

A GENERATIVE ART OF OUR OWN EVOLUTIONARY TRANSMUTATION:

The Art of HAROLD TERRY LINDAHL The Science of STEPHEN W. PORGES

*Susannah Hays, MFA, MA, Ph.D.
University of California at Berkeley*

*susannahays.com
email: sunprint@earthlink.net*

ABSTRACT

This paper seeks to influence the prolonged constitutional capacity to transform our species potential where humans no longer remain implacably bound by Jacksonian dissolution patterns of behavior.¹ To do so, I present the science of Dr. Stephen W. Porges' POLYVAGAL THEORY in conjunction with Harold Terry Lindahl's GESTATION, HISTORY AND POTENTIAL OF HUMANKIND exhibition, which together expresses an emergence potential for realizing transdisciplinary, generative art perspectives. Since the intelligence embodied in human consciousness is obtained through brain/body connectivity, the bio-psycho-physiological processes described in Porges' and Lindahl's work indicates how the "rupture between the organs of reflection and those of decision-making in society" may become reconciled.²

1. INTRODUCTION

Today, the humanities are culturally and socially aware that much of contemporary science intersects the intuitive knowledge

of ancient wisdom traditions. Due to this materialization of common ground, school curriculums around the globe are being pressured to move beyond the limitations of metaphysical "training-wheel" explanations with embodied experiential practices in order that bio-psycho-physiological skills may evolve communicative adaptive processes, liberating perfunctory habits.³ At its core, this development of human consciousness depends first on informing and then assisting, through daily practice, an intentional 'work on one's self' by which predictable dissolution response patterns may engage higher, more recently evolved neocortical functioning.

The vagus nerve, an integral structure in the phylogenetic shift in brain-body communication plays a central role in the reception and transmission of signals that chemically and electrically regulate the autonomic nervous system that ultimately raise normative levels of being.⁴ This paper brings a generative model for evolving human functioning. In other words, if knowledge and participatory modes of inner, bio-psycho-physiological adaptation processes engage our phylogenetic past, the human species may learn to nurture their latent psychic, neocortical potential and evolve beyond somatic survival instincts.

2. Bringing 20th Century findings into 21st century action

I first came in touch, in 1993, with the esoteric principles of G. I. Gurdjieff in San Francisco, through architect and artist Harold Terry Lindahl.⁵ In 2009, I joined Lindahl's Intropy=Entropy Institute project that aims to prepare the way for 21st Century educational transformation. My doctoral work, completed at the University of California at Berkeley in 2016, synthesized Transdisciplinary educational objectives with Lindahl's 2011-2017 Darwin, Einstein, Gurdjieff Ergodic Diagram, (which Fig. 1 develops further) and Stephen W. Porges' 1994 POLYVAGAL THEORY.⁶

Since Generative Art is an advanced approach to creativity, it's appropriate for me, in the context of the 2019 GA Rome Conference, to introduce Porges' science in relation to Lindahl's paintings and sculpture, which axiomatically "informs science of religion and religion of science,"⁷ making a 21st century turn accessible to what Gidley calls "Postformal education."⁸

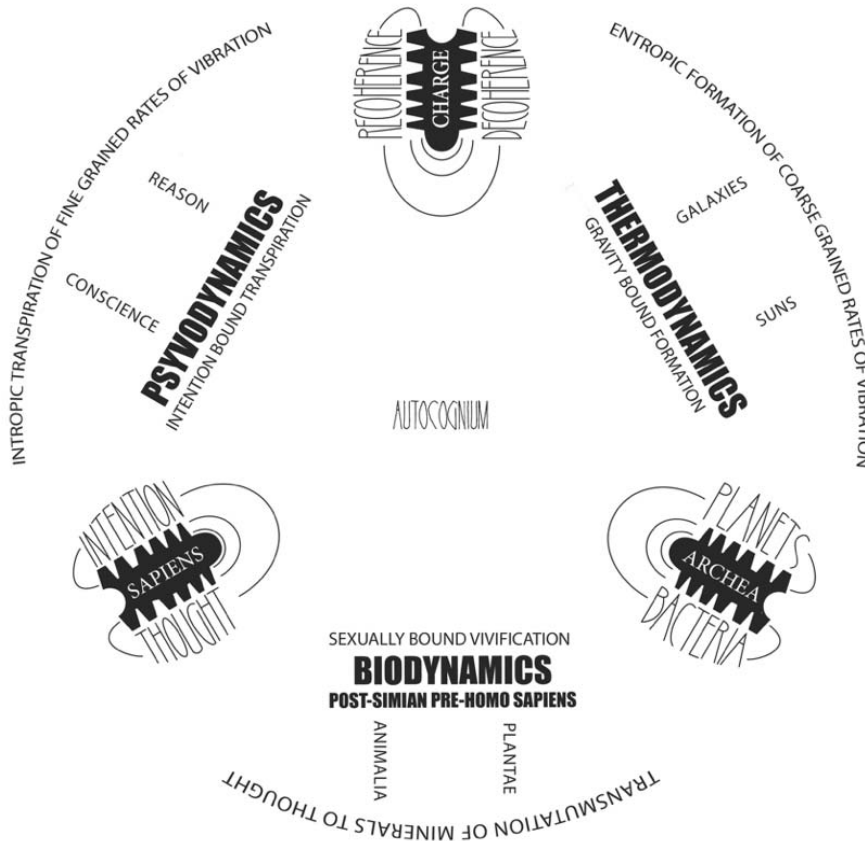
H.T. Lindahl's TRIADIC ERGODIC CYCLE OF PHENOMENA

FIG. 1 FUNDAMENTAL FORMATION-VIVIFICATION-TRANSPARATION DIAGRAM

Involutionary granularity feeds on the intropy generated from collisions.
Evolutionary biology feeds on the intropy generated from the digestion of minerals and atmosphere. *Psyvolutionary* Homohypnons feed on the intropy generated from the digestion of the impressions of their profligate emotional survival instincts.⁹ (Lindahl, 2019)

3. Rectifying the Human Predicament

As Porges' science provides a pragmatic guide as to how our moving-motor, thinking and emotional centers bi-directionally regulate autonomic functioning, Lindahl's objective art visually signifies the nature of our species morphogenetic, evolutionary potential within a complex, systems view that includes a cosmological perspective. While Polyvagal theory depends on accumulated knowledge, **Pensive and**



Vigilant (Fig. 2) visually describes the phylogenetic conduit in vertebrate autonomic nervous systems where vagal pathways are communicating with brainstem source nuclei and contributing to the emergent properties of higher brain areas and bodily feelings, wherein the human social engagement system of “looking in” and “looking out” assists regulation of visceral states of being.¹⁰

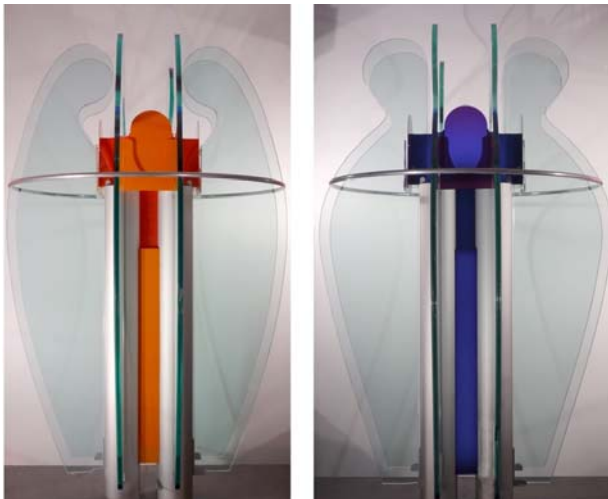


Fig. 2 Pensive and Vigilant Two 9' high by 5' diameter aluminum core sculptures with eight 1" thick, 3-ply laminated glass wings and back-lit color plexiglass core symbolizing the relation between Sympathetic and Parasympathetic functions of the Autonomic Nervous System. H.T. Lindahl (2016)

In **Pensive** and **Vigilant**, the Sympathetic ephemeral glass wings positioned relative to the Parasympathetic vivid core are a leitmotif for the Autonomic Nervous System. As energy potentially *enervates* (expends) or *innervates* (vivifies) through the digestion of light, air, and food, our visceral organs support the ultimate transpiration of our experience of the biosphere to solar realms.

Sensitive to afferent influences, characterized by an adaptive reactivity that is 1) dependent on the phylogeny of the neural circuits that 2) interacts with source nuclei in the brainstem and 3) regulates the striated muscles of the face and head, a horizontal ring, placed at the

vertical golden mean between the osmotic divide of our somatic instincts, points to where human potential meets the obligatory “return” vibrations that *separate the fine from the coarse*, as foretold in the Hermetic Emerald Tablet (Lindahl, 2019)¹¹

4. Psyvolving Post-Simian Pre-Homo Sapiens through alchemical means

If generative art is defined as the artist discovering a way to apply experiential, intuitive or theoretical research as it addresses meaningful actions that are not only specific to exhibiting, but where viewers discover ‘ideas’ with the intention of self-reflection within the culture they live, Lindahl’s art sets in motion a thought-provoking expression where his objective aesthetic unquestionably aspires to our species universal anagogical ache—that is: *our inherent wish to evolve toward a higher state of reconciled Being.*

In his installation **Gestation, History and Potential of Humankind**, Lindahl provides a Phylogenetic Index (Fig. 3) that orients viewers toward Porges’ scientific basis that empirically clarifies the different functions of two medullary source nuclei of the vagus and the mammalian modifications of our evolutionary heritage, a past that continues by *natural default* to provoke humans to live as defense machines.¹²

Herein lies the human challenge: to be self-consciously aware, while maintaining a feeling for the flux of sensations as we make the effort to engage the largely infrequent reminders of neocortical functioning. This (ego) treacherous evolutionary line between Post-Simian and Pre-Homo sapiens is the tempering crucible where the reptilian and mammalian brain may learn to, in Porges words “repurpose their functioning”¹³ or in Lindahl’s account, intentionally redistribute or “psyvolve from mammalian somatic mental organs to our innate, yet latent psychic mental properties of conscience

and reason—a refinement process unique to humans”(Lindahl, 2019).

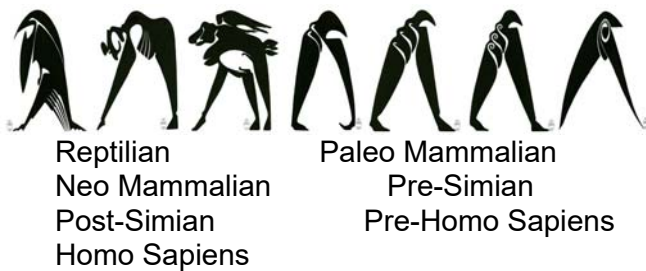


Fig. 3 **Phylogenetic Index** indicating seven aspects of seven octaves, India ink on Arches watercolor paper (Lindahl 2018-2019).



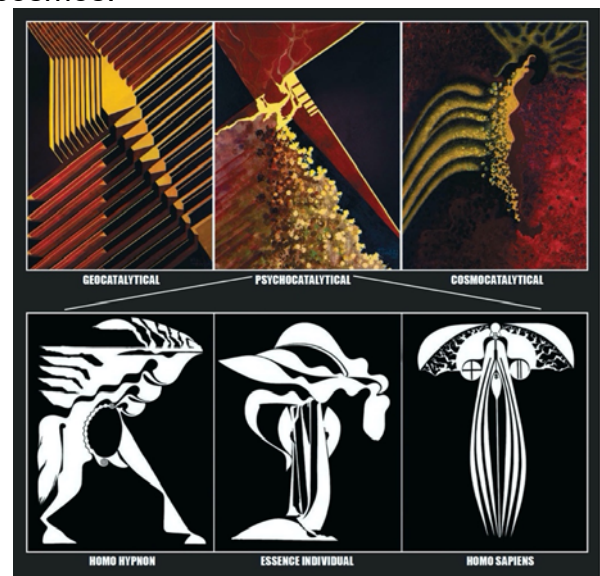
Fig. 4 **Gestation, History, and Potential of Humankind** told in seven octaves of seven aspects: seed, native virtue, indulgent, searching, school, listening, and psyvolving man. 49 India ink 11.25"x15.5" plates (Lindahl, 2019)

5. A Generative Art of Our Own Evolutionary Transmutation

In his chapter *Vagal Pathways: Portals to Compassion* (2017), Porges proposes compassion is an emergent process dependent on one’s neurophysiological state. Consistent with this perspective, impartial conscience and objective reason cannot be investigated as a voluntary behavior or a psychological process independent of physiological states of

being. This emphasis on shifting physiological state via vagal mechanisms to experience higher normative levels of attention and intention are also consistent with the history of ritual sacred practices in contemplative training—what I refer to as a generative art of our own (individual by individual) evolutionary transmutation.¹⁴

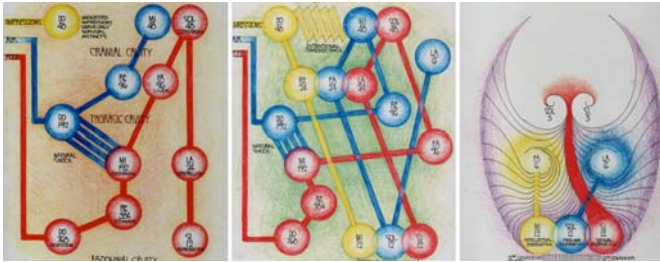
As previously stated, the vagus is a cranial nerve that innervates all the visceral organs and provides the major bidirectional (motor and sensory) communication between the brain and the body. A component of the parasympathetic branch of the autonomic nervous system, an important function of the vagus is specifically to inhibit the reactivity of the sympathetic branch of the autonomic nervous system, evolving a sensory pathway between the body and the brain. If Porges’ study emphasizes the dependence of compassion on a vagal-mediated state that supports feelings of safety, which enables feeling one’s own bodily responses at a given time, while acknowledging the bodily experiences of another, Lindahl’s art expresses further that the individual, from gestation to Sapiens exists within a latent, *psyvolving* potential, that attends ultimately, in a vital way, to the flux of elements in the cosmos.



Two interactive triptychs illustrating, in three stages of human speciation, the normalization of geocatlytical/cosmocatalytic dynamics through biospheric psychocatlytical processes.

Fig. 4 One of twelve watercolor and India ink panels (8' by 9') symbolizing six

interactive explanatory and predictive psyvolutionary stages of human evolution within cosmological processes that act to normalize the temperature differential between the sun and outer space. In the van of biospheric tempering, the psychocatalytical crux, which refines thought from minerals, sustains intropy/entropy invariance (Lindahl, 2019).



Socialized Vertebrate
Essence Individual
Conscience Being

Fig. 5 CHEMISTRY DIAGRAM: Organic life obtains by means of the ingestion/digestive refinement of substances on a scale of vibrations from iron to oxygen to reason. (involutionary=iron, evolutionary=thought, psyvolutionary=reason). Human life is fueled by the digestion of minerals, air and the senses. These three foods are processed by three sets of intestines, the small, the alveolar and the cerebrum. As these foods enter beings, digestive processes separate the fine nutrients from coarse materials. From minerals and air the body manufactures the substances able to reproduce itself (**SOCIALIZED VERTEBRATE**) and then 'die.' The food of the senses is registered but the organs for their digestion are dormant—latent potential. The practice of first conscious shock initiates the digestion of the finer particles of the air and the sense impressions, and manufactures within the vertebrate an **ESSENCE INDIVIDUAL**. The practice of second conscious shock fully awakens the digestion of the finer nutrients of the sense impressions and from an essence individual manufactures the substance, **COHERENT CONSCIENCE**. And from impressions of coherent conscience, the substance

COHERENT REASON. These finer substances 'die' in their own time (Lindahl, 2011).¹⁵

5. Human Potential

As the seven octaves symbolize, humans are a phenomenon of nature whose psyvolutionary potential is both immanent and imminent (Lindahl, 2019). Having studied Gurdjieff's food diagrams, Lindahl's art illustrates in three stages how food, air, and impressions of the world of sunlight are automatically refined to the information-processing vibration rate for somatic self-reproduction. For the digestion of impressions to occur, however, only a potential exists through intentional effort. Energy must vibrate at a rate sufficient to reproduce its somatic host, and by extension, conduct the vibrations necessary to refine somatic emotions and thought to the ergodic fulfillment vibration rate of impartial conscience and objective reason, as indicated in Fig. 1.

6. Conclusion

Has science ever shared as direct a relationship to art and living traditions abiding to the human spirit as it does today? For the 21st Century, this short paper outlines how an evolutionary, phylogenetic, axiomatic understanding can prepare, via transforming values, a more self-evident approach to the evolution of consciousness. Always different in action, individual by individual, the process carries a predictable, universally true, default system. It is the hope of the author, the artist and scientist, whose work I have cited for their inspiration, that we as artists and educators directly answer the broad and complex challenges that Integral educators around the globe seek to transform via educational practices. As Jennifer Gidley, *President of the World Futures Studies Federation* (UNESCO and UN Partner) questions in her book *Postformal Education: A Philosophy for*

Complex Futures (2016) we all might ask: *“If higher-order, more complex forms of cognition do exist, how can we better educate children and young people so that more mature forms of reasoning appear at the appropriate life stages?”*¹⁶ Since instinctual aspirations of science, art and living sacred traditions are presently transitioning through parasympathetic dynamics (from the predominance of our primitive instincts to civilizing “return” dynamics), humans, must develop bio-psycho-physiological skills so that autonomic nervous system functioning may locate the source of finer vibrational energies that would evolve coherent conscience from emotional associative patterns and cogent reason from desultory thought (Porges,1994; Lindahl, 2017).

To serve humanity and the cosmos this guidance prepares our way.



SUSANNAH HAYS MFA, Ph.D. is a fine art photographer and educator whose philosophical approach to image-making contributes to her understanding of the human predicament. By

way of Nature’s Discourse: A Co-Evolutionary Systems Approach to Art and Environmental Design (U. C. BERKELEY, 2016) and Nature’s Discourse: Transdisciplinarity and Vagus Nerve Function (ATLAS, 2018), she joined Dr. Porges at Cape Cod Institute in August 2019 to discuss the biological and moral imperative for Humanity programs to instill the necessary curricula to responsibly transform our somatically pressured autonomic nervous system so that our higher, more recently evolved neo-cortical psychic energies may refine and adapt our latent (largely dormant) human potential.



HAROLD TERRY LINDAHL now in his late eighties, was in his day, a modernist Architect, in the Frank Lloyd Wright tradition of Organic Architecture. Having studied the geometric base of art and

architecture at the University of Oklahoma in the 1950s with Bruce Goff, he pursued his “Light-Color-Space-Form” watercolor studies in 2008 and developed *The Gestation, History, and Potential of Humanity* as recently as 2018. Fascinated with geometric order and metamorphic form-generation through systematic variations and modulations, his black and white studies became color-filled triptychs influenced by the cosmology of George Ivanovitch Gurdjieff, the Greek-Armenian philosopher and esoteric teacher and his teacher Lord Pentland, in New York and San Francisco from the late 1960s to the 1980s.

STEPHEN W. PORGES Ph.D. is Distinguished University Scientist at the Kinsey Institute, Indiana University and Professor of Psychiatry at the University of North Carolina. He is a neuroscientist working at the intersection of behavioral, clinical and bioengineering strategies. His investigations of the evolution and expression of human autonomic psychophysiology has become a wellspring advancing the theories and practices of multiple disciplines and human service fields of practice. Since 1994, when Dr. Porges announced the basic concepts, POLYVAGAL THEORY has been adopted and used productively in a wide array of psychological and somatic clinical practices. The theory is bringing alive the profound significance of our evolutionary neural organization in daily psychological and relational processes.

Bibliography

Hays, Susannah (2018) Nature's Discourse: Transdisciplinarity and Vagus Nerve Functioning © ATLAS Journal.

Hays, Susannah (2016) Nature as Discourse: A Co-Evolutionary Systems Approach to Art and Environmental Design © U.C. Berkeley.

Gidley, Jennifer (2016) Postformal Education: A Philosophy for Complex Futures © Springer International.

Lindahl, Harold T. (2019) *Prospectus (Program Initiative)* published by the Intropy=Entropy Institute San Francisco, CA

Lindahl, Harold T. (2017) *The Harmonics of Unity* Trioctave editions, San Francisco, CA

Ouspensky, P. D. (1949) *In Search of the Miraculous: Fragments of an Unknown Teaching*, Harcourt, Inc.

Porges, Stephen W., Hays, Susannah (August 7, 2019) unpublished recorded conversation at Cape Code Institute, Massachusetts.

Porges, Stephen W. (2017 "Orienting in a defensive world: Mammalian modifications of our evolutionary heritage. A Polyvagal Theory" online link:

<https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1469-8986.1995.tb01213.x>

Porges, Stephen W. (2017) *Vagal Pathways: Portals to Compassion*, The Oxford Handbook of Compassion Science Oxford University Press.

Porges, Stephen W. (2009) "The polyvagal theory: New insights into adaptive reactions of the autonomic nervous system." *Cleveland Clinic journal of medicine* vol. 76 Suppl 2, S86-90. doi:10.3949/ccjm.76.s2.17.

Porges, Stephen W. (April, 2011) *The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-regulation* (Norton Series on Interpersonal Neurobiology) W. W. Norton & Company.

Selz, Peter., Lindahl, H.T., Hays, S., (April 12 & 25, 2011) *THE HARMONICS OF UNITY: A Conversation Addressing the Disparities of Art, Science and Religion*. Berkeley, CA

REFERENCES

¹ Porges, Stephen W. (2011) *The Polyvagal Theory: Neurophysiological Foundations of Emotions, Attachment, Communication, and Self-regulation*, pages 161-162, 166.

² See Basarab Nicolescu, et. al., for transdisciplinary moral charter http://ciret-transdisciplinarity.org/moral_project.php

³ To heal the split between theory of knowledge and embodied phenomenological experience an individual pursues the engagement of physical sensori-motor experiences where mind-body cognition emerges from a phylogenetic/ontological matrix, such as the cognitive and functional effects of meditation on body-brain circuits or vagal exercises such as vocalization and breathing exercises.

⁴ See Hays, Susannah: "Nature's Discourse: Transdisciplinarity and Vagus Nerve Functioning" (ATLAS journal, 2018).

⁵ George Ivanovich Gurdjieff (1866-1949), was an influential early 20th century Russian philosopher, and composer of Armenian/Greek descent. John Pentland, appointed by Gurdjieff to lead 'the work' in North America, was Lindahl's teacher.

⁶ Hays, Susannah (2016) "Nature as Discourse: A Co-Evolutionary Systems Approach to Art and Environmental Design" © U.C. Berkeley.

⁷ See H.T. Lindahl, (2017) *The Harmonics of Unity: Endogenous Semiotics of the Vagus Pineal Gyre*, Trioctave Editions.

⁸ Gidley, Jennifer (2016), *Postformal Education: A Philosophy for Complex Futures*, p.2.

⁹ Diagram from H.T. Lindahl's *Program Initiative* published by The Intropy=Entropy Institute San Francisco, CA 2019; page 5, which has gone through a number of reiterations since 2011.

¹⁰ Porges, Stephen W., *The Polyvagal Theory: New insights into adaptive reactions of*

the autonomic nervous system; 2009.
Online Link:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3108032/>

¹¹ In Lindahl's *Harmonics of Unity* expository treatise, he integrates the alchemical knowledge of ancient gnostic wisdom traditions with contemporary science.

¹² See Porges, Stephen W., July 1995 "Orienting in a defensive world: Mammalian modifications of our evolutionary heritage. A Polyvagal Theory" <https://doi.org/10.1111/j.1469-8986.1995.tb01213.x>

¹³ Porges, Stephen W. (August 7, 2019) unpublished recorded conversation at Cape Cod Institute in Massachusetts, page 3.

¹⁴ Porges, Stephen W. (2017) Chapter 15: *Vagal Pathways: Portals to Compassion*, The Oxford Handbook of Compassion Science. Oxford University Press p.189-202.

¹⁵ See Selz, Dr. Peter and H.T. Lindahl in conversation with Susannah Hays, Berkeley California, April 12 & 25, 2011, page 16. Chemistry diagrams are hand-drawn by Lindahl, after Gurdjieff (see Ouspensky, P.D. *In Search of the Miraculous, Fragments*

of an Unknown Teaching,
Chapter 9).

¹⁶Gidley, Jennifer (2016),
Postformal Education: A
Philosophy for Complex Futures,
p.2.