SYSTEMIC BIOPSYCHOLOGY (SBP)
AN EMERGENT MODEL TO EXPLAINING PERSONALITY DEVELOPMENT

Biopsychology is the study of brain function. Areas of interest include; processes inherent in learning, memory, motivation, perception and emotions, as well as the environmental effects on these processes.

Systemic BioPsycholgy (SBP) attempts to link these various processes in the brain to their associated behaviors. Two main types of behaviors are identified: first, those associated to emotions (states/short term effects) and second those associated with personalities (traits/long term effects). This integrative approach considers three factors in the development of behaviors: genes, neural development, and learning.

SBP, a model in it's infancy, allows for a novel understanding of the development of personality. This model allows the additional integration of elements from recent neuroscience research on neural circuits and revolves around the development of 5 neural circuits : instinctivity, sensitivity, cognitivity, affectivity and reflexivity.

Instinctivity is the first neuronal circuit to develop during infancy**.** This circuit triggers spontaneous motor responses that are both automatic and involuntary following sensory discomfort. This is a reflexive reaction necessary to survival. For example, it is this circuit that prompts the child to quickly withdraw their hand from a dangerously hot surface in order to avoid getting burned. The reaction to pain is swift. In this instance, there is no thought with which the child can directly interact or engage. As the child ages, this circuit might be triggered by other variables such as a real or perceived threat to it's physical safety or well-being. In this way, survival skills are created.

Sensitivity is the second neuronal circuit deployed in the baby. It is through the senses such as touch, vision, hearing, olfaction, taste and interoception

(perception of changes is or signals from visceral and muscles) that the baby develops it's perceptual abilities. This neural circuit will permit the baby to adapt itself to the environment whilst protecting it from dangers. Just like Instinctivity, this is an unconscious reaction unsupported by thoughts or cognitions. For example, if the baby hears for the first time the noise of the vacuum without any warning, it will likely freeze or cry from the shock or surprise of it. The surprise reflex will slowly disappear as the baby becomes familiar with the sound. The baby will no longer perceive the sound as threatening. It is in this manner that the baby experiences sensory learning about safety.

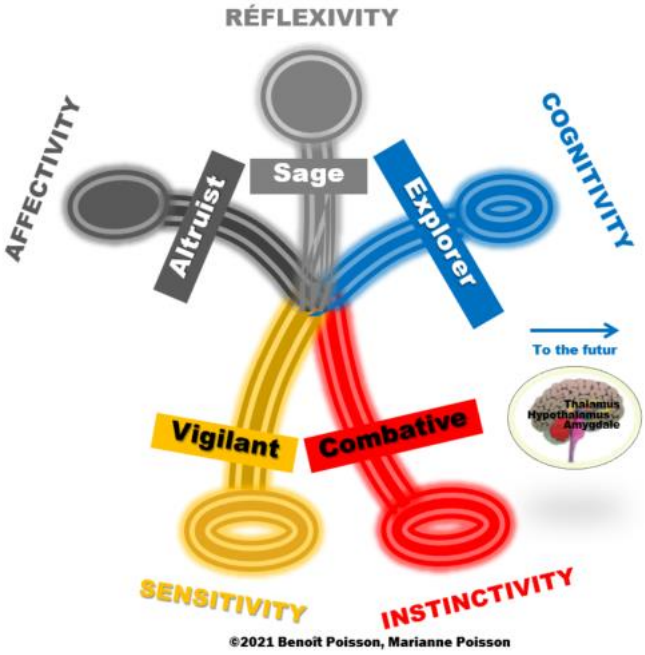
Cognitivity is the third neural circuit to become functional. Here we find the motivational ability that pushes the child towards exploration and experimentation. This circuit favors the development of concentration, language and executive functions. These abilities aid in the acquisition of knowledge and skills as well as the development of understanding and learning. These circuits grow through play. For example, nesting cups allow learning to occur regarding shapes, sizes, concepts such as "inside and outside" and so on. The child thus learns the basics of arithmetic and other intellectual competencies.

Affectivity is the fourth neural circuit in place. Here we see it is the inner discomfort that can be both diffuse and overwhelming that is associated with the tendency to be emotionally sensitive. Herein lies the foundation for empathy. This internal discomfort allows for sympathetic feelings and to be "touched" by that which happens to others. The expression "walk a mile in another man's shoes" summarizes this process. This circuit's development allows one to attempt to comfort others in distress. For instance, a child presents a beloved toy to a friend who is crying. This circuit allows for the development of social ties to others. It is the beginning of social skills development.

Réflexivity is the last and final neural circuit to develop. This is the ability to understand our mental states "mentalization". This circuit allows for conscious, deliberate, thoughtful out responses to current situations. The child becomes

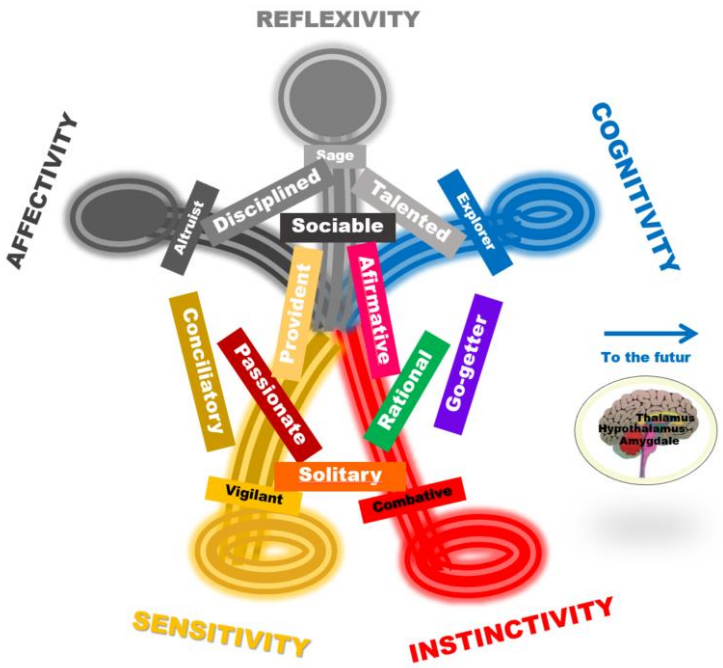
consciously aware of it's behavioral reactions as well as the reactions of others. The child becomes capable of auto-regulation allowing the management of impulses, perceptions motivations as well as emotional sensitivity. This is the start of understanding morality and ethics.

The five neural circuits underlie five basic personality types: the combative, associated with the Instinctivity neural circuit; the vigilant, associated with the sensitivity circuit; the explorer, associated with the cognitivity circuit; the altruist, associated with the affectivity circuit and the sage, associated with the reflexivity circuit. The 5 basic personality styles are presented in the following figure.



Neuroscientific data indicates that personality develops during childhood and is further refined and structured during adolescence in parallel to normal myelination of neural circuits. At approximately 25-30 years myelination is essentially complete which could explain the relative stability of personality in one's 30s and beyond.

Depending on heredity, neural development and the learning of each individual, three neural circuits will be favored when facing various situations. These will be considered an individual's dominant circuits. It is based on these that we are able to define 10 mixed personality styles that are represented in the figure below.



SBP makes use of these 10 personality styles to assist understanding and normalizing personality stylistic variations. The goal is to aid individuals to know and understand their personality styles so as to put in place specifically adapted strategies that will facilitate the maintenance of optimal equilibrium for each individual.

Does this approach interest you? You can receive training in this approach by attending a two-day workshop: Systemic BioPsychology and it's clinical applications.

Dr Benoît Poisson, Clinical Psychologist working with children, adolescents and adults experiencing mental health difficulties in a variety of clinical settings since 1976, he was also a clinical professor for fourteen years. He has also been an author, speaker, supervisor and workshop leader for the last 10 years.

Marianne Poisson, occupational therapist, has a diversified background working with a young clientele in the public CLSC environment (mental health, developmental delays, sensory processing issues) and in collaboration with childcare and educational institutions. She had been variously involved in university teaching settings over the last years.

Myrtis Fossey, M.A. Clinical Psychologist/Researcher. Working primarily with the Montreal community in her private practice, she has been offering psychological services to youth and adults for the last 20 years. Passionate about scientifically proven clinical interventions, she participates actively in the research and development of best clinical practices as offered in public hospital and private clinical settings by studying her own patients/clients satisfaction and outcome measures. Making use primarily of short-term brief solution-focused interventions as well as Cognitive Behavioral Therapy, Myrtis Fossey and her team offer since 2019 a walk-in mental health service to the community at large, by allowing for timely service without an appointment, they hope to help alleviate the long wait times typical for those seeking assistance in mental health.