. This is accomplished by comparing present opportunities and circumstances to past experiences to determine similarities and projecting the likelihood of negative outcomes that decrease survivability, thus producing the emotion fear. Fear is the way in which the determined threat of diminished survivability by continued pursuit of the adaptation being considered is communicated to the adaptor. The second phase of the Paradaptive Intelligence model, called the Tool/Commodity Vetting, is the self-development phase of

Innovation/Tool Seeking Emotional Tonal Algorithm™



EFS. Its primary focus is developing and creating adaptation behaviors that either modify the behavior of the individual to fit the surroundings or modify the environment to fit the behavior. The third phase, called the Tool Commodity Application, is synonymous with EFS's self-actualization. Its primary function is evaluative to determine how well the adaptation actions developed and implemented in the Tool/Commodity phase actually performed compared to projected implementation resource cost and effort, and efficacy in use to determine satisfaction, hence the desired to repeat the adaptation activities, or to learn from mistakes that are then placed into memory by the ego. The Tool/Commodity Vetting and Tool/Commodity Application phases are both basic emotion joy driven.

A portion of the unifying aspect of the Paradaptive Intelligence paradigm is seen in the model of Technology Adoption Lifecycle developed by Joe M. Bohlen, George M. Beal and Everett M. Rogers at Iowa State University. This model is foundational to our understanding of innovation and its permeation pathway in a modern society. However brilliant the Technology Adaptation Lifecycle model is, the model is only descriptive in its ability portray the inhabitants of categories it creates. It cannot explain the mechanisms that drive the behavior of those identified segments. However, if the Technology Adoption Lifecycle is mated with the Paradaptive Intelligence model there is a perfect correlation between the models. What Bohlen, et al, describe as Laggard, Late Majority Adopters, Early Majority Adopters, and Early Adaptors correlates perfectly to the correction signal emotions paranoia, anxiety, trepidation, and growing pain in the Paradaptive Intelligence model's Tool/Commodity Acquisition phase. Innovators of the Technology Adoption Lifecycle directly correspond to the growth signal acceptance of the Tool/Commodity phase. In this way we can now explain the operating mechanism why individuals would be resistant to new innovations.

The reason for which someone would resist to innovate is a previous experience(s) that failed to produce the expected benefits, but may have also produced negative results in loss of time, resources, or led to the failure of another goal and Innovation/Tool Seeking Algorithm already in progress, becoming an exemplar in their memory of painful experiences. Pain, psychic pain, is generated by the reactor and attached to the memory as part of the corrective signal process of a Human Action Cycle. The key feature of the emotion paranoia is a negative exemplar(s) of such a gradient that it creates an irrational fear of anything approximating that past t experience. By definition, such individuals are beyond rational thought, their reactor producing such overpowering impulses to flee that are literally driven to flee from the suggested innovation. Those experiencing anxiety, do so because they fear that their skill level to produce, operate, or understand the proposed innovation which is beyond their present means and skills. This group looks to peers of similar skill levels and circumstances who may have adopted the proposed innovation in order to see if there is the potential for them to adopt new innovation also. Those experiencing paranoia and anxiety are on the reactor side of control of the Line of Passivity, meaning that the reactor is in control, but in the case of those experiencing anxiety the adaptor is able to influence the reactor and intermittently to assert control briefly. The Line of Passivity is the point where control of adaptor ceases to be dominant. Beyond this point, the role of the adaptor moves to one of influence only which diminishes as the reactor produces emotions that are closer to the basic corrective signal emotion, at which point the adaptor has no influence. This creates the aggressive passive behavior where first someone is aggressive (reactor) then strikes a conciliatory posture (adaptor) as the reactor leads and then is influenced and tempered by the adapter briefly, before the reactor resumes dominance again. It is because the adaptor is able to influence the reactor and intermittently take control that this group is able to modify their emotion from anxiety to the next lesser emotion, trepidations, through the introduction of information. This modification of an individual's emotion state will take much repetition and may be break down even in the best of circumstances because the reactor's flight impulses are heavy and disruptive to reason, logic, imagination, and the cognitive processes at which the information is aimed. An individual experiencing trepidations is receiving moderate to slight impulses to flee from the reactor, but this group is able to see value in the proposed

innovation despite the reactor's disruption signaling to flee. Their biggest factor to innovation adoption is the disruption to their present circumstances, processes, habits, etc. The benefits must outweigh the disruption of their present operations. Previous experience has shown that disruption can lead to catastrophic results not only in the area of innovation, but to other aspects of their business. The capsulated fear is the lack of control that innovation brings to their established routines. They look to relationship with sales people to minimize the duration of business dislocation that occurs in implementation. Those experiencing growing pains believe that the fear of partaking in innovation is a necessary evil and fear making a mistake due to lack of knowledge that will cost them more time and resources than would otherwise be necessary. The capsulated fear is the fear of blunders in the innovation process and look to relationships with sales people to minimize the potential of mistakes.

A double dichotomy exist in the in the corrective signal side of the Innovation/Tool Making Emotional Algorithm. As previously discussed, one dichotomy of control versus influence between the reactor and the adaptor exist as denoted by the Line of Passivity. The Line of Passivity also demarcates the boundary in the second dichotomy. The second dichotomy is the belief in an individual between whether or not they possess skills and resources necessary to attempt innovation or tool making. Those on the reactor side believe they do not have the prerequisites while those on the adaptor side believe that innovation or tool making is within their abilities but require assistance.

On the growth signal side of the Innovation /Tool Seeking emotional algorithm there is a specific pathway of eight emotions that happen in a specific, unvarying order and each emotion has a specific value for which it must be satisfied before satisfaction of the next emotion in the algorithm can be attempted. The specific order of emotions is acceptance, learning anticipation, confidence, excitement, courage, faith, exuberance, and universal oneness. Universal oneness has many forms and is dependent upon context. In business this form manifests in the form of customer satisfaction and personal satisfaction. In the business cycle, both selling agent and the purchaser are working to the same internal algorithm of Innovation/Tool Seeking, the only difference is the goal or motivation. One is to sell or nullify the fear from lack of income and thus security, the other to nullify pain of fear caused by some uncontrolled aspect that threatens the business' functionality or viability, or the anger from an obstacle the fullest potential of the business. The growth portion of the Innovation/Tool Making Emotional Algorithm is broken into two sections. The Innovation Vetting section is comprised of acceptance, learning anticipation, confidence, excitement, and courage, while the Innovation/Tool Making Application section is comprised of faith, exuberance, and satisfaction (personal or customer universal oneness). Both are broken into their own separate lines in Graph A, because both are organized in ascending order of gradient desirability and reward of pleasure from weakest to greatest pleasure impulse. The primary difference between the Tool Commodity Vetting portion and the Tool/Commodity Application is one deals with projections (Vetting) while the other deals with actual implementation and use (Application).

The emotion acceptance is about recognizing and accepting that a problem, pain point, i.e. growth signal(s) exist with one or more of their Human Action Cycle goals or motivations, such as the goal for a business to make the most profit possible, to be the most sought after girl or to be good at everything you try or just a select area of expertise. Just what portion or aspect of the problem or how the problem is defined will determine what is pursued for pain nullification. Failure to define the problem completely or properly will only lead to results of partial pain nullification if the Innovation/Tool Making Emotional Algorithm can be successfully completed. The capsulated emotion joy is accepting the problem. The comparative statement is extracting the essential elements of the pain point relative to the motivation. Learning anticipation is about identifying and collecting potential pathways to pain nullification and all adaptation plans. An adaptation plan is comprised or two elements. The first element is the innovation of tool or behavior modification and the second is the implementation plan for the innovation or tool. Many people consider this as "options." "Options" has a different connotation. When looking at options, one option always is to do nothing and accept the pain of the corrective signal. This is a rational option that may get generated as product of the reasoning and logic aspect of the adaptor, however the mind is biased towards pain nullification, which doing nothing doesn't satisfy. Exercising the option of doing nothing would require the adaptor

to override the impulses of Innovation/Tool Making Emotional Algorithm, which it is capable of doing, yet the urge to take action will still remain because the psychic pain of fear or anger which initiated the Innovation/Tool Making Emotional Algorithm continues to persist. The capsulated emotion satisfaction for learning anticipation is collecting adaptation plan(s) of pain nullification. Its comparative statement is to evaluate stratagems for potential to nullify the subject pain point. The emotion confidence is about the selection of a collected pathway for pain nullification. The method of evaluation is projected efficacy. The most efficacious adaptation plan of pain nullification will be selected and if the level of efficacy is sufficient in projection to appear to be capable of pain nullification, then the emotion confidence will be satisfied. The capsulated emotion satisfaction for confidence is projected efficacy sufficient to project pain nullification. The comparative statement is comparing efficacy versus efficiency relative to pain point nullification. The emotion excitement is about the computation of costs. The selected adaptation plan of pain nullification will be subjected to cost/benefit analysis in three dimensions. The first is whether the projected expenditure in time, energy, and resources is commiserate with the level of pain being generated; the second is whether the projected costs are within the resources at the disposal of the individual. The third is the cost of using the projected resources for this project, thus removing the potential to be applied to other adaptation plans or the cost of replenishing the limited resources. Economists call the last dimension opportunity costs. The capsulated emotion satisfaction is cost evaluation relative to the significance of the issue and resources available to the individual. The comparative statement of excitement is investment versus yield relative to the scope of the pain point. The emotion courage is about risk evaluation. Risk is evaluated from three perspectives. The first is what would be the projected fallout should the selected pathway of pain nullification 1) fail to produce pain nullification and waste resources, 2) potential to create new problems or issues, 3) potential for better propositions as yet unidentified occurring elsewhere or in the near future. If the projected risk evaluation determines that the pain nullification outweighs the potential for resources gambled or discovery of better pathways, then the emotion of courage will be satisfied and the individual will commit to making or acquiring the tool, service or knowledge, or implementing a new behavior. The capsulated emotion satisfaction is that pain nullification exceeds identified projected risks. The comparative statement is projected enhancement versus potential for harm relative to the scope of the pain point.

The second phase of the growth portion of the Innovation/Tool Seeking emotional algorithm is the Tool/Commodity Application which deals specifically with the application of the behavior modification, tool, or service to the pain point for the purposes of pain nullification. The emotions faith, exuberance, and customer satisfaction (universal oneness) comprise this phase. The measure used in this section is actual performance results which are compared to predicted, making this phase the evaluative phase. The emotions of this specific section are faith, exuberance, and universal oneness.

Universal oneness is a generalized expression of the maximum amount of joy/pleasure usually expressed as satisfaction that the Innovation/Tool Making emotional algorithm can produce and is named so because of the feeling of connectedness it produces. This is a direct link to the Six Universal Need of Connection. Having resolved a pain point via behavior modification or innovation/tool seeking stimulates the feeling of connection to the world via mastering it through adaption making us not only part of the universe by a superior, controlling element of that universe. The identification of this joy is usually contextual, such as “customer satisfaction” when purchasing/acquiring a tool from someone else or “satisfaction of a job well done” or “pride” when an individual is responsible for developing the tool or innovation themselves. The context of differing types of activities leads people to associate the feeling of maximum joy from the nature of the activity and not the process, when in fact is the same process, the Innovation/Tool Seeking emotional algorithm, is always used and the emotion of universal oneness is the same issued regardless of the context that generated it.

The emotion faith is the emotion satisfied by comparing actual implementation to projected implementation costs, effort, and time. If the two axes of excitement and courage are within allowable variances, then the emotion faith is satisfied. Both cost and risk will be known during the implementation phase. Full confidence can be ascertained only after full implementation. It is for this reason that the emotion faith is determined on the first two emotions of

the Vetting Phase that are ascertainable. The encapsulated emotion satisfaction is accuracy of projected costs and risk. Unanticipated outcomes of time, resources and effort trigger the emotion surprise. The comparative statement is projected investment and risk versus actual values experienced in implementation. The emotion exuberance is felt when an individual experiences one or more of the projected benefits, pain nullification of a pain point, generating pleasure. Projected benefit is more accurately described as pain point nullification in the anticipated way. Unanticipated benefits or harm trigger the emotion surprise. The comparative statement is projected benefits versus actual ones received. Universal oneness is achieved upon satisfaction of both faith and exuberance and is expressed in the emotion universal ones. The encapsulated emotion is successful implementation and results as planned. The comparative statement is did both faith and exuberance meet or exceed expectations. Since universal oneness is derived from the fulfillment of two previous emotions, a simple matrix is formed to allow emotional tallying. Both faith and exuberance have two states, pass or fail. With this we see that there are three possible types of outcomes: fail/fail, pass/fail (combination), pass/pass. Fail/fail will produce a corrective signal signaling an individual to move away/avoid this pain nullification path. A combination result has two opposing forces, failure and success, and creates ambivalence. Pass/pass produces pleasure, one of the highest intensities of joy causing and individual to repeat the experience..

Having now surveyed the entire Innovation/Tool Making Emotional Algorithm, it can be broken into three sections. The first section comprised of the emotions paranoia through learning pain is called Innovation Acquisition. The Innovation Acquisition section is defined by the satisfaction of power via corrective signals. The power to pursue innovation can be halted by previous exemplar experiences and the gradient of fear that they produce. This can also be referred to as the negative side of the Innovation/Tool Making Emotional Algorithm. The positive side of the algorithm is controlled by positive growth signals and is broken into two sections, Tool/Commodity Vetting and Tool/Commodity Application. Tool/Commodity Vetting is comprised of the emotions acceptance, learning anticipation, confidence, excitement, and courage. Tool/Commodity Application is comprised of the emotions faith, exuberance, and satisfaction/universal oneness. Tool Commodity Vetting is a hypothetical examination of projected costs and benefits leading to the satisfaction of courage whereas Tool/Commodity Application is the comparison of actual cost and benefits to those projected leading to satisfaction/universal oneness.

The Tool/Commodity Application section of the Innovation/Tool Making Emotional Algorithm represented by the emotions faith, exuberance, and satisfaction/universal oneness is also responsible for another uniquely human trait which is the transition from onetime events into habits. When a human encounters a pain point, i.e. correction signal, the entire Innovation/Tool Making Emotional Algorithm can come into play. But once having successfully transitioned the whole algorithm to nullify the pain point cause by a corrective signal, any subsequent repetition of the same scenario or corrective signal of the same event will be dealt with in a different manner. If in the first go around the emotion satisfaction/universal oneness is not achieved, then the whole Innovation/Tool Making Emotional Algorithm may be executed anew to align projected and actual emotional values. A second go around of the Tool/Commodity Vetting section is called the Repetitive Task I cycle. However, if satisfaction/universal oneness is achieved with the first attempt, then all subsequent repetitions of the same process will use only the Innovation/Tool Application portion. Secondary repetitions of the Tool/Commodity Application segment are called Repetitive Task II cycles. There is no need to project cost, benefits, and risks, these are now known quantities. Therefore the only continuing variables of implementation are cost, effort and time, and benefit yield, i.e. efficacy, of exuberance. With each repetition of the Innovation/Commodity Application a human will test and modify the three variables of the emotion faith until the optimum formula is arrived at to produce the maximum benefit yield of exuberance. At the juncture of optimum yield per faith variables, the process is set and repetition leads only to satisfaction/universal oneness. This drives a human to repeat the process to obtain the inner reward of satisfaction/universal oneness over and over again. Simple actions or steps go into making complex human processes so it may take many repetitions to perfect each of the simple steps or actions. As noted earlier, the reactor learns by repetition. As each of the steps and actions are perfected and then repeated the reactor is then able to learn these steps and thus relieves the adapter from participation in repeated events. As a baseline, Border Collies are

noted to be the smartest dogs and learn simple tasks after five repetitions. The reactors of all mammals are very similar, so one could compute that each simple step in complex human process would need to be repeated five times after perfection in order for reactor learning to take place and that the whole process would have to be perfected and executed the same way without variation five times. The caveat to this concept is that as with all biological entities variability is given from person to person and that a range of the number of times of repetition after perfection of faith and exuberance would be a more appropriate manner in which to view this reactor process rather than cueing from the most highly rated example. Yet this example does illustrate the conversion of active learning to repetitive learning which frees up the capacities of the conscious mind.

A demonstration of this process can be found in the progression of tools developed by man. The artifact record shows stone tool use starting between 2.3 and 2.6 million years ago. However, chimpanzees in the wild have been observed using stones as hammer and anvil to process nuts for consumption as well as sharpened sticks for hunting bush babies and twigs for extracting ants and termites. Because these type of artifacts would not be preserved in the geologic record – wood doesn't preserve and disintegrates, and unmodified stone anvils and hammers are undistinguished from other rocks and could not be determined to have once been an implement of proto-humans, we can only surmise that similar process that have been witnessed in great apes also occurred in proto-humans and extends back further than the stone tool use dates. There is a distinction to be made between opportunistically using objects in the environment as tools, and shaping and fashioning tools; the former is a behavior modification and the latter is an environmental modification. Given the preceding arguments on opportunistic, unmodified stone implement use we can infer that behavior modification came before environmental modification and thus chronological order these aspects of adaptation and Paradaptive Intelligence.

One of the points of differentiation between humans and all other mammals that possess minimal consciousness lies in the emotions in the algorithm that occur before confidence and those after courage. There is abundant evidence that animals calculate costs. This is seen in predators who select the weakest or sickest animals in a herd to pursue. A calculation is made as to the resources of speed and stamina and is compared to anticipated capabilities of the selected prey. There is also evidence of courage, wildebeest when migrating have to pass through crocodile infested waters will sit on the river bank while building courage. Herbivores chose paths that give them the most cover, hence protection, when moving from bedding to water or food. This implies minimal capabilities of reasoning as possible pathways of accomplishing a goal are sorted and prioritized. However, it is the emotion of acceptance that appears to be unique to humans. They are able to define the parameters of a pain point initiated by a corrective signal and thus define their motivation. Additionally, the human abilities for reasoning, logic and imagination can be applied to the defining what is accepted, thus setting humans apart from more basic animal algorithms. It is at this point that human algorithms really start to deviate from the animal pathway. Certainly, reasoning, logic and imagination are applied in generating alternate pathways in of pain nullification in the emotion learning anticipation. Additionally, the emotions of faith, exuberance, and universal oneness (satisfaction) provide a regulatory feedback loop for the ego in learning. In this way the ego can place exemplar memories into memory and catalogue not only key features of the memory, but also the efficacy associated with it. This memory/learning regulatory loop is unique to humans.

The second broad strategy of adaptation lies with the significant number of algorithms found for relationships. While relationships can and do occur based on actions, the foundation of relationships is communication and the six universal needs, and to what extent they are satisfied. It is hotly debated in anthropology and other human sciences whether communication spurred the development of the human mind, vice versa, or they co-developed simultaneously. The theory of Paradaptive Intelligence is neutral to this argument as to which was the genesis. However, the theory of Paradaptive Intelligence can speak to the importance of communication and social interaction. Presently, nine separate algorithms have been identified within the relationship function of the human psyche. These nine types of relationships algorithms are named: intimate - lust, intimate – pair bonding, companion, professional - vertical, professional - horizontal, institutional, competition, rival, conflict. These nine are broken

into two categories: primal and social. The primal group of relationship algorithms is focused upon competition of scarce resources and copulation only mating while the social group of algorithms is focused upon cooperative interaction aimed to fulfill the six universal needs of humans and long term rearing of offspring.

As stated earlier, the overall strategy of relationships is to increase survivability by pooling resources and knowledge. One of the primary functions of relationships is the exchange of information. All knowledge comes from either self-discovery or via a relationship. One of the main functions of the social relationship algorithms is to qualitatively sort information. To this end, Peil's EFS model identifies six hierarchical needs that can only be satisfied via relationships called the six universal needs. These hierarchical needs in order of ascension are: freedom, power, connection, esteem, creativity, and meaning. These needs are essential in either accepting, and to what degree, or not accepting information from others. These needs are broken into two categories: basic and high order. The basic needs are freedom and power while the high order needs are connection, esteem, creativity, and meaning. Freedom is the ability to make unrestricted choices in pursuit of life and survival. Power is the ability to implement change. Connection is the ability to create an empathetic response to another human being, primarily through the Mirror Neuron System, thus broadening the communication channel and improving understanding of that person's information by greater understanding their point of view and the internal feedback that is driving their behavior. Esteem is the ability to develop positive self-image and internal sense of importance based on those with whom you choose to associate. Creativity is the ability to spontaneously interact in the moment with another individual. Meaning is the ability to define your actions in terms of impact on and enrichment of other's lives and knowledge.

These needs are so powerful that they can lead to unhealthy and inappropriate relationships. Because animals share a cross section of our emotions, which can be used to satisfy some of the six universal needs, humans tend to anthropomorphize mammals, and in particular pets, in attempts to satisfy these needs. Unfortunately, animals lack the range of emotions, or for that matter, all six universal needs that are hardwired into our Paradaptive intelligence system and have no way of responding to human actions in ways that we understand. The word anthropomorphize means to project human characteristics onto objects and animals. It is now understood where this drive comes from and the power of the six universal needs.

The primal group's algorithms are comprised of intimate-lust, competition, rival, and conflict. As noted earlier, the primal group's focus is upon competition for scarce resources covering competition, rival and conflict. Excluding intimate-lust, the remaining algorithms break into two levels; inter-tribal and extra-tribal. Inter-tribal is comprised of competition and rival, extra-tribal is comprised of conflict. Within humans there is an innate drive to be associated with a group of other human beings, in essence, we are a pack animal. This desire to be part of a group is called tribalism, which is the primordial construct of organization and is closely associated with the conductor whose function is to optimize action outcomes for the individual and his or hers' identified tribe. This is also closely related to the third of the universal needs, connection which seeks to maximize communication by understanding motivations of actions and commonalities. The intra-tribal algorithms of competition and rival pertain to competition of scarce resources within a self-identified tribe where there is a shared culture and thus shared rules of behavior. Competition is an algorithm of emotions that governs the competition of scarce resources among more than one tribal contenders, and rival is an algorithm that governs the competition of scarce resources between an individual and a single tribal member. Conflict is an algorithm that governs competition of scarce resources with non-tribal members, i.e., inter-tribal. Non-tribal members are not granted tribal status and therefore do not receive the benefits, courtesies, or consideration that tribal members receive according to their shared culture. There is no penalty associated in treating non-tribal member with behaviors that do not conform to tribal standards or conductor directives to optimize individual actions for themselves or their self-identified tribe when competing for scarce resources unless the tribe has customs pertaining to the conflict.

It is theorized that a conductor, as a mental mechanism, is found in all animals that must interact for all sexual reproduction and governs interactions of males and females for courtship and copulation. Even solitary creatures must interact for the purposes of perpetuating the species which requires a modest conductor to govern intra-species

behavior. The conductor's role and development expands when social pack/herd/schooling social structure is added via Type I and II adaptation and is observed in convergent evolution across many phylum and species from birds, mammals, mollusks, down to bacteria. However, the self-optimization (self-actualization + tribal maximization) aspect of the conductor is unique to humans and was a necessary evolutionary development to direct the expanded suit of Type II adaption capabilities of humans.

The last primal algorithm is intimate-lust. This is a more primitive visual mating strategy leftover from our evolution and is focused solely upon copulation. The closest relatives to humans are the bonobo and chimpanzee, both of which have a lust mating strategy. Females provide visual clues that may include physiological and/or behavior clues as to when in estrus and receptive to copulation. The objective of the strategy is to insure perpetuation of the species by provoking males to pursue insemination of females activating the lust algorithms specific to its species. It is a short term focused activity that concludes with the act of copulation and is designed for a female-only offspring rearing strategy as seen in primates. In humans, this manifest itself as males being DNA programmed to intently watch females for mating cues. Conversely, females are programmed to be intently concerned with their appearance. Those females with the greatest concern of their appearance, hence visual mating cues, will have the greatest chance of attracting and selecting prime or the most desirable males available to their status for mating. In more simplified terms this is why men will ogle every female and why females are obsessed with her appearance.

The algorithm for intimate-lust is bipolar as with all the other algorithms with a corrective signal side as well as a growth signal side. The corrective signal side of algorithm is disgust. Unwholesomeness in appearance or conduct decreases the desire for mating in both males and females. The corrective signal side of the bipolar algorithm consists of the quadrant emotion tones of hate/revulsion, repugnance, detest, dislike. The growth side of lust in order of ascendancy consists of acceptance, curiosity, like, want, desire, longing, infatuation, need, crave, and passion/lust. This algorithm and mating strategy pre-dates the six universal needs, as do all the primal algorithms. The growth signal side is broken into two sections with the first two emotion tones designed, acceptance and curiosity, are designed to satisfy the need of connection. The remainder of the algorithm is directed at eliciting courtship and copulation behavior. While there are ten emotions listed in this algorithm, it is still a continuum. This is evidenced by the a standard rating scale of desirability of 1 to 10 where males rate women on a "lust" scale and produce answers such answers as 7.5 or 8.5, etc. Clearly, there is an internal algorithm/continuum that is being referenced and is calibrating responses in that respondents can differentiate between one level of desirability to the next and recognize the rated is beyond one level but not to the next reference point. It is not coincidence that the lust algorithm has ten points and the standard rating scale of males is also ten. The algorithm continuum was populated with ten reference points of increasing lust in order to make it more easily understood and relatable to the common rating scale of males. As discussed earlier, naming conventions of emotions are arbitrary, so aligning arbitrary reference points of lust to the 1 to 10 scale was deemed to be helpful in understanding the underlying emotional algorithm tones. Since all emotions emanate from the reactor and the reactor has control of the central nervous system, it has the ability to seize control and override the adaptor when thresholds of stimulation are found in the environment. There appears to be the equivalent of the interruptory mechanism associated with corrective signals when threats, impediments or boundary violations occur, unwholesomeness, and loss are perceived in the world outside the body. Overwhelming visual stimuli can interrupt all cognitive functions of the adaptor. This is the only know incidence where a growth signal of an algorithm has an interruptory capability. While the first three emotions, accept, curiosity, and like provide weak internal rewards of joy, there is a significant jump of internal reward at the emotion want that passes a threshold that triggers the mating desire. A person eliciting the emotion want or higher is considered attractive. Attractive being synonymous with desire to copulate.

The lust algorithm is also heavily dependent upon Type I adaptation, DNA, instinctual programming. Research indicates there is significant amount of preference in mating characteristics, such as symmetry, facial construction, and bodily proportions that serve as internal, hardwired references. Additionally, there are learned, Type II adaption

references that can be added based upon tribal culture than may be layer upon the Type I adaptation references of beauty that impact the lust algorithm..

There have been much research on human pheromones and the role they play in human behavior. This discussion must now take into consideration the Paradaptive Intelligence Network and the Type II adaptation process. Having illuminated the lust algorithm, behavior and chemical systems associated with mating, hence lust, can now be considered jointly. As discussed earlier, one of the three elements of an emotion is and agitation express that either moves an individual towards a person or object of known pleasure. Since the impact of human pheromones and the sensitivity of the Vomeronasal Nasal Organ (VNO) have yet to be fully determined, it can be presumed to be fairly short ranged system. If part of the Paradaptive Intelligence response is to agitate and individual closer to the person they find attractive thus pleasurable, this would indicate a complex system designed to move individuals within the operating distance of pheromones and the VNO to activate or increase the lust response and heighten probability of inducing copulation.

What separates the primitive emotional algorithms from the advanced is whether they satisfy the six universal needs. Advance emotional algorithms satisfy the six universal needs whereas the primitive algorithms do not. The primitive algorithms represent the pursuit of threat removal with rewards when it is accomplished or the pursuit of pleasure, such as the lust algorithm. Pleasure and threat both are of the domain of the reactor and these algorithms work within the simplified organization of the reactors constructs and functionality. One of the hall marks of the reactor algorithm is that whether it is a corrective or growth signal is a continuum response that provides for a sliding scale response. Advanced algorithm differ in that growth signals are organized around specific emotions that accomplish a specified task such as a comparison, collecting activities, developing pathways of progression, evaluations, or actions that create deeper relationships, etc. Peil in her EFS model has broken the advance algorithms into three general phases: self-protection, self-development, and self-actualization. Peil focus was on the growth signal side of the algorithm with the concept of stringing together the other phase developed by other researchers.

The defining difference between primitive and advance algorithms is two-fold. Advance relationship algorithms satisfy all six of the universal needs and the growth signal emotions of tool seeking/innovation are task specific. Primitive algorithms do not satisfy all six universal needs and the growth signals are likely to be, but not limited to, continuums in structure.

Whenever a corrective or growth signal is received from the reactor, a motive is born. Seeking pleasure and removing corrective signals are the source of all motives. In the world of commerce, lack of control is the most predominate driver. That in which you're reactive to creates a threat to your wellbeing. This is why, from managerial perspective, is you are feeling one of the intensities of fear, you will need to ask yourself if this is coming from an internal or external source. All the other corrective signals come from external sources.

Those that seek growth signal, pleasure, in the business world are those that have achieved success and wish to replicate that experience. Their motivation is to repeat the process and the subsequent rewards, of which, the most important is the feelings of joy the Paradaptive Intelligence Network bestows for achieving motivations.

The advanced algorithms are those of: intimate/pair-bonding, companion, professional vertical, professional horizontal, and institutional. All advanced algorithms share a common structure. The self-protection phase, that which deals with preventing additional corrective signals, is split between the two middle corrective emotion phases. This represents the line where due to the imminent proximity to a corrective signal – unwholesomeness, loss, threat, or a boundary violation/obstacle – the reactor asserts control over the adaptor which is usually predominant in the functioning of the brain. The Line of Passivity represents the shift from passive avoidance of potential corrective signals to aggressive avoidance. This is not a clear cut shift from adapter to reactor, rather it is the shift in proportion to which is in control. As noted, corrective signals are continuum in nature. Depending upon the

immediacy of the corrective signal, a corrective signal of a strength commiserate with it is signaled to the adaptor to deal with. At the halfway point of the continuum, the reactor asserts dominance and the adaptor is relegated to influencing the actions of the reactor. This describes what has been described as passive/aggressive behavior.

The intimate/pair-bonding algorithm is a communications based child rearing strategy. This strategy is often presented, wrongly, as a mating strategy. If one remembers that all human development is overlaid upon and derived from previous speciation development encoded in DNA, then pair-bonding is an extension of the Lust emotion and its algorithm designed to create copulation opportunities to perpetuate the species. But as previously noted copulation is a short term objective and once accomplished the algorithm is discharged. With the long development of time of human infants a longer term strategy was needed to address the extended infant rearing necessities. Hence, by Type I adaptation, mutations to the Lust algorithm emerged to form a new Type II algorithm. This longer term algorithm, pair bonding, was founded upon communication that gives pleasure to both parties which satisfies the six universal needs. One of the vexing aspects of human behavior to evolutionary biologists is the lack of ovulation signaling in human females called hidden or concealed estrus. As earlier examined, the lust algorithm is founded on human males visually examining women for mating signals while females are highly programmed to achieve visual signally by other means of advertising the fertility of their bodies. This behavior encoded in the lust algorithm is consistent with a displayed estrus strategy of the lust strategy. Yet now, human females exhibit no external signaling of estrus. This is not a behavior seen in other species females using solely the Lust algorithm and singly raising infants without significant assistance from the biological fathers. However, when this anomaly in behavior is examined in with and understanding to Type II adaptation, a logical pattern develops. By concealing estrus, this disengages the short term objective of copulation /Lust time horizon and continues to engage males in a longer term manner creating a bridge or coupling between a Type I algorithm and a Type II adaptation algorithm. Stated in another way, by removing the displayed estrus, males are continually engaged to stay close to females in hopes of observing the estrus signaling which creates opportunities for the Type II adaptation algorithm of pair-bonding to supplant lust derived pleasure with joy derived from emotional algorithm satisfaction. In this way short-term lust is supplanted with long-term pair-bonding for child rearing. This type of functional bridging in understanding evolutionary behavior is not possible without the dynamics of both Type I and Type II adaptation.

Human babies are born much less developed than other mammals, the reasons for this are twofold. Both reasons are dependent upon the heavy dependence of Type II adaptation upon which humans are dependent upon and designed around. Advanced Type II adaptation seen in humans is dependent upon increased capacities for logic, abstract reasoning, and imagination. These functions are dependent upon memory and the exemplars it stores. In addition, the increasing number of growth signal specific task emotions, which created more of and more complex algorithms, as well as expanded universal needs created through Type I adaptation drove the need for greater cranial capacities. This need for greater cranial capacity meet the physiological maximum capacity of the human birth canal. So body development of human infants was exchanged via Type I adaptation for pre-birth development of the brain. This supposition can be further illustrated in that character of advanced human Type II adaption based upon its logic, abstract reasoning, and imagination capabilities. Abstract reasoning, imagination, and even logic are all dependent upon memory upon which exemplars in the innovation algorithm are derived. Since memories are experiential, substantial time must be given for human infants to acquire a useful number of memory exemplars in addition to the enlarged suite of communication and language skills and body co-ordination and muscular development. In order to accumulate the large body of exemplars necessary for the full human potential of Type II adaptation of adulthood, human young need protracted childhoods in the protection of adults so that memory exemplars can experienced and catalogued. In order to achieve this protracted learning window for human young, a longer term form of attachment between the sexes was required to create a protected learning period for young, and thus Type I adaptation overlaid pair bonding over the lust mating algorithm

It can be further extrapolated that all animal kingdom infant rearing is driven by Type II adaptation. Other animals, mammals for example, are born more developed, both physically and mentally, than humans and develop at a much quicker pace. The pace of mammalian and all animal infant maturity is set by the number of necessary exemplars that need to be acquired for full or adult functionality for their particular species' Type II adaptation level strategy. The less functionality in innovation, relationship, communication, and algorithms needed for the Paradaptive Intelligence Network for Type II adaptation level strategy, the less rearing time and the quicker the pace of development. The current stance in science that long human infant development is solely a function of a fetus' underdevelopment to get passed thru the birth canal is not fully supported when looking at the rapid development of other mammalian species infants, often times which reach the physical size of an adult human being within a year of birth. Clearly there is another mechanism that governs animal infant development and that mechanism is Type II adaptation which is the Paradaptive Intelligence Network.

The pair-bonding algorithm's self-protection phase is based on the corrective signal of loss. The fear of entering into a pair-bonding relationship is based upon the memory exemplar of the loss of a previous relationship and the psychic pain of loss it caused. The four quadrants of loss from strongest to weakest are grief, despondence, sorrow, loneliness. The corrective signals side of the algorithm consists of, from weakest to strongest: acceptance, liberation, attachment, trust, hope, devotion, love, and universal oneness. Acceptance and liberation satisfy the universal need of connection; attachment and trust satisfy the need of esteem; hope and devotion satisfy the need of creativity; love and universal oneness satisfy the need for meaning. Pair-bonding's primary endocrine response is oxytocin which is associated with emotion of love and the source of poets, bards, lyricists, and musicians fascination with the emotion. Together, acceptance, liberation, attachment, and trust are the self-development phase: hope, devotion, love and universal oneness are the self-actualization phase.

What we call romance is actually the combination of two algorithms, lust and pair-bonding, working simultaneously through their progression producing greater and greater pleasure rewards as emotional states are achieved. This is a reoccurring theme within relationships algorithms. More than one algorithm can be in execution at any one time, and the more that are in the growth signals side of the algorithm the more pleasure is derived from that relationship, which in turn drives the reactor to seek more and more of the relationship in question as it is programmed to seek known pleasure in the environment. In this way algorithms, like lust and pair-bonding can compound the joy of a relationship. It also explains the fade of lust reward, which is a short-termed algorithm focused on copulation, as pair-bonded relationships continue to endure due to the long-term design its algorithm.

This also leads to an interesting point of speculation. In hormone response testing, all research has focused on equating endocrinal secretions with a specific emotion. But without constructs, as provided by the Paradaptive Intelligence Network, has this research been testing the right variable? Is it the emotion, or is it the satisfaction of the six universal needs, that triggers endocrinal responses? Under the Paradaptive Intelligence model, joy is supplied in the brain as emotion states are achieved by common cerebral chemistry such as endorphins. The endocrine system and its responses are not of the brain, but subject to its instruction, may respond only when a larger need is met such as one of the six universal needs, which generally indicates several emotional states have been achieved in furtherance of either a basic needs or the larger social programming needs of the complex, advanced needs.

The companion algorithm is that of friends and friendship. This is pleasure seeking algorithm without any security, sustenance seeking, or pain point resolution motive attached. It is a relationship that is voluntarily entered into. In the advance relationship algorithm of companion the corrective signal side is comprised of anger. Anger is the exemplar reason why someone would be hesitant to enter into a companion relationship. The anger response is based upon a boundary violation rather than creating obstacles. Friends can betray -- this is a boundary violation or act contrary to the motives of the person experiencing the algorithm. The four quadrants of anger are rage, fury, frustration, and tolerance. As with all corrective signals, the Line of Passivity is always between the two middle emotions in the self-protection phase. The growth signal side of the algorithm is comprised of the emotions

acceptance, curiosity, patience, attachment, friendship, mirth, justice, devotion, universal oneness. The growth signal emotions acceptance and curiosity satisfy the universal need of connection; patience and attachment satisfy the need of esteem; friendship and mirth satisfy the universal need for creativity; justice, devotion, and universal oneness satisfy the need of meaning.

The remaining advanced algorithms evolved to seek balance and coordination between the six universal needs. The basic needs of freedom and power are generally at odds with societal living, therefore advanced basic needs evolved to create internal drives for societal living and algorithms developed to support those advanced needs. The three primary purpose of the three remaining algorithms of professional-vertical, professional-horizontal, and institutional evolved to accommodate societal, communal living. Societal living requires rules and boundaries which is dependent upon organization and structure for enforcement. The three remaining algorithms provide internal rewards of joy for living within this living arrangement. While stated and describe in the framework of business behavior, they also form the core of the social science of sociology because at both the macro and micro level there is no real discernible difference between business and societal behavior, only contextual differences for the Paradaptive Intelligence Network.

The professional- vertical algorithm is a relationship not voluntarily entered into because is it pain point resolution driven algorithm. One entering into this type of relationship must subjugate themselves in order to some benefit that supports a motivating goal or pain point resolution. Subjugating one's self may seem at odds with the lesser universal needs of freedom and power, but nature and evolution has selected mankind for a collective and social survival strategy. To that end, evolution has developed an algorithm to seek the greatest benefits possible for the subjugated by internalizing rewards of joy for the subjugated. This relationship is not voluntarily entered into but is considered necessary for the achievement of the motivating goal. The algorithm for joy consists of paranoia, anxiety, trepidations, growing pains, acceptance, curiosity, camaraderie, attachment, kinship, compassion, grace, and universal oneness. The self-preservation phase is that of fear. With subjugation, the person with power has the ability to hurt others. The self-development phase is governed by the exploration of the boundaries of the subjugation, and the self-actualization phase is governed by extracting the greatest possible benefit from the subjugation. Paranoia and anxiety represent the aggressive side of Line of Passivity, while trepidation and growing pains represent the passive side of the fear continuum. Acceptance and curiosity satisfy the need for connection; camaraderie and attachment satisfy the need for esteem; kinship and compassion satisfy the need of creativity; and grace and universal oneness satisfy the need for meaning.

The professional-horizontal algorithm is very similar to the professional-vertical, but rather than subjugation, the relationship is one of dependence. As part of a greater tribe, individuals are dependent upon others in that tribe to contribute to the entity's well-being. The professional-horizontal algorithm provides internal rewards for maximizing the potential of the tribe through strong interpersonal relationships with peers. Again this is a relationship that is not voluntarily entered into but is necessary to derive the benefits of the greater tribe provides. The primary difference is the professional-horizontal algorithm from the professional-vertical algorithm is the lack of subjugation, and thus no party to the relationship has power over the other and thus cannot threaten. However, because of dependency, they can create obstacles or violate boundaries set by the tribe in its societal codes. So the self-preservation phase is governed by the basic emotion of anger. The emotional states of the professional-horizontal algorithm are: rage fury, frustration, tolerance, acceptance, curiosity, camaraderie, attachment, friendship, compassion, grace, and universal oneness. Rage and fury represent the aggressive side of the Line of Passivity, while frustration and tolerance represent the passive side of the self-protection phase. Acceptance and curiosity satisfy the need for connection; camaraderie and attachment satisfy the need for esteem; friendship and compassion satisfy the need of creativity; and grace and universal oneness satisfy the need for meaning.

The last relationship algorithm, Institutional, evolved so that and individual could relate to the actions of a collection of people acting in a coordinated way. This is another way of stating the tribal nature of man's societal living strategy. The algorithm provides internal rewards for developing the strongest ties possible between tribes of

humans to maximize their survival potential. The primary function of a tribe is to provide structure and boundaries so as to confer benefits to its members. Since it is a collection of people a tribe cannot directly interact with an individual, only another individual can do that. But collectively, the tribe can violate the boundaries that it set and enforces by either failing to enforce the boundaries or not respecting set boundaries, or by creating new rules and boundaries that create obstacles for individuals. Again, this is a relationship that is not voluntary but is entered into for the reason of satisfying a motivational goal which requires subjugation in order to receive the desired benefits. For this reason, the self-protection phase of the algorithm is governed by anger which responds to obstacles and boundary violations. The emotional states of the Institutional algorithm are: rage fury, frustration, tolerance, acceptance, curiosity, camaraderie, attachment, kinship, compassion, grace, and universal oneness. These emotional states evolved to provide internal rewards for creating the strongest possible bond to a collection, a tribe, of people to maximize the tribe's potential for survival, and thus the individual's potential for survival as a member of that tribe.

With this understanding of the functionality of the Paradaptive Intelligence Network and its design parameters, we can now explore the world of dysfunction and disease that business professionals will encounter. All of the above mentioned system can become dysfunctional by either DNA mutation in birth, or by either physical or emotional trauma. The following is a brief sampling of dysfunctional behavior in the work place.

The reactor can become over-sensitized to threats by being constantly bombarded by a hostile work environment. This can cause irrational behavior as the reactor asserts control trigger the Fight, Flight, or Freeze response commonly called "going postal." The adaptor can use wrong exemplars or use the wrong motivational goals leading to erroneous decisions leading to the same we call bad judgment. The conductor can become unbalanced leading to profits being given way or narcissistic power accumulation. The ego can be overwhelmed that it no longer can filter out the multitude information coming into the central nervous system leading to paralysis. The bi-polar construct of emotional algorithms can lead to over or under reactive clients and employees we call bi-polar disorders. The Mirror Neuron System of an employee could have a limited library and thus fail to understand co-workers or a client, also referred to autistic spectrum disorders, or, it could become stuck "on" on a corrective signal and induce schizophrenia, where someone begins to act overly paranoid. Missing segments of algorithms may produce "irrational behavior" because behaviors don't follow the normal pattern. Those not born with a complete set of universal needs become predatory in relationships in the personality disorder we call psychopaths.

By no means is this model complete. The author recognizes that there are other emotions not yet explored. One example is the emotional algorithm for play. It has been theorized this emotion was created as a way for infants and young mammals to accelerate the development of the reactor that controls and coordinates muscular movement by creating internal rewards for repetitive movements causing the creation of conditioned learning. This is the learning process of the reactor, for controlled movement of limbs and body via muscles. While its usefulness is weighted towards the beginning of a mammal's life, the emotion is not deactivated once beyond the pre-adult years. This emotion continues to manifest itself throughout life in humans and animals alike. Animals have been observed playing with objects and member of the opposite sex in courtship. In humans we see a strong impulse to continue to play that anchors many industries from hobbies like golf, professional sports teams to recreational pursuits. Although not yet complete, the author is assembling an algorithm for this emotion. Initial research indicates that the corrective signal side of the algorithm would consist of fear. The reason an animal would not initiate play is fear of the object or other animal presents a threat based upon exemplars stored in memory. The growth signal side appears to be a primitive algorithm based on two factors. First is the age of this emotion. The function of play evolved very early in the ascension of mammals. As a class, one of the defining characteristics of mammal is their homeostasis. But not considered until this time was the reliance of the class upon Type II adaptation. As demonstrated earlier, Type II adaptation and the accumulation of exemplars as well as development of the Type II adaptation mechanisms of the Paradaptive Intelligence Network has considerable impact upon the length of time of maturation of its offspring. Examining this, in conjunction with the algorithm of play allows us to better understand the maturation

process of both reactor, and adaptor, beyond the five years need in the first five to six years needed to populate the Mirror Neuron System's library. It also begins to give shape why the conductor does not assert primacy until after the reactor and adaptor have reached full potential. The conductor can not be successful unless it is influencing and orchestrating fully developed reactors and adaptors. The growth signal side of the algorithm would start with acceptance as do all growth signal phases followed by the emotions of recreation, amusement, savor, fun, enchantment, revel in, delight, glee, universal oneness. Because of the age of this algorithm, its primitive nature, and its apparent lack of design to satisfy the six universal needs, it appears to operate more as a continuum rather of purposeful string of individual tasks based emotions with internal rewards to achieve the next emotional phase or step in the algorithm in pursuit of a motivating task. Rather, it appears to a reactor driven continuum designed to seek pleasure with the goal of strictly maximizing pleasure through physical activity.

Another algorithm not yet fully contemplated by this theory is humor. If you accept the underlying premise of the functionality of the mind as adaptation, then the humor must also work to fulfill this mandate. When looked at in this light, humor can be described as a process designed to examine failure. By creating internal rewards of joy in the form of humor, humans can examine failure of their actions or that of others and learn from the mistakes. The corrective signal side of the algorithm would be unwholesomeness. Failure is an unwholesome activity triggering disgust. Exemplars of disgusting failures would prevent or dissuade someone from attempting behaviors interpreted as being similar. The growth signal side of this algorithm appears to be advanced. This is contemplated due to the appearance of this emotion late in the ascension of the genus homo. Humor is not a behavior not widely observed in the class Mammalia. The corrective signal side appears to be constructed to satisfy the six universal needs and work in conjunction with the self-actualization phase of the Paradaptive Intelligence's Innovation/Tool Seeking algorithm's application phase that is evaluative. There appears to be a connection between the attempts of the Innovation/Tool Seeking algorithm's emotions to evaluate solutions to anticipated cost and efficacy and the function of the humor algorithm to discern why it failed in away with without encountering a corrective signal's repulsive valance to move away. The humor algorithm's growth signal side must then be composed of a string of emotions that are designed to satisfy the advance universal needs of connection, esteem, creativity, and meaning. This appears to be true in that the varied forms of humor, when looked at in this light, conform to the four categories of the advanced universal needs. The emotions that likely appear in the growth signal sequence are acceptance, comical, humorous, amusing, entertaining, mirth, funny, hilarious. Acceptance and comical satisfy the universal need of connection; humorous and amusing satisfy the universal need of connection; entertaining and mirth satisfy the universal need of creativity, and funny and hilarious satisfy the emotion of meaning.

People often describe the processes identified in the Paradaptive Intelligence as intuitive or intuition. The processes in most of the Paradaptive Intelligent Network engage without the control or consent of the person in question. This system is highly automated and seamlessly integrated and performs these functions so many times a day that an individual becomes inured to the proceedings. In addition, the ego is limiting access to the brain's adaptor, so is it any wonder that these processing running in the background are labeled intuition? Intuition and the Innovation/Tool Seeking process are synonymous. What we call intuition is the Innovation/Tool Seeking algorithm working in an unguided mode, without the direct guidance of the adaptor. This is a vestigial subsystem of the Paradaptive Intelligence network we share with our mammalian ancestry that was overlaid with a more controlling adaptor. The algorithm appears to be the same as that of the Innovation/Tool Seeking algorithm. The only difference appears that a weaker, less organized and more limited vestigial form of an adopter is still residual and functional when the adopter relinquishes direct control. Experts' best guesses fall into this description of activity. Expertise is more about having the right exemplars in memory to draw from, therefore intuitive Innovation/Tool Seeking behavior draws upon higher quality exemplars, for either the active, guided adaptor process, or the vestigial, limited adopter intuitive processor that seems to be more resistant to reactor impedance caused by a threat detected in the body's environment. Intuitive processing still utilizes the HAC which is guided by a motive. So intuition is the product of motives and exemplars, just as the guided process by the Adaptor. Even the most calculated motivation use the intuitive process, because no matter how much data or deductive/inductive reasoning or logic depends on some

evaluative process to determine which data, logic, or reasoning strategy to apply to any one motivation. In addition the mechanism of comparative evaluation to determine if an emotion has been satisfied and moves to the next emotion in any particular algorithm requires a subjective evaluation to determine if the present evidence meets the satisfaction criteria, guided or unguided.

Another highly valuable aspect of the human Paradaptive Intelligence model is that it may serve as the final, most complete known construct of emotions in the animal kingdom to use in comparison to understand the Paradaptive Intelligence systems in other animals. All creatures have some form and elements of a paradaptive system. The human Paradaptive Intelligence system is the most complex of all the Paradaptive Intelligence systems. By using this as a template, an end point, and combine this with Peil's work exploring emotions down to single cell organisms, an emotional morphology tree can be de-constructed to understand when and why emotion mutations occurred, developed and over-laid previous constructs and for what purposes in other animal species. This process can be as helpful as DNA morphology and species differentials. This creates a new potential in animal psychology to apply the constructs the Paradaptive Intelligence model to understand animal potentials for emotion as well as how to co-habitat with them in their shrinking ecosystems as the influence of man expands

This process should also be useful in understanding the development of man. By understanding the progression of emotions in animals, this may shed light on the development of man, in particular the Innovation/Tool Seeking algorithm. This may be of use to anthropologist in understanding the progression of tool development in Homo species preceding Homo sapiens as well as cross-referencing new discoveries in neuroscience to compare against the preserved skulls and brain pans of pre-historic specimens.

Moving this concept forward to present day, neuroscience is making fantastic discoveries every day. Yet, as a science, it lacks an overall cohesive theory of brain function in which to fit these discoveries. While the Paradaptive Intelligence model only represents only the organizing principles of behavior and learning, it does not address other aspects of the central nervous system such as locomotion, sensory input and interpretation, and cognition mechanisms. But again, knowing the end point organization of behavior should be useful as a starting point to deconstruct larger structures into smaller subsystems, then mechanisms, cellular design, plasticity and function, and finally biochemistry.

In the area of artificial intelligence, the Paradaptive Intelligence model again can serve as a basis for assembling machine language to approximate or copy human behavior. This is possible because the human Paradaptive Intelligence system is at its very heart a mathematical driven system. The mathematical system of most application is fractals. The Paradaptive Intelligence system is a fractal equation which the same equation is imbedded in every human being. And just like fractals which have different yet imbedded repeating equations, so too does the Paradaptive System. An algorithm of either Relationships or Innovation/Tool Seeking may be paused in the middle of its execution at any point in the equation, while a new equation is opened to resolve any new scenario, event or happening. The product of that algorithm execution can now become part of the paused algorithm as an exemplar as it resumes. In this way, we can explain human multi-tasking and also explain repetitive behavior out comes because the same equation is using the same exemplars over and over again.

What differentiate behaviors are the distinctive compilations of exemplar stored in each person's memory. No two exemplar files are the same. As much research has identified, two people watching the same event, often recollect the event differently. Thus no two of people will have the same set of exemplars. Common exemplar overlaps are a way in which different cultures and subcultures draw their distinctions. Another example of how the same equation imbedded in each human produces different behaviors is the myth of "common sense." Common sense driven by a HAC and is composed of two elements: motivation and exemplars. A Human Action Cycle always starts with a motivation. This drives the selection of exemplars from memory. In order for "common sense" to be common, everyone would have to have the same motivations. While a large percentage may share a common motive, their exemplar file in memory may differ. So there are three possible outcomes for ever perceived "common sense"

behavior: shared motivation + shared exemplar, different motivation, or different exemplars. All this produces individual behavior from a common equation imbedded in the brain function. With such differing controlling variables, it is now easy to understand the fallacy of the myth of commonsense.

Further, the Paradaptive Intelligence Network is a set of mechanism that makes basic calculations, just like a computer. All steps in the Paradaptive Intelligence system, things we call emotions, are in reality comparative equations. The human brain compares input received from the sensory system and compares it to exemplars in memory thus giving a result of equal to, greater than or less than to know exemplars and the meanings lessons attached to those exemplars. It also performs addition and subtraction functions as it tries to complete each of the six universal needs in relationships and move to the next need in the hierarchy. For example if someone is helpful to you, thus fulfilling the need of creativity or meaning, you may upgrade their status into or through the Friendship phase. Conversely, someone you considered a friend may refuse to help you and their status is downgraded in the Companion algorithm. Each emotion has a specific comparative equation. As one example, in the Innovation/Tool Seeking algorithm the emotion faith compares projected cost of innovation developed in the Vetting Phase to the actual cost in the Implementation Phase. If the cost are equal to or less than the projected cost the emotion faith is satisfied and the Human Action Cycle moves to exuberance. In exuberance, the same type of comparison of projected benefits/outcomes is compared to the actual outcomes. Every emotion has a comparison equation. In this way the mathematics of a fractal equation start to emerge as something that is translatable into the mathematical equation of binary programming.

The original purpose of Peil's EFS model was to serve as diagnostic tool for mental health assessment. It is easy now to understand bi-polar personality disorders as the general construct of the Paradaptive Intelligence Network algorithms are bi-polar with a corrective signal side and a growth signal side. Impairment to the mechanisms that either creates or interprets the measure of corrective signal or growth signal strength contained in either growth or corrective signal emotions result in excessive release of neuro-chemicals that exaggerated bi-polar responses to emotions that normally would result in mild or moderated emotional responses. The natural escalating emotional signals of algorithms is lost resulting in the inability of persons suffering from dysfunctional metering of emotion to have difficulty solving problems or forming relationships because the flow of the algorithm is interrupted. Another example is schizophrenia. Further, this exaggerated neuro-chemical response also results in the inability of those suffer this type of dysfunction of being able to satisfy their six universal needs. Excessive corrective signals rob individuals of their ability to exercise and satisfy freedom and power. Excessive growth signals prevent individuals from being able to satisfy the hierarchy of connection, esteem, creativity, and meaning. Schizophrenia and autism are diseases of the Mirror Neuron System and are two sides of the same coin. Autism represents a genetic coding failure to create a library in which an individual can not store exemplars of facial expressions and the associated emotion attached to that expression. This renders autistic individuals incapable of empathy via interpretation of facial expressions. This further reduces the ability of autistic individuals to interpret and understand verbal communication where tone and inflection may carry differing meanings of the same phonic word or expression. Autism is considered a disease of a range of disabilities. This is consistent with the Paradaptive Intelligence model when one considers that the drive to interpret facial expressions is comprised of several sub-systems and their requirements, such as the DNA encoded behavior to be driven to look at someone when they speak to observe facial expressions, to match expressions to exemplars in the Mirror Neuron Library, associate an emotion to that expression, to impose that emotion briefly on the adaptor, and so on. So a defect in any one of these sub-systems or failure to construct or fill the facial expression library will result in imperfect interpretation of others emotional states of none at all. Whereas autism is a disease of absence, its counterpart, schizophrenia, is a disease of over stimulation of the Mirror Neuron System. The primary symptom of schizophrenia is paranoia. There is a known hereditary link in families suffering from schizophrenia and it is also known that a traumatic event is usually linked to the onset of schizophrenia. The Mirror Neuron System is designed to interpret and empathize with one face at a time. At traumatic event is an incident of severe or highly charged corrective signal as the effect of jamming -on the affected emotion of the traumatic event. So that a schizophrenic receives two emotional signals when

communicating with people – one signal from the normal output of processing a facial expression and simultaneous second signal from the stuck-on emotional circuitry of the traumatic event. The schizophrenic is unable to decipher other peoples meaning and thus is unable to read or understand others leading to distrust and paranoia. In the case of multiple personalities, a very rare occurrence, the entire range of the emotional corrective signal is activated so that the schizophrenic is receiving numerous signals simultaneously from the entire spectrum of the corrective signal. This results in “personalities” developing around differing levels of the signals and those personalities center around previous experiences of how a person would have normally responded to that emotion. This process can be further compounded when the traumatic event creates a blend of signal. As noted earlier, a corrective signal can be a blend of two corrective signals to give correctional guidance on two axes. So there is the potential for two corrective signals to be stuck-on full time, like two organ keys constantly playing while the organist is trying to play a piece.

Psychopathy is of particular interest to the business world. Psychopath is currently considered a personality disorder. The underlying presumption is that psychopathy is a choice of behaviors rather than the malformation or defect of the mental mechanisms of the mind. This classification is the result of having no workable model of the functionality of the human mind and the purpose and function of emotions in adaptation. It is also incorrect to treat psychopathy as a personality disorder as there is no choice of behavior for the psychopath. To do so would be the same as to call autism a personality disorder. Both are conditions of deletions, where essential mechanisms of adaptation did not form.

There are two types of psychopaths: clinical and sub-clinical. Clinical psychopaths are the serial murders, Ponzi-schemers, and other villainous types that grab the headlines that most people are generally familiar with. The second type of psychopaths is called sub-clinicals, they live among us. This type has every bit the DNA makeup as the clinical. The difference is that sub-clinicals were raised in properly functioning families where improper behavior was not tolerated and proper behavior response were learned and stored as their exemplars, whereas clinical psychopaths arise from dysfunctional family settings. This is an example of DNA is not destiny. Clinical and sub-clinical psychopaths have the same genetic disposition toward aberrant behavior, but environmental influences moderate behavior in one group while allowing the second group full expression of the genetically encoded behavior potential. Two percent of the population is estimated to be psychopaths. This is a significant portion of the population and only a smaller percentage of them end up in incarcerated which means there is a large population of psychopaths, primarily sub-clinicals, distributed in our populations that exhibit all the behaviors of a psychopath, but to a lesser degree. So if you have a company of at least a hundred employees, you probably have a psychopath on your staff. They tend to be the trouble makers, drama queens, scheming backstabbers and the like that bring a dysfunctional element to businesses and organizations. It is imperative to understand the mental defect and how it impacts organizations.

Canadian penal system psychiatrist and researcher Dr. Hare, a leader in the field of understanding psychopathy, has noted that psychopaths have muted emotional responses and have trouble achieving goals. He has also defines the twelve symptoms of psychopathy, into two categories, Emotional/Interpersonal and Social Deviance. The Emotional/Interpersonal category is comprised of the key symptoms of glib and superficial, egocentric and grandiose, lack of remorse or guilt, lack of empathy, deceitful and manipulative, and shallow emotions. The key symptoms of Social Deviance are impulsiveness, poor behavior controls, need for excitement, lack of responsibility, early behavior problems, and adult antisocial behavior.

When you take a look at psychopathy through the Paradaptive Intelligence model a pattern starts to become very clear as to the defects in a psychopath are examined. Psychopathy’s primary characteristic is a defect is in the emotion of disgust. Disgust, unwholesomeness, can be both physical and behavioral. Rotten food is disgusting and our reactor seeks to move us away from this unwholesomeness as it may be deleterious for the body. Unwholesomeness leads to the continuum of emotions for the corrective signal disgust:dislike, repugnance, revulsion, and hate. Behavior can also be disgusting. Unwholesomeness in other leads to the continuum of dislike,

repugnance, revulsion, and hate also. We express this towards others by saying I don't like you, you make me sick, I can't stand you, and I hate you. We can also discover unwholesomeness about our behavior. Embarrassment is an internal shade of unwholesomeness. We learn a range of social behaviors, the rule of our self-identified tribe. If our motivation is to follow the rule of our self-identified tribe, when our behavior deviates from those norms, the emotion of disgust is internally issued to correct our behavior back to within accepted norms. Psychopaths' DNA coding for the emotion disgust is either non or partially functional. If you look at Hare's key symptoms for Emotional/Interpersonal lack of remorse, deceitfulness and manipulation are directly attributed to disgust. Remorse is a form of disgust of our behaviors. The Conductor controls how we treat others of our self-identified tribe. It uses forms of disgust to signal unwholesome behavior transgressions against others. Glib and superficial are redundant to manipulation. Glibness is speaking in a manner too smooth to be convincing; superficial is putting on emotions not rooted in internal behavior. These are both manipulations of the Mirror Neuron System. Unwholesomeness, disgust, is the emotion that keeps these behaviors in tack in normally functional human beings. Egocentrism and grandiosity are also forms of unwholesomeness. Grandiosity is a form of manipulation to usurp power of shift power from others. Egocentrism is also about shifting power. Both of these, again, are controlled by the Conductor's prime directive to maximize both contributions to the self and one's self-identified tribe. Grandiosity and egocentrism exclude others and would normally be controlled by the emotion disgust for violating half of the Conductor's prime directive. While all six of Hare's Key Symptoms of Psychopathy in the category of Emotional/Interpersonal have different contexts, the corrective emotion is disgust.

When looking at Hare's Social Deviance category, pattern also develop when examining the Key Symptoms of impulsiveness, poor behavior controls, need for excitement, lack of responsibility, early behavior problems, and adult antisocial behavior. Impulsiveness goes directly to the Innovation/Tool Seeking algorithm as does poor behavior controls. This points to an inability to internally produce or obtain the growth signal of joy. This may be due to either a non or partially functional mechanism that creates the growth signal joy for the emotions of the algorithm. The natural progression of the five emotions of the vetting phase do not function properly, stemming from an inability to produce fully complete escalating basic and complex emotional tones. This would also be parallel Hare's observation of psychopaths' ability or difficulty in achieving goals (motivations of a HAC, the main construct that drives emotional achievement). This inability to produce significant or any internal growth signals of joy also would manifest itself in the inability to develop deep or lasting relationships which also rely on stronger and stronger doses of joy to develop and escalate relationships. Lack of responsibility also falls into this dysfunctional Innovation/Tool Seeking algorithm which seeks to innovate behavior and create tools. So a non or partially functional growth signal mechanism would not allow for proper feedback of lack of taking responsibility. Taking responsibility requires ownership which denotes a motivation. The emotion that controls responsibility is disgust. As previously noted above, without a properly functioning emotion of disgust a person would have no embarrassment, shame, remorse, regret, or other forms of disgust-with-self that would provide direction and internal stimulus to correct behavior. It is interesting to note that the valence portion of the emotion signal produced within a psychopathic person pertaining to avoidance agitation expression is still functional. They are agitated to move away from failure. This is where the "it's not my fault" response originates, as the psychopathic person is driven to avoid and distance themselves from failure/psychic pain, however the rest of the emotion signal seems to be malfunctioning. There appears to be no basic or complex emotion portion to their feedback signal. The lack of a disgust-with-self response coupled with agitation to distance them self from failure creates the behavior to fix blame on other. While the response to distance him or herself from failure is present in all humans, non-psychopaths have a conductor that uses disgust-with-self emotional feedback to prevent fixing blame with others. While non-psychopaths can override this feedback signal and blame others or take, usually the disgust-with-self emotion moderate or prevents this behavior. With psychopaths who have no disgust-with-self emotions, they have only one response, to avoid connection to failure so affixing blame to others is only natural to them. Having been born with a non-functional adaptation system would lead to both early behavioral problems and adult anti-social behaviors since there is not disgust-with-self feedback signally to keep behaviors within normally accepted social boundaries.

Hare has also noted that psychopaths have muted or subdued emotions. When examined within the Paradaptive Intelligence model, again it brings clarity. Noting that the problem is in the formation of the basic and complex emotion part of the feedback signal for psychopathy, then perhaps this defect extends to other basic and complex emotions. This would lead to the inability to form any of the recognized forms of relationship. However, even Hare notes that psychopaths need for excitement. Excitement is synonymous with fear, by process of elimination. The emotion disgust has already been discussed at length. Also previously noted was the absence of normal relationships. Therefore, the basic emotion of loss can not be associated with loss since there are no underlying relationships from which loss springs. This leaves anger and fear. Anger is not something that is generally sought out due to its agitation for avoidance/move-away. In Hare's verbiage, there is no understanding or the emotion excitement as discussed in the Innovation/Tool Seeking algorithm which occurs specifically from having the resources to accomplish a task. The proper classification of what psychopaths are seeking is stimulation. The only fully functional basic emotion they have is fear. It is the only emotion that stimulates psychopaths. In this way that they seek moments of imperilment, because of the reactor's ability to produce high emotional stimulation. Psychopaths live in a world of grey emotional except for fear. Fear is the only emotion in Technicolor in their world. Seeking this stimulus is also the driving reason behind anti-social behavior, which is another form of imperilment.

A hypothetical time line can be constructed of the evolution of the Paradaptive Intelligence Network by looking at Peil's work. Peil has been able to demonstrate an approach/move away response down to single cell animals. This is correspondent to the agitation express of the first level of each emotional signal, tone or blend, which is either approach or move away. By extension, the emotion joy is the fully developed emotional expression of the rudimentary move-towards/approach agitation as is fear the full expression of the avoidance/move away. So fear and joy were the first two emotions developed simultaneously in organisms. The first two emotions, fear – a corrective signal, and joy – a growth signal, set the initial structural dynamic for a bi-polar construct. The remaining emotions to be developed are either corrective signals or surprise. The next emotion to be developed was disgust. Simple animals needed to avoid the in-take or ingestion of things deleterious to sustenance of life. So a mechanism for discerning good from bad was required and an emotion was necessary to convey potential harmful outcomes with contact of various elements in the environment. This, combined with joy and fear drove the development of the senses of taste and smell – the chemical interpretation of substances, sight- the discernment of objects via photon wave length sampling of the electromagnetic spectrum, hearing and its cousin touch which are measures of pressure – one of pressure oscillations in ranges of higher frequency and the other of constant or slower frequency variation.

The next emotion to appear was anger. Anger is caused by either an obstacle or boundary violations. Anger by obstacle requires a motivation to be in place and impeded. This is evidence of advance forethought, and advanced forethought requires foreknowledge. Foreknowledge was an outgrowth or extension of cataloging the sensory interpretations. This is proof-positive of development beyond the reactor, which was managing rudimentary associative learning (conditioned), locomotion, and the sensory suite, to an adaptor and active learning capable of motivation formulation. Motivation formulation requires an algorithm for achievement leading to the development of foreshortened or minimalistic Innovation/Tool Seeking algorithm. The primary function of this foreshortened algorithm was behavioral modification, since all but a few creatures had the physical dexterity for object manipulation. As Type I mutations occurred that increased capacity for object manipulation, accompanying mutational advances also had to occur in the development of Type II adaptation within the Paradaptive Intelligence Network to take advantage of the Type I physical or biological mutations. Boundary Violations, anger, is specific to others of the same species. The initial model of pursuit of life was solitary existence. There was very little interaction among those of the solitary existence model of the same species except for mating. Anger in this context leads to challenges for mating rights. However a second model species activities occurred when communal living occurred after the solitary existence model. This model afforded those species that adopted it greater security initially. In order to accommodate this arrangement, Type I mutations occurred that expanded the Paradaptive Intelligence Network creating emotions suitable to facilitate conduct of individuals to maximize the benefits of communal living. The concept of societal boundaries in behavior was facilitated by the emotion anger. Anger

connotes a boundary, which signifies that societal norms or accepted collective behaviors are part of our DNA blue print. Therefore, man has evolved to evaluate and judge other's behaviors that we call moral judgment. Obstacles, impediments, could be either environmental or caused by others. As an instance of anger by an environmental impediment, the earlier described incidence of a bear seeking honey in a hollow log tries various ways to reach in and obtain honey, but eventually grows angry and starts to rip and tear the log apart. In this way the emotion anger has led to a new method to obtain honey. In essence, nature has bred into mammals the process that can be expressed in the old axiom of "if fineness doesn't succeed, try brute force." Others of our species can be an obstacle to the obtainment of a motivation. The aforementioned instance of other males getting in the way of mating with females leads to the violence, anger, of mating challenges. In humans, we respond with anger when someone presents an obstacle to the obtainment of a motivation.

Communal livings also required the extension of the use of the emotion disgust to signal behaviors considered unwholesome to the behavioral norms of that species, clan, or other subset within a species. Unwholesomeness was a behavior that led to minor ostracism up to banishment from the collective's security.

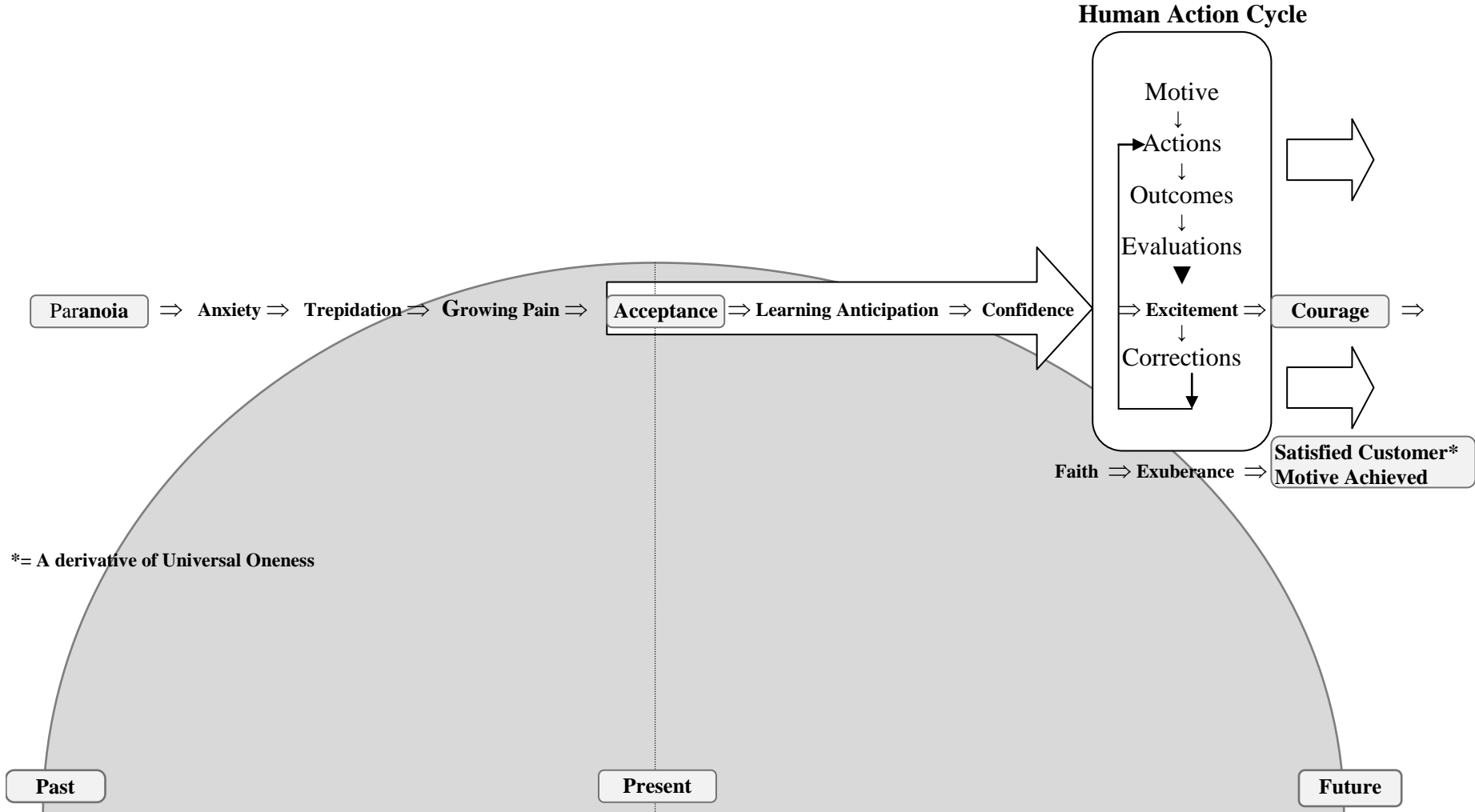
The bipolar configuration of the adaptation mechanism patterned by nature also allowed for the expansion of the approach agitation to create the emotion joy. In the solitary existence model internal rewards were developed so that individuals would receive pleasure rewards for behaviors that were conducive and beneficial for the furtherance of life and mating. Whereas corrective signals are analog in that they exist in a continuum, emotions of joy reward only a very specific behavior. Joy rewards were created for very specific behaviors in furtherance of activities that promulgate life such as sustenance acquisition, the individual steps in making friends thus increasing the size of an individual's personal collective within the greater collective, behavior modification nullify the pain points of corrective signals, each specific step needed to make a tool, and so forth. These individual, specific activities are placed within a sequence that the Paradaptive Intelligence model calls algorithms which developed simultaneously with fear.

Another emotion of communal living is sadness. As noted earlier, internal rewards of joy reward individuals for forming relationships because these have the ability to bring us pleasure in mating, companionship, and with collectives of individuals because these actions create the ability to multiply our pleasure, knowledge and resources. When one of these relationships is lost the emotion sadness is experienced commiserate with the level of the joy attained in whichever algorithm that relationship was based. Sadness also moves us to seek replacement; we are driven to replace lost relationships to augment the multipliers of pleasure, knowledge, and resources. As man's Paradaptive Intelligence network expanded with the ability to manipulate objects in the environment, the emotion of loss was extended to the tools created or obtained. Tools are also multipliers of success in achieving the motivations of HACs. The loss of these tools diminished the capacity to achieve further HACs. So the extension of this emotion of communal living to those objects lost which were self manufactured or obtained through relationships now drives man for replacement.

This complex of emotion based adaptation subsystems lead to the need for a system to communicate the internal status to others of its kind leading to the development of the Mirror Neuron System. Even species that operate in the solitary existence model have a need to communicate with each other in mating and childrearing, or boundary violations if they are territorial. The communication of boundary violations is also necessary for encroachment of mating rights to females. Young mammals intently watch and copy their mothers and a system of body language is necessary to that communication. Communal living animals are more dependent upon the Mirror Neuron System to signal internal states of motive accomplishment so that other would know how to approach, respond, and assist others to accomplish their motivations. The expressiveness of the human face due to its high degree of muscular articulation is a direct outgrowth of the Paradaptive Intelligence Network because simple body language could not keep up with the development of new emotions nor convey the rich and complex growth of the emotional foundations of the feedback system. The human face developed to become an organ specifically designed to be a communicative outlet for the Paradaptive Intelligence system. Studies of human perception of beauty have shown a

wide degree of cultural preferences, however the one variable that is consistent has been symmetry. The greater the asymmetry, the less beauty is perceived. This evolution drive for symmetry has always been attributed to be a sign of health, and healthiness as a desirable criteria in accessing the viability of potential mates. This explanation is not logical on the face of it; symmetry of the face does not change with health. Facial symmetry is predominately set in fetal development. An otherwise healthy individual may have a high degree of facial asymmetry. However, as an organ specifically developed to communicate internal emotions and to interpret those of others, symmetry plays a different and crucial role in the execution of Paradaptive Intelligence Network functionality. Symmetrical faces are more expressive and communicate emotions more effectively. Asymmetrical faces are more ambiguous in emotion expression due to the inability to express consistent emotions on both side of the face. The symmetry and proportions of the most preferred faces, not culturally driven, but are DNA driven, accrued because those dimensions and proportions are the most efficient at emotional expression, and thus are the most efficient at communication between humans' Mirror Neuron System. The human eyes' focal point has also help dictate the arrangement of facial features by Type I adaptation selecting the most communicative arrangement with the highest degree of emotional expressionism. The focal point of direct vision used when looking at another's face allows the human eye to gage facial expression of emotions while peripheral vision to translate less precise body language. As a counterpoint to this concept, one could look at the human reaction to facial deformation or injury. Those with damaged or malformed countenances invoke a reaction of revulsion to others. People with facial damage and deformation are judged to be less trustworthy. This is because the Mirror Neuron System is not able to function to normal levels making those with damage or malformation less knowable and less readable. This incites others to be more cautious when dealing with those Mirror Neuron Systems that are less capable.

**Human Action Cycle Feed Forward
and Accretive Emotions Accumulation™**



GRAPH B: FREEDOM/NEEDS FLOW CHART

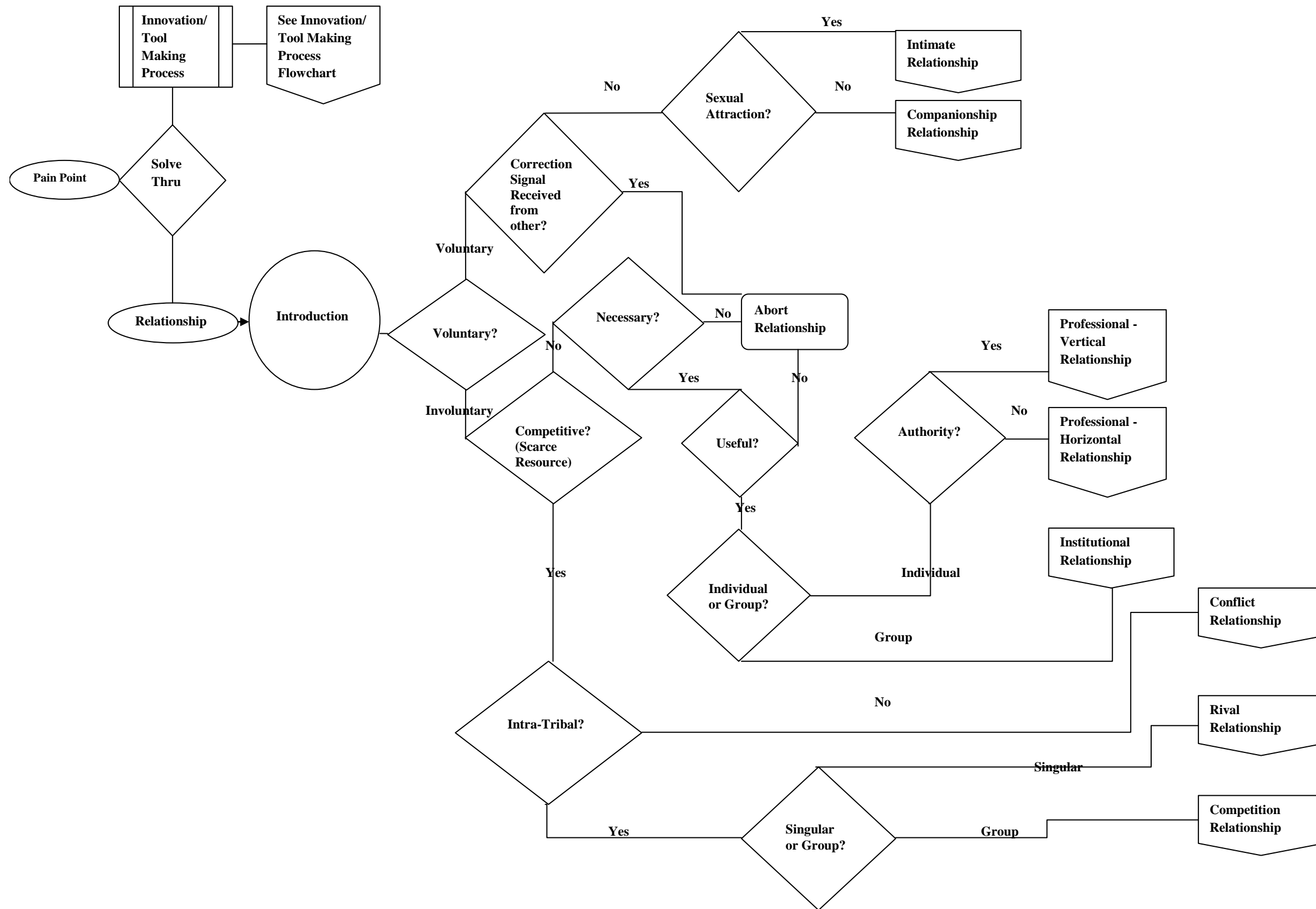
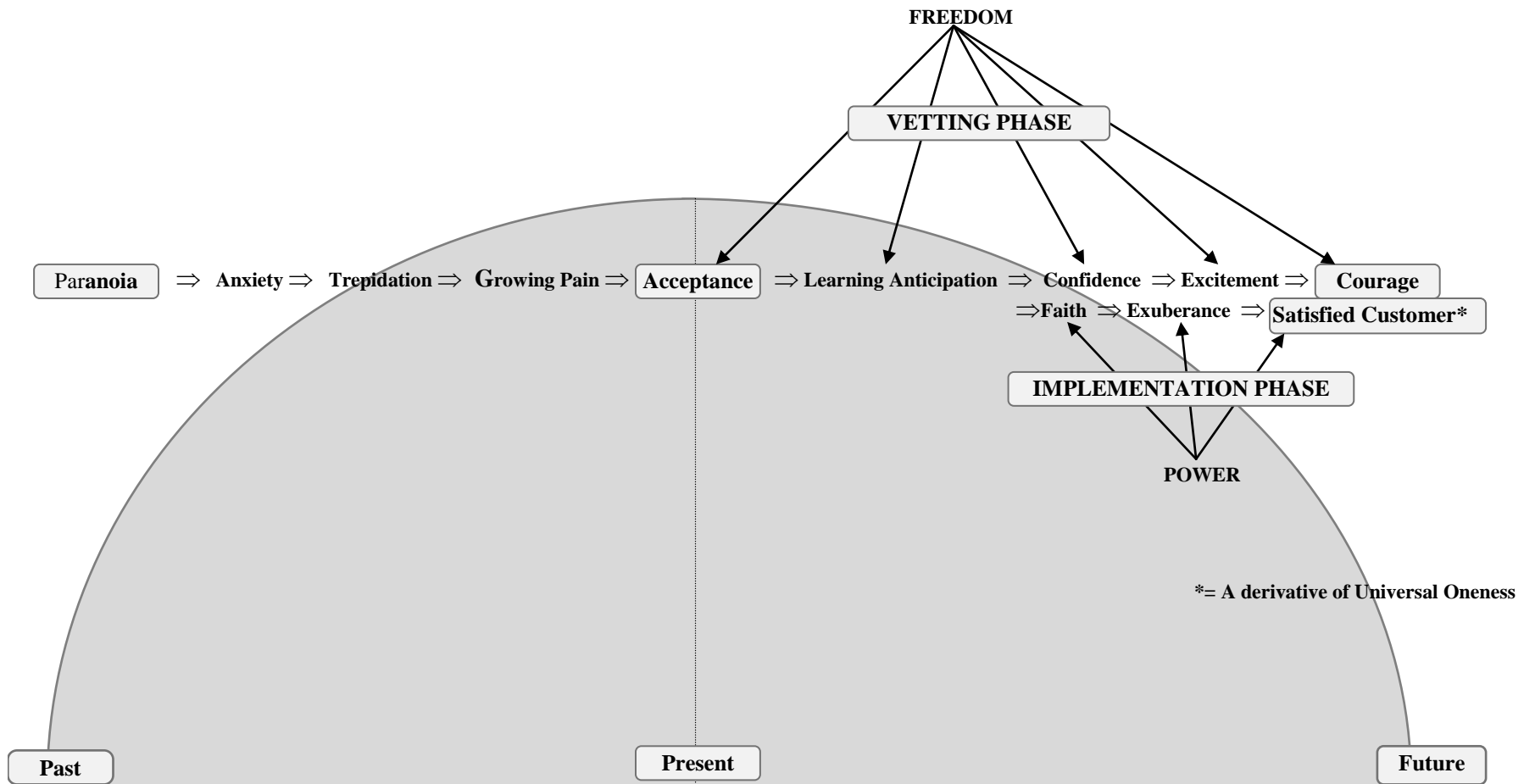
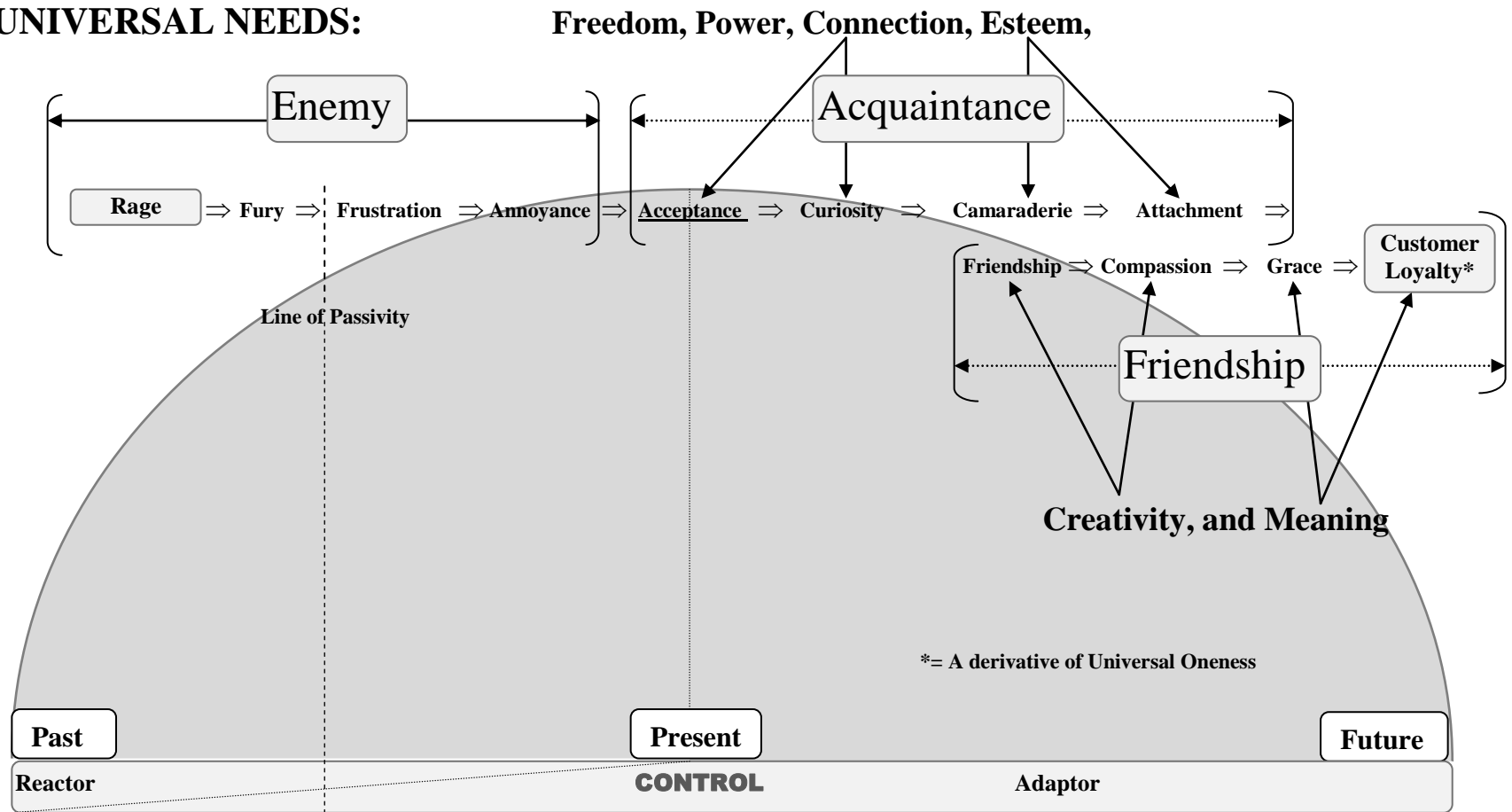


FIGURE 15.2
Freedom & Power Satisfaction
Six Universal Needs
Emotional Tonal Algorithm for Innovation/Tool Seeking



**Six Universal Needs & Professional Horizontal Relationship
Emotional Tonal Algorithm™**

SIX UNIVERSAL NEEDS:



Horizontal Professional Relationship Emotional Tonal Algorithm™

