Development of Non-Optimal Wants Baseline Activity Level and an Overview of Neurobiological Correlates relating to Non-Linear Existentialism

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The logical inferences that are created by the phenomena commonly referred to as Needs and Wants when they are compared and contrasted to each other indirectly imply the possible existence of non-linear processing in the Central Nervous System (CNS). In the introductory article on Charitiesoflife.com supporting the creation of Non-Linear Existentialism, entitled: *Transfer of Energy within the Environment and the Affects of such Interactions on the Development of Humanity*, there is the implication that a Want may be just a result of subjective preferences that could be created through internal variance of the neuronal stream. However, the very concept of there being Wants appears, on closer examination, to demand a more thorough explanation of how there can be an aspect of a person that can reduce their ability to survive.

A. Needs and Wants

There are many ways of defining what a Need is, one of which is in terms of meeting certain physiological states that have to be maintained or the organism will cease to function. As a biological entity, the body requires a specific volume or weight or chemical composition of liquid, food and heat to survive. It can also be argued that touch is important for survival as studies indicate those children without adequate human contact fail to thrive. Therefore, Needs are defined in terms of Quantities of specific traits that a substance has to have in order for it to sustain the structure of the body.

Wants, on the other hand, are derived from the basic Needs and are more reflective of what is referred to as Quality. If a liquid meets specific parameters in respect to minimal chemical composition and volume, it will meet the needs of an organism, on the other hand, the phenomena of Want adds variety to the basic formula. As stated in paper on Quantity and Quality[1], this difference can be a reflection of internal processes that have been defined as being non-linear to external inputs. Though this is not proof of cerebral variance, it does ask if Wants are, in some way, disconnected from Needs.

Proof of such a disconnection can be offered by investigating the counter-productive nature of some Wants. In the countless studies of our society, there is an endless array of instances where a person's personal preferences not only cause them harm, but hurts others as well. One of the primary ways of pre-determining if a trait will be passed onto a progeny is if that ability increases the parents' ability to survive. While Needs meets these criteria by virtue of its very definition, Wants can and do decrease the chances of some lineages to propagate. Therefore, we then have the apparent paradox of an illogical or non-linear event occurring in a linear being. However, once this conundrum is viewed as a by-product of an event that does increase survival, then the logic is restored.

[1] Phenomenological Method Applied to Quantity and Quality as Framed by Heidegger's Existentialism and the Neuro-Physiological Necessity of Non-Linear Existentialism

B. Primary Needs Baseline Activity Levels - Optimal and Suboptimal

In the Youtube presentations on the *Energetics of the Self-Line Function* and those leading into it, it was argued that there is a baseline level of energy that is set during the early years of neuronal development. And that this level of neurophysiologically derived energy, referred to as Primary Needs Baseline Activity (PNBA) is at its maximum level during these years, and due to interactions with the environment, is reduced. Moreover, as outlined in the paper *Implications of Non-Linear Existentialism on Freud's Psychoanalytical Model*, it is possible if the appropriate behaviors are formed within the person, to go back towards this level. However, as discussed in Section A, Needs and Wants appear to be associated with divergent outcomes, which may imply that they are driven by different energy baseline levels, which argues against the theory of PNBA.

Although Needs and Wants do appear to be reflections of divergent energy baseline levels, their co-existence does not negate a Primary Needs Baseline Activity Level. To understand how Needs and Wants can occur together, it is important to understand the formation of the PNBA, which, as the name implies, is associated with the phenomena of Needs. In early life, and in keeping with the idea that the cerebral cortex is an empty slate to be written upon, there are no experientially based patterns present and hence no performed knowledge to call upon. And due to this, the impacts of inputs passing through the cerebral cortex from external and internal sources at this stage of development are relatively untempered. Consequently, the interaction between the cerebral cortex and closely related structures during early development, such as the Limbic System, are strong and those patterns that are formed have long term affects on the person's behavior.

Following the formation of these primary patterns, there is then the development of other patterns which would be commonly referred to as Wants. As the person grows and becomes aware of themselves as being in, but apart from the environment due to the addition of their own neurophysiologically derived levels of Quality to their outputs, this, along with many psychosocial factors, including, but limited to modeling societal behaviors, the individual may no longer be satisfied with Liquid A to meet their primary osmotic needs, but starts to prefer milk or even juice. Furthermore they may begin to like one type of juice over another. Such behaviors do not in themselves cause a problem, however, if the person is diabetic and drinking sweet liquids due to a preference (or Want) can, as mentioned before, affect their chances of survival.

In light of these arguments and the theories they are base upon, Wants are then those cortical patterns self-imbued with the Qualities of the person, and exist at a baseline energy state less than the Primary Needs Baseline Activity Level. As will be discussed in the next section, the PNBA is first developed and subsequently maintained in the Limbic System (possibly the Hippocampal Area) and theoretically regulates fundamental patterns which have been labeled as Needs. Furthermore, the neuronal configurations that are associated with the primary patterns, labeled as the Wants, are situated in the more anterior aspects of the cerebral cortex, with the most complex occurring in the Prefrontal Cortex, in the areas surrounding the Amygdale. Furthermore, this baseline energy state in a suboptimal condition, referred to as Non-Optimal Wants Baseline Activity (NOWBA), is developed within this cortical region, and unlike the PNBA, can be changed.

C. Proposed Relationship of the Cerebral Cortex, Limbic System and Diencephalon

To understand the theoretical relationships between the various components discussed and their possible functions, a detailed overview of how the Need to drink water turns into the Want to consume sweet juices, then into an adult who is aware of their diabetes and how such consumption may compromise their health.

1) Osmotic Receptors in the Diencephalon (hypothalamus) detect low fluid levels in the body and causes the affected infant to drink the water that is offered to her by her mother. As a reinforcing event, the child hears (auditory cortex) her mother asking and giving her some water to drink, while seeing (visual) a smile on her mother's face. With this Need to consume water and another for warm (being held) occurring at the same time, the output from the Cerebral Cortex that enters the hippocampus through the fornix meets its Primary Needs Baseline Activity (PNBA or PNBAL) which in turn causes another signal to be sent to the Amygdale. The returning impulse through the Thalamus reduces the child's immediate Need to drink water and reinforces the behaviors exhibited during this episode.

2) Later in life, the child starts to select drinks that contain a high percentage of sugar and consumes them because her Need to consume liquid to meet the physiological requirements has been modified into a Want. While there is indirect awareness in the person of the PNBA and its affect on maintaining a certain quantity of liquid, the qualities of the girl have, which include biological cues combined with other associations and societal pressures in the form of advertisement, have started to form another baseline referred to as the Non-Optimal Wants Baseline Activity Level (NOWBA or NOWBAL).

This baseline level occurs within the cortex and is reflection of a person who is aware themselves as an individual and can make their own choices. If there are limited incongruities between the patterns which define the PNBA and the NOWBA, there will be limited anxiety produced by drinking the juice. The constrained uncertainty that produces the concept of Time (frequency modulation) as well as the ability to consider different connects between previously established patterns (amplitude modulation or Thought) have lead to this state, and allow more complex patterns to form in the future.

3) The girl is now a young woman who has become aware that her family is prone to diabetes and, as her mother and family doctor have explained to her, if she does not control her diet to limit the intake of sweet drinks it will lead to a variety of illnesses. Though the young woman has heard and understood this information and its implications, certain aspects of her personality (quality) has caused her to produce a number of patterns in her Prefrontal Cortex that supersedes these warnings.

As a consequence of these Thoughts (the producer and possible abolisher of variance) the NOWBA which know encompasses most of the frontal region of her cerebral cortex has developed a level of energy which is much different from the inherent PNBA. This condition, and the location of these areas to one another, causes a signal from the cortex to go directly to the amygdale. Because the hippocampus is not affected first, the safeguards created by the PNBA are lessoned but are still evident. Due to this condition, whenever the girl Wants a sugary drink, she hides this activity and fells very bad afterwards.

Schematic of the Proposed Energy States and their Interactions in the Cerebral Cortex, Limbic System and Diencephalon

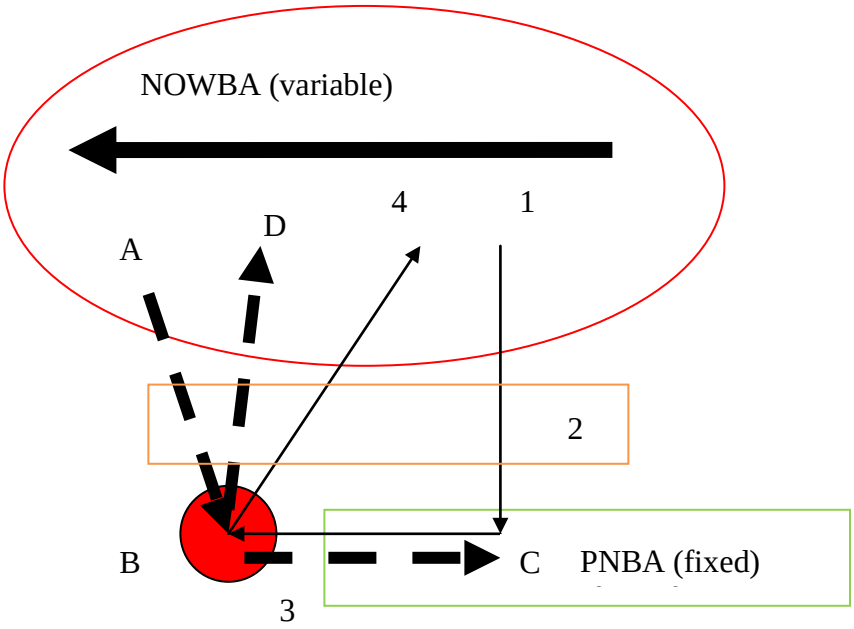

Diagram 1: The ovoid shape (red) at the top of the diagram is a schematic representation of the Cerebral Cortex region of the Telencephalon. The large arrow going from right to left (posterior to anterior) indicates the progression of pattern formation that involves the combining of basic sensory modalities with others to form primary representations of the external environment, to more complex patterns that are brought about by the reshaping abilities of neuronal variance in the form of Thought. During the initial development of the system, input (1) from the cerebral cortex feeds into the hippocampus (green box) through the diencephalon (2) (orange box) then into the amygdale (red circle). As part of a negative feedback system, the baseline energy (PNBA) level in the hippocampus is compared to input from the cerebral cortex, the outcome of which is sent to the amygdale which then relays a rectifying signal (if necessary) back to the cortex via the diencephalon.

The continual interaction of the person with the environment results in the development of more complex neuronal patterns. These complex patterns are produced by the interlinking of simpler sensory patterns (Needs) with a person's interactions with themselves and the environment in a non-linear fashion reflective of intrinsic signal modulation, producing outcomes that can diverge (Wants) from optimal behavior. With time, a new, and non-optimal level of baseline energy is developed (NOWBAL) in the frontal region of the cortex and begins to communicate directly (A) with the amygdale (B). Although some of this input can enter the hippocampus to be compared with the Needs baseline level of energy (PNBAL) and modify the person's behavior, such actions can be overridden by the person's Wants (D). Please note: Activity (PNB**A** and NOWB**A**) refers to neuronal energy as a general term, and Activity Level (PNB**AL** and NOWB**AL**) refers to neuronal energy at a specific time so that it can be compared to other events occurring at that specific time.

The outcome of this theoretical feedback system is that the Needs baseline energy level will continue to operate to optimize cerebral energy, but the system's ability to achieve it will be dependent on a number of factors. First element is the magnitude of the energy difference between the two baseline levels (PNBAL – NOWBAL), and the second is represented by the resources of the individual, in this state, has to reduce the difference. Please note that although the terminology used in this paper is different from that employed in the paper cited in footnote 1, this is done to simplify the present discussion and to emphasis the concept of baseline energy states instead of the synchronization of ground states. Furthermore, although the present schematic is based on the connections that have been defined by neuroanatomical research, the point of this present treatment is to try to bridge the gap between the theoretical and the applied forms of neurophysiology.

Conclusion

Needs and Wants are amongst a number of seminal characteristics residing within our race that determines the course of our existence. Needs can be defined as those physiological states that have to be met in order to survive and are primarily controlled by receptors in the body that send signals to the central nervous system to regulate their levels. When these signals from the various receptors are combined in early life, they determine and define the Primary Needs Baseline Activity Level. It is a theoretical level of energy in the cerebral cortex that is dependent on a feedback loop involving the Limbic System and the Diencephalon for its maintenance.

Wants is a result of the non-linear input of the cerebral cortex, which, along with external forces, changes how the basic Needs are achieved. Furthermore, with its own baseline level, in the form of Non-Optimal Wants Baseline Activity, existing in the Anterior areas of the cortex, and able to by-pass the primary feedback system of the Limbic System, the behaviors which were originally created by the central nervous system to achieve the original Needs can be changed and may be in opposition to the health of the person producing this activity. Therefore, and as a reflection of the path traced out by the Self-Line Function, Needs and Wants are able to modulate how we interact with the environment and with ourselves.

Overall then, the condition of humanity is a very difficult phenomenon to understand and to experience due to it existing in both a state of flux and certainty. While there are many regions of the central nervous system that have to be controlled by linear causation so that outputs are strictly meet, evolution has also imbued us with the gift of self-destruction in the form of Wants, which along with our emotions and the lack of a stable set of standards to live by, makes the experience of humanity exceptionally unique. As such, and to improve our understanding of ourselves, there has to be a global approach to the study of our race, combining the sciences into a focused appreciation of what it is to be human and not treat it as a disconnected quantification of a unsolvable problem.