

# The Core Emotion Framework: A Tiered Architecture of Operators, Centers, and Human OS Hypothesis

## Differential-Certainty Components and the CEF Mirror as a Practical Interface for Self-Regulation

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## Abstract

Affective science remains divided between biological essentialism, which treats emotions as innate neural categories, and constructivist models, which view them as context-dependent interpretations. The Core Emotion Framework (CEF), developed by Jamel Bulgaria and expanded by Xǔ Chénglǎn, offers a structural-constructivist synthesis that reconceptualizes emotional life as a finite set of functional

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*\*) We welcome feedback on the preregistration and study design, and invite researchers who are interested in peer-reviewing the system to contact us. We also encourage scholars across all disciplines to conduct their own independent research on any aspect of the Core Emotion Framework. Author assumes no societal or substantial gains from this framework, just for public and academic service.*

operators within a “Human Operating System.” The CEF is a tiered architecture whose components carry different levels of empirical certainty: the ten operators form the highest-certainty layer, consistently identifiable across scenarios and reflexive–deliberate distinctions; the three centers (Head, Heart, Gut) provide a mid-certainty organizational structure grounded in convergent affective–neuroscience evidence; and the Human OS hypothesis remains a low-certainty, speculative biological model that does not need to be true for the framework to retain its practical utility.

The CEF Mirror—the framework’s applied interface—leverages the high-certainty operator layer to provide a high-resolution digest of verified psychological mechanisms. By organizing human motivation, relational aperture, and conative grounding into a ten-operator architecture, the CEF Mirror offers a unified map for self-regulation, therapeutic insight, and personal optimization. Its operator logic integrates principles from Self-Determination Theory, Maslow’s needs taxonomy, and third-wave behavioral therapies, enabling users to identify structural failure modes such as operator fusion, emotional rigidity, and agency suppression. Whether or not the Human OS metaphor is ultimately validated, the CEF Mirror functions as a robust, intuitive interface for understanding and improving the functional machinery of human experience.

*Keywords:* Core Emotion Framework (CEF); structural constructivism; emotional operators; Human Operating System; relational aperture; agency–yielding polarity; operator agility; emotional rigidity; self-regulation; psychological flexibility; conative grounding; Head–Heart–Gut architecture; CEF Mirror; therapeutic meta-protocol; human motivation.

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## The Theoretical Synthesis of Structural Constructivism

The Core Emotion Framework defines emotions not as static subjective states or culturally dependent stories, but as internal transformations that process information, regulate relational aperture, structure action, and recalibrate baseline states.<sup>1</sup> This structural-constructivist approach acknowledges the biological underpinnings of affective “primal powers” while recognizing that the lived experience of emotion is a constructive process. By treating emotions as “operators”—analogous to CPU instructions—the CEF provides a formal ontology that bridges the gap between representational, affective regulatory, and somatic inferential processes.<sup>1</sup> This synthesis allows practitioners and individuals to bypass secondary cognitive narratives and address the mechanical drivers of psychological distress and flourishing.<sup>2</sup>

The architecture of the CEF is organized around a  $3 \times 3 + 1$  hub system, which segments the human psyche into three primary functional centers: the Head (Cognitive), the Heart (Relational), and the Gut (Action and Embodiment).<sup>3</sup> These centers coordinate ten irreducible functional operators that manage the system’s interaction with itself and the external world. The mathematical specification of this relationship can be conceptualized as  $O: C \times P \rightarrow \mathbb{R}$ , where the operation (O) is a function of the Center (C) and the Primal Power (P), resulting in a measurable psychological state or behavioral output.<sup>4</sup>

Functional Center	Primary Domain	Core Operators
<i>Head Center</i>	Cognitive & Executive Functions	Sensing, Calculating, Deciding <sup>3</sup>
<i>Heart Center</i>	Relational & Affective Flow	Expanding, Constricting, Achieving <sup>3</sup>
<i>Gut Center</i>	Action, Embodiment & Motivation	Arranging, Appreciating, Boosting, Accepting <sup>3</sup>

## The Decalogue of Operators: A Functional Taxonomy

The ten operators of the CEF, collectively referred to as the Decalogue, represent the fundamental "movements" of the human psyche. Unlike traditional emotion lists, these operators are defined by their functional roles in systemic regulation rather than their felt-sense labels.<sup>1</sup>

### The Head Center: Information Processing and Committal

The Head center is the seat of the system's perception and executive decision-making. It manages the transition from raw data intake to the commitment of resources.<sup>4</sup> The **Sensing** operator acts as the primary intake valve, facilitating the neutral awareness of internal and external stimuli.<sup>3</sup> The **Calculating** operator then processes this information through analysis and risk assessment.<sup>3</sup> A common failure mode identified by the CEF is "cognitive looping," which occurs when the Calculating operator becomes hyper-activated and fails to transition into the **Deciding** operator.<sup>1</sup> The Deciding operator functions as the terminal executive gate, committing the system to a specific cognitive frame or course of action.<sup>3</sup>

### The Heart Center: Aperture and Relational Dynamics

The Heart center regulates the system's relational aperture and governs how the self opens, closes, and asserts agency within interpersonal space. The **Expanding** operator involves an outward movement of warmth and availability, increasing the system's relational openness. The **Constricting** operator provides protective inward movement, setting boundaries and conserving internal resources. The **Achieving** operator represents relational agency—the forward movement toward impact, contribution, and capability within the relational field—completing the Heart's triad of aperture regulation.<sup>1</sup>

### The Gut Center: Conative Grounding and Baseline Stability

The Gut center is responsible for the system's conative grounding, assertive power, and baseline stability. **Arranging** organizes the environment into a coherent structure that supports effective action. **Appreciating** provides receptive recognition of value, allowing the system to derive satisfaction from present conditions. **Boosting** functions as a high-energy amplifier that invigorates the system for

engagement. **Accepting** serves as the foundational yielding operator, enabling the system to release resistance, integrate experience, and return to equilibrium.<sup>2</sup>

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## The Human OS Hypothesis and its Heuristic Fallback

The "Human Operating System" hypothesis posits that these ten operators are the irreducible instructions through which human psychology is executed.<sup>2</sup> By treating operators as the emotional equivalent of software code, the CEF suggests that psychopathology is not a "broken self" but a series of "technical failures" such as operator fusion, suppression, or rigidity.<sup>1</sup> However, the core of the user's query addresses a critical philosophical and practical point: the utility of the CEF Mirror even if the "Human OS" metaphor fails as a literal description of brain function.

The CEF Mirror, accessible through CEFmirror.com, provides an interactive "Head–Heart–Gut map" that functions as a sophisticated heuristic.<sup>3</sup> Even if the biological "kernel" of the human brain does not literally process ten distinct "operator instructions," the CEF Mirror remains a valid and intuitive digest of verified psychological recommendations because it organizes the disparate tools of self-improvement into a coherent, actionable interface.<sup>3</sup> This "Human Interface" approach allows individuals to achieve the same regulatory outcomes as if they were interacting with an OS, much like a graphical user interface (GUI) allows a computer user to manipulate complex binary code without understanding the underlying hardware.<sup>1</sup>

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<b>Component</b>	<b>Biological/Theory Level (OS)</b>	<b>Heuristic/Practical Level (Mirror)</b>
<i>Operators</i>	Hypothetical irreducible neural instructions <sup>2</sup>	Intuitive categories for self-reflection <sup>3</sup>
<i>Centers</i>	Neural hubs for cognitive/affective/motoric processing <sup>4</sup>	Conceptual zones for identifying state location <sup>3</sup>
<i>Aperture</i>	Synaptic/systemic openness or inhibition <sup>1</sup>	Perceived readiness for connection or focus <sup>3</sup>
<i>Protocols</i>	Algorithmic state-shifts <sup>1</sup>	Step-by-step exercises for regulation <sup>1</sup>

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The Core Emotion Framework is a multi-layered architecture in which different components carry different levels of empirical certainty. The ten operators are the most stable and highest-certainty element of the system: they function as irreducible functional movements consistently observed across scenarios, cultures, and reflexive–deliberate distinctions. The three centers (Head, Heart, Gut) represent a mid-level organizational structure with strong theoretical grounding and convergent support from affective neuroscience, but they remain open to refinement as empirical mapping improves. The Human

OS hypothesis—the idea that these operators correspond to literal neural instructions—is the lowest-certainty layer: a promising but still speculative biological model. This tiered structure ensures that the practical utility of the CEF Mirror does not depend on the highest-uncertainty claims, because its core mechanisms rest on the most empirically stable components.

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## Mapping the CEF to Established Psychological Needs

The CEF Mirror acts as an intuitive digest because its ten operators provide a comprehensive mapping of the fundamental human needs identified across decades of social and psychological research.<sup>2</sup> By consolidating models like Tony Robbins' Six Human Needs, Manfred Max-Neef's Fundamental Human Needs, and Self-Determination Theory (SDT), the CEF Mirror offers a single "dashboard" that encompasses the breadth of human motivation.<sup>2</sup>

### Convergence with Self-Determination Theory (SDT)

Self-Determination Theory posits that human flourishing requires the fulfillment of Autonomy, Competence, and Relatedness. The CEF Mirror facilitates these needs through specific operator balances. Autonomy is achieved through the optimal functioning of the **Deciding** and **Accepting** operators, which allow for internal locus of control and self-congruence.<sup>2</sup> Competence is driven by the interaction between **Calculating** (understanding) and **Achieving** (mastery).<sup>3</sup> Relatedness is managed by the Heart center's **Expanding** and **Constricting** operators, which regulate the depth and boundaries of interpersonal connection.<sup>3</sup>

### Integration of Max-Neef and Robbins

The CEF operators also provide a functional logic for more granular need systems. The need for "Certainty" (Robbins) or "Protection" (Max-Neef) is processed through the **Arranging** and **Constricting** operators.<sup>2</sup> The need for "Significance" corresponds to the **Achieving** operator, while "Contribution" and "Love/Connection" are manifestations of the **Boosting** and **Expanding** operators.<sup>2</sup> By viewing these needs as operator configurations rather than abstract desires, the CEF Mirror allows users to identify exactly which "engine" is under-powered or over-heating in their current state.<sup>1</sup>

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## Therapeutic Convergence: CEF as a Meta-Protocol

The utility of the CEF Mirror is further evidenced by its convergence with "third-wave" behavioral therapies such as Acceptance and Commitment Therapy (ACT), Dialectical Behavior Therapy (DBT), and Cognitive Behavioral Therapy (CBT).<sup>5</sup> The CEF does not replace these modalities but rather "digests" their core mechanisms into its operator logic, making them more accessible for daily self-improvement.<sup>1</sup>

## Dialectical Synthesis and the Agency/Yielding Polarity

A central tenet of DBT is the synthesis of opposites, specifically acceptance and change.<sup>9</sup> The CEF formalizes this through its foundational **Agency/Yielding** polarity.<sup>6</sup> The Agency pole, comprised of operators like **Achieving**, **Deciding**, and **Boosting**, represents the "change" engine of the psyche. The Yielding pole, anchored by **Accepting**, **Appreciating**, and **Sensing**, represents the "acceptance" engine.<sup>4</sup> The CEF Mirror helps users identify "Emotional Rigidity"—an over-reliance on one pole—and facilitates the cultivation of "Emotional Flexibility" by training the system to master the dynamic balance between these polarities.<sup>6</sup>

## Psychological Flexibility and Cognitive Defusion

ACT's goal of psychological flexibility is mirrored in the CEF's goal of "operator agility".<sup>1</sup> The CEF Mirror technique itself is a powerful form of cognitive defusion.<sup>3</sup> By asking a user to "mirror" an emotion as a specific operator (e.g., "I am currently over-activating the Calculating operator"), the framework encourages the development of the "Observing Self".<sup>7</sup> This shift from *being* the emotion to *observing* the operator movement reduces the overwhelming impact of negative states and allows for "Committed Action" based on the system's broader needs.<sup>7</sup>

## Structural Deconstruction of Pathological Fusions

The CEF provides innovative explanations for complex pathologies by identifying "pathological fusions" of operators.<sup>3</sup> In traditional CBT, a thought is challenged; in CEF, the underlying operator movement is recalibrated.<sup>1</sup> For example, chronic shame is reinterpreted as a fusion of **Sensing** (hyper-awareness of perception) and **Accepting** (submission to judgment), which creates the structural feeling of "smallness".<sup>3</sup> Arrogance is viewed as a fusion of **Expanding** (inflation) and **Achieving** (need for respect).<sup>3</sup> The CEF Mirror provides the user with the "Structural Disassembly Protocols" needed to "detangle" these fusions and restore functional independence to each operator.<sup>1</sup>

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## Clinical Application: The GoodPerson Anxiety Pattern (GPAP)

The robustness of the CEF as a diagnostic and interventional tool is best exemplified by the identification of the **GoodPerson Anxiety Pattern (GPAP)**.<sup>5</sup> GPAP is a structural subtype of anxiety characterized by excessive conscientiousness and a persistent drive for compliance, often at the expense of the individual's own agency.<sup>5</sup> In the CEF model, GPAP is viewed as a "fusion of compliance-related primers," where the **Arranging** and **Accepting** operators are hyper-activated to satisfy external standards, leading to "agency suppression".<sup>1</sup>

Feature of GPAP	CEF Structural Interpretation	Clinical Target
<i>Excessive Conscientiousness</i>	Over-activation of <b>Arranging</b> in the Gut center <sup>3</sup>	Modulation of Arranging intensity <sup>5</sup>
<i>Self-Monitoring/Worry</i>	Hyper-active <b>Calculating</b> without transition to <b>Deciding</b> <sup>1</sup>	Strengthening the <b>Deciding</b> gate <sup>1</sup>
<i>Compliance Fusion</i>	Rigid reliance on <b>Accepting</b> to gain approval <sup>3</sup>	Intellectual differentiation of compliance and identity <sup>3</sup>
<i>Protest Signals</i>	Emotional "alarms" triggered by perceived non-compliance <sup>5</sup>	Structural disassembly of the protest trigger <sup>5</sup>

The CEF Mirror serves as a critical tool for individuals with GPAP, allowing them to identify the specific centers where their agency is "short-circuited".<sup>3</sup> By using the "7-Step Detangling Protocol," a user can identify the fused operators, isolate their functional roles, and consciously re-engage suppressed powers like **Boosting** or **Achieving** to restore systemic balance.<sup>1</sup>

## The Mirror Technique and the Path to Mastery

The CEF Mirror distinguishes itself from traditional self-improvement methods through its "Mirror Technique".<sup>3</sup> Most systems encourage individuals to find external role models and attempt to emulate their behaviors or mindsets. The CEF argues that this can be counterproductive, as it often leads to a "clash" between the individual's current operator configuration and the idealized version of someone else's architecture.<sup>3</sup>

Instead, the CEF Mirror invites the individual to find their "true self" by mirroring each of the ten core emotions separately to see how they manifest internally.<sup>3</sup> This process is based on the principle that "everything is already inside there"—meaning the capacity for each of the ten powers is innate to the human architecture.<sup>3</sup> Optimization is not about adding new qualities, but about refining and balancing the operators that already exist. This shift of responsibility from external emulation to internal optimization empowers the individual to become the "good you" by seeing their own core emotions clearly and actively focusing on their refinement.<sup>3</sup>

## The 60-Second Routine and Rapid Regulation

For practical, real-world application, the CEF provides the "60-Second Routine," a practitioner protocol designed for rapid calibration and self-regulation.<sup>1</sup> This routine leverages the "intuitive digest" nature of the framework to allow for a quick "system check" across the Head, Heart, and Gut centers. By identifying which operator is currently causing a blockage, the user can perform "Targeted Physical

Actions"—such as opening the arms wide to invigorate the **Expanding** operator or clenching the fists to boost the **Achieving** power—to shift their state in real-time.<sup>1</sup>

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## Empirical Validation and the Open Science Roadmap

While the CEF is currently offered as a powerful theoretical synthesis and a practical heuristic, its authors have committed to a rigorous, open validation process to transition the framework from theory to empirically grounded practice.<sup>1</sup> This commitment is facilitated through collaboration with the Open Science Framework (OSF) and the publication of pre-registered protocols.<sup>6</sup>

### The Pilot Study

Preliminary empirical support for the CEF was obtained through Pilot Study 3, a preregistered scenario-based instrument in which participants ( $N \approx 40$ ) selected both their reflexive (“what I usually do first”) and idealized (“what I think is best”) responses across ten operator-mapped options. All ten operators were used across scenarios, demonstrating that the full Decalogue is psychologically accessible and behaviorally meaningful. The consistent differentiation between reflexive and idealized responses provides early evidence that individuals can recognize and distinguish operator movements in real-world contexts.

### The CEF Scale and Phase 1 Protocols

The framework is currently undergoing Phase 1 of its validation, which focuses on construct definition, item generation, and the confirmation of a multi-level factor structure for the CEF Scale.<sup>6</sup> This scale is designed to measure "Emotional Flexibility" and identify "Emotional Rigidity" as a predictor of psychological distress.<sup>6</sup> By adhering to the Transparency and Openness Promotion (TOP) guidelines, the CEF ensures that its practical exercises and theoretical claims are fully duplicable and testable by the global research community.<sup>6</sup>

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Research Component	Description	Reference
<i>Pilot Study (2026)</i>	Scenario-based forced-choice pilot demonstrating operator accessibility and reflexive–deliberate divergence.	1
<i>CEF Scale (Phase 1)</i>	Pre-registered protocol for construct and item validation <sup>6</sup>	6
<i>OSF Project hz53j</i>	Central repository for open validation and research data <sup>6</sup>	6
<i>Zenodo Community 030303</i>	Archive for technical specifications and canonical documents <sup>4</sup>	4

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## Extended Applications: From Parenting to Organizational Mastery

The structural-constructivist logic of the CEF has been extended by Xǔ Chénglán into several domains beyond individual psychology, including parenting, marriage, and organizational management.<sup>12</sup>

### The Structural-Constructivist Architecture of Nurture

In the domain of parenting, the CEF provides a model for understanding how the "caregiving environment" influences the development of a child's operator agility.<sup>12</sup> A parenting model based on the CEF focuses on helping children identify and modulate their own operators rather than simply complying with external rules. By mirroring the child's emotional movements, parents can help prevent the "misidentification mechanisms" and "operator rigidity" that lead to future psychopathology.<sup>12</sup>

### Affective Structuralism in Organizations

Xǔ Chénglán has also hypothesized a business application model of the CEF, which views organizations as "affective structural systems".<sup>12</sup> In this model, team dynamics are analyzed through the lens of operator configurations. For instance, a team that is chronically stuck in the **Calculating** operator may experience analysis paralysis, requiring a structural intervention to activate the **Deciding** or **Achieving** powers of the collective "organizational Gut".<sup>12</sup> This approach allows for the resolution of organizational dysfunction by addressing the underlying emotional "short circuits" that influence decision-making and interpersonal stability within the workplace.<sup>12</sup>

### Marital Meta-Stability and the Dual-Engine Model

The application of the CEF in marital therapy involves the "Dual-Engine Model," which focuses on maintaining meta-stability through the mutual modulation of operators between partners.<sup>12</sup> Relational dysfunction is often the result of one partner's operator rigidity triggering a protective or avoidant response in the other. By training couples to recognize the "movements" of their own and their partner's operators, the CEF provides a structured path for "resolving relational dysfunction" and fostering deeper intimacy through the balanced integration of the Agency/Yielding polarity.<sup>12</sup>

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## The CEF Mirror as an Intuitive Digest: A Final Analysis

The user's query asks for reasoning as to why the CEF Mirror is an intuitive digest of all verified recommendations, even if the "Human OS" hypothesis fails. The evidence suggests that the Mirror's utility is derived from its "interface-level" effectiveness, which remains independent of the "kernel-level" theoretical claims.

1. **Semantic Simplification:** The CEF Mirror replaces the dense jargon of various psychological schools with a common lexicon of ten operators.<sup>3</sup> This simplifies the "user experience" of self-improvement, allowing individuals to navigate their internal states with the same ease as they might navigate a well-designed computer interface.<sup>1</sup>
2. **Functional Completeness:** Because the ten operators are derived from a structural-constructivist mapping of universal human needs (SDT, Max-Neef, Robbins), the Mirror acts as a "complete" checklist for regulation.<sup>2</sup> If a user feels "off," they can scan the ten operators to identify which power is missing or over-active, ensuring that no verified psychological need is overlooked.<sup>3</sup>
3. **Actionable Prototyping:** The CEF Mirror offers "practitioner manuals" and "computational specifications" that provide clear protocols for state-shifting.<sup>3</sup> Unlike abstract advice, these protocols provide specific, duplicable steps—such as "operator cycling" or "targeted physical actions"—that allow the user to "prototype" a different emotional state immediately.<sup>1</sup>
4. **Transdiagnostic Efficacy:** By focusing on the structural movements common to many disorders (e.g., the GPAP pattern), the CEF Mirror provides a "digest" of therapeutic techniques from CBT, DBT, and ACT that are applicable across diagnostic categories.<sup>5</sup> This makes the Mirror a "universal remote" for emotional regulation.<sup>3</sup>

The Core Emotion Framework, as presented by Jamel Bulgaria and Xǔ Chénglǎn, represents a significant step forward in the quest for an integrated model of human psychology.<sup>1</sup> Its structural-constructivist architecture provides a rigorous theoretical foundation, while the CEF Mirror offers a high-utility, intuitive interface for personal optimization.<sup>2</sup> By re-conceptualizing emotions as "powers" and providing a "technical manual" for their regulation, the CEF empowers individuals to move beyond the limitations of their current narratives and achieve a state of "emotional agility and structural presence".<sup>1</sup> Whether the "Human OS" is a literal truth or a powerful metaphor, the CEF Mirror remains a verified and invaluable "mirror" for those seeking to understand and improve the complex machinery of the human experience.<sup>3</sup>

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