FIS: Emotional Sentience and Information

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Many of humanity’s most wicked problems stem from a singular source: Preemptive scientific misconceptions eclipsing the biophysical and informational significance of *human emotion.* Even among psychologists - the keepers of emotional and behavioral order and disorder - there is currently neither consensus on a physiological function of emotion nor even a definition[[1]](#endnote-1) [[2]](#endnote-2). We remain mired in “conflicting philosophical underpinnings”, struggling to identify just what we mean by “emotional well-being”.[[3]](#endnote-3)

This is partly due to the omission of *subjective experience* from the physical sciences,[[4]](#endnote-4) which has left the young science of psychology without adequate explanatory theory for such core concepts as *identity, agency, information, creativity* and even *consciousness* itself – let alone the myriad dimensions and nuances of the human psyche. Given this ideological void, many misguided cultural assumptions, conventions, and social abuses of emotion-driven behavior have sprouted, flourishing like invasive species in our garden of self-knowledge.

To understand emotion (even “mind”) requires an alternative story, one placing *first person experience* centerstage, a key causal feature within the dynamic *process* – *the creative flow* – of life. It requires a grounding of “observation” and “measurement” in immediate *here and now* scales in time and space, to honor the interpenetrating boundaries[[5]](#endnote-5), biological relativity[[6]](#endnote-6), ecological contextuality and historicity of living systems. It requires acknowledgement of the mathematically precise patterning forming, symmetry-breaking and computational aspects of biophysical processes and how they provide both structural and representational information; It requires putting “the self”- as both a dynamic part and whole - back into self-organizing systems, network structures and attractor dynamics; honoring the active thermodynamic[[7]](#endnote-7), autopoietic[[8]](#endnote-8), “work” of out-of-equilibrium agents interacting their local environment; It requires acknowledgement of the in-formative and trans-formative outcomes of “simple rule” driven behavior; and putting the sentient, goal-seeking, and “self-regulating” organism back into the evolutionary story.

Our new approach draws upon the Complexity/Systems paradigm, it underscores the significance of emotions in early biological self-regulation, immune protection, and adaptive learning. It seeks to transcend anthropocentrism and neurocentrism by looking to the ancient mechanisms of sentience and motor control instantiated on cellular *membranes* (“branes”) in acknowledgement of the innate affinities and subjective selection implied in molecular recognition, semiotic signaling, and information processing evident in cellular communication. All of which is required to give all forms of “basal intelligence[[9]](#endnote-9), enactive[[10]](#endnote-10) and embodied cognition[[11]](#endnote-11) their rightful due.

While the new science of emotion is set forth elsewhere[[12]](#endnote-12) [[13]](#endnote-13)[[14]](#endnote-14), the Top-Ten soundbite revelations are these:

1. Emotion is an ancient, full body, electro-chemical, *sensory system;* the evolutionary grandparent of all senses, delivering binary *evaluative* signals central to the first “hardware” of biological

identity, sensory-motor control, and immune protection, as well as the “software” (aka wetware[[15]](#endnote-15)) of information processing, basal cognition, and autopoiesis.
2. Emotional sentience serves the primordial evolutionary purpose of *self-regulation* in all life forms; mediating bodily control processes ranging from the self-organizing, nonlinear dynamical regulatory networks of open thermodynamic systems, through the optimal self-constructing and self-preserving activity of genetic, epigenetic and immune regulation, embryological development and reproduction; through the ongoing adaptive development of the enactive mind; to the physiological and experiential aspects of emotional, behavioral and psychological order and disorder.
3. Unlike “cognition” proper, emotional sentience always concerns *“the self” [[16]](#endnote-16),* providing a primal stream of *“self-relevant”* information, calling attention to immediate mismatches between internal needs and external environmental circumstances and affordances[[17]](#endnote-17). Forged upon deeper self/not-self identity distinctions and inflammatory “stress” responses[[18]](#endnote-18), pleasurable and painful feelings signal environmental changes that are either “good for me” or “bad for me” – triggering homeostatic course-corrections that rebalance the self-system that both protect the body and adapt the mind.
4. Primal *emotional sensory qualia* include both *informational* and *behavioral* components; a binary *good or bad feeling* and a coupled *approach or avoidant* behavioral response; emerging as a cybernetic sensory-motor *feedback* *control signal* and its *homeostatic correction.* Together, they serve as the “fundamental semantic information bit”, enabling evaluative memory, decision making, feedforward motivation, goal seeking, and Pavlovian learning.
5. The *natural* (“*good or bad”*) *values* are rooted in the physical health and integrity of every living body, ultimately in maintaining self-balance at “edge-of-chaos”[[19]](#endnote-19) following a self-relevant environmental change. Affective valence connotes universally *“right or wrong”* biophysical states of *balance or imbalance*, and the *optimal or maladaptive self-corrections* that immediately follow, and the long term self-developmental or self-destructive trajectories that they build over time.
6. Affective valence provides a *self-regulatory logic* that reflects the criteria for natural selection: Two equally important but complementary teleological *purposes: self-preservation* (mediated by the painful, feel-bad, emotions) and *self-development* (mediated by the positive, feel-good, emotions.) It also carries forward a part~whole organizational and identity logic from its deepest dynamical processes, connoting an inherent creative impulse toward *self-actualization* of all innate identity potentials.
7. Binary pleasure and pain is but one of *three levels of information* now contained in our *basic* emotions (joy, sadness, fear, disgust, anger) and their *complex* blends and shades (trust, mistrust, confidence, shame, gratitude, resentment, admiration, envy, love, hate, etc.)[[20]](#endnote-20). The former pertain to the universally *non-negotiable needs* of the living body in both its autonomous and collective identity manifestations; while the latter inform an adaptive developmental trajectory of individual minds, optimal social relations, and collective cultural creations, with maximal conscious creativity and cooperative unity.
8. Decoding and embracing emotional self-regulatory sentience can shed light on psychological disturbances in perceptions of time, space and “self”, as well as our moral intuitions, spiritual impulses, and “vital” transpersonal dimensions of identity (“spirit” or “soul”). Indeed, in its

biophysical entirety, the emotional system is the mechanism that provides both the vital
“animation” and “guidance” long associated with the transcendent.
9. Historically, humanity has missed the self-regulatory message and blamed the emotional messenger – whether through narratives of selfish-genes or original sin. We have abused the first-person nature of the emotional system with misguided mechanisms of social control, inverted its logic, and created self-destructive conflict within and between living systems.
10. The first step to reclaiming the myriad benefits (personal and interpersonal) embodied in the emotional sense is to crack the code on its ancient informational logic.

My hope for this session is to emphasize the informational component encoded in emotional qualia, particularly the binary logic within what we humans experience as emotional pleasure and pain. I’d like to us to consider what the binary biophysical stimulus source (s) might be, what information it imparts, and why it has evolutionary value. I encourage you to please take up any strands of inquiry, concern, pushback and/or synergy to explore this new territory.

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