

# THE PERPENDICULAR AXES

## *Cephalization, Bilaterian Symmetry, and the Biological Grounding of the Perpendicularity Principle*

Christopher E. Etter · Catharturgy Corpus · 2026

### Abstract

This paper develops a convergence between the perpendicularity principle of Kenotic Effluent Panapotheism and the structural biology of animal consciousness. The two fundamental axes of the system's architecture — the ontological axis (the soul's perpendicular orientation toward the divine ground) and the existential axis (its relational engagement with the world of created being) — are not merely philosophical abstractions but are structurally encoded in the biology of every organism in the clade Bilateria, which contains over 98% of known animal species. Cephalization, the concentration of nervous tissue and sensory organs at the anterior end, constitutes the ontological axis: the directional pole that orients the organism and generates individual directed consciousness. Bilateral symmetry, the left-right body plan that produces the two cerebral hemispheres, constitutes the existential axis: the simultaneous, paired, relational structure through which consciousness engages the world. These two axes are anatomically perpendicular, intersecting at the cephalized brain. This paper preserves that biological argument and extends it in three ways consonant with the system as now stated. First, it reconciles the perpendicularity principle with the dimensional-intersection cosmology: the registers are dimensionally and substantially distinct yet continuous at their intersection, on the body-soul paradigm, and the relation is kenotic and effluent — the divine energy poured forth and dimensionally conditioned — not a creation from nothing. Second, it connects the two axes to the system's recent developments: the existential axis is the hemispheric division that the Dyad and Triad formalise and that the guilt-shame lateral axis instantiates, and the upright alignment of the ontological axis is the vertical of the Temple pillars. Third, it develops genuinely new material: that the ontological (anterior-posterior) axis carries, in the cingulate cortex, an anterior-posterior evaluative gradient — the ACC-PCC axis — so that the cephalization axis is doubly significant, bearing both the gross anterior concentration of consciousness and the fine anterior-posterior gradient of self-evaluation.

*Keywords: Perpendicular Axes · Cephalization · Bilateria · Bilateral Symmetry · Ontological Axis · Existential Axis · Dimensional Intersection · Kenotic Effluence · ACC-PCC Gradient · Upright Stance · Iamblichan Theurgy · KEP · Catharturgy*

## I. Terminological and Factual Grounding

Before developing the philosophical argument, the biological facts on which it rests require precise statement. The correct term for the evolutionary process at issue is cephalization, from the Greek *kephalē*, head: the trend by which nervous tissue, sensory organs, and feeding structures concentrate at the anterior end of an organism, forming a distinct head region. The process emerged roughly 600 to 700 million years ago in the common ancestors of modern bilaterians and accelerated during the Cambrian explosion some 540 million years ago. It is not a single event but a recurrent trend, evolved independently in vertebrates, arthropods, and cephalopod molluscs — a convergence that is itself significant, since it suggests cephalization follows from the structural logic of directed locomotion in a world that presents information asymmetrically from the front.

**Cephalization** involves two inseparable developments: the concentration of neural tissue at the anterior end, generating a brain that integrates sensory information; and the concentration of sensory organs at the same end, so that the organism's primary encounter with its environment is mediated through a unified neural centre. Cephalization thus constitutes the individual organism as a directed, information-integrating subject — a being with a definite front, a specific orientation in the world, and a neural centre that is the site of its encounter with what is other than itself.

**Bilateria** is a clade, not a phylum, containing over 98% of known animal species, characterised by a single plane of symmetry dividing the organism into left and right mirror-image halves. Bilaterian animals have a definite anterior-posterior axis, and it is this front-back orientation that makes cephalization possible: bilateral symmetry and cephalization are not independent but mutually constitutive, the body plan generating the possibility of directed locomotion, and directed locomotion generating the pressure that drives cephalization. The clade includes all vertebrates, arthropods, annelids, molluscs, flatworms, and nematodes; the organisms excluded — sponges, jellyfish, sea anemones, comb jellies — are precisely those that lack a definite anterior-posterior axis and do not cephalize in the standard sense.

In vertebrates, and especially in mammals, bilateral symmetry generates two cerebral hemispheres, anatomically and functionally differentiated but integrated through the corpus callosum. The split-brain research of Sperry and Gazzaniga demonstrates that when the corpus callosum is severed, the two hemispheres operate as independent processing streams, each generating its own responses, the patient sometimes unaware of what the other hemisphere has perceived. The unity of conscious experience in the intact brain is therefore an active product of bilateral integration — not given automatically but continuously produced by communication across the corpus callosum.

## **II. The Two Axes and Their Perpendicularity**

### **II.1 — The Cephalization Axis as the Ontological Direction**

Cephalization establishes a fundamental directionality: the anterior end is where the brain and sense organs are located; the posterior end is where digestion, excretion, and locomotion are organised. The organism is constituted as a being with a specific directional relationship to the world, moving through it head-first, processing what it approaches before what it leaves. This directionality is what the system calls the ontological axis: the soul's perpendicular consciousness has a directional orientation, able to orient toward the divine ground or away from it toward the material pole, and the cephalization axis encodes the same structure — the anterior pole the site of processing, sense, and integration, the posterior pole the site of the vegetative and metabolic infrastructure.

The parallel is exact: the cephalized anterior is the locus of consciousness-as-subject; the posterior-metabolic complex is the locus of the organism's material embeddedness. The organism lives in the tension between the two poles, and its existence as an individual conscious being is constituted by having both — without the anterior neural pole no consciousness, without the posterior metabolic pole no life to support it. Cephalization is the biological inscription of the ontological axis into matter: the evolutionary act by which directed individual consciousness is constituted as a specific orientation in the world. This is not metaphor. An organism without cephalization — a radially symmetrical cnidarian — has no definite orientation, no consistent direction of movement, no front through which its encounter with the world is organised; it is not an individual in the directed sense the perpendicular consciousness requires.

### **II.2 — Bilateral Symmetry as the Existential Axis**

Bilateral symmetry establishes the second axis, the left-right axis, perpendicular by definition to the anterior-posterior axis of cephalization. It does not point anywhere; it is not directed as the cephalization axis is directed. Instead it establishes simultaneous paired structure: two eyes, two ears, two hands, and in vertebrates two cerebral hemispheres, processing information simultaneously from both sides. This paired structure is what the system calls the existential axis. In the system's taxonomy, existential dualisms are symmetrically dependent pairs in which neither term has independent ontological standing but each defines itself in relation to its contrary — up and down, left and right. The bilateral symmetry of the body plan is the material substrate of this structure: the left and right hemispheres are a genuine existential pair, neither existing without the other, both constituted by their relationship to the medial plane that divides them.

The two hemispheres working simultaneously to produce unified experience are the biological expression of the existential axis. The left hemisphere's analytical, sequential, language-dominant processing and the right hemisphere's holistic, spatial, pattern-recognising processing are not two

minds but two poles of a single consciousness whose unity is actively produced by their integration. Bilateral symmetry is the biological inscription of the existential axis — the act by which the simultaneous relational structure of consciousness is built into the architecture of the brain.

## **II.3 — The Anatomical Perpendicularity**

The two axes are perpendicular in the literal geometric sense. The anterior-posterior axis of cephalization runs along the long axis of the body — head to tail in most animals, head to feet in upright humans. The left-right axis of bilateral symmetry runs across the body at right angles to it. The axes intersect precisely at the site of consciousness: the cephalized brain, which is both the product of cephalization and the site of bilateral integration. In vertebrates with a developed neocortex, and most especially in humans, this intersection generates the architecture the split-brain research documented — two hemispheres working simultaneously, integrated through the corpus callosum into a unified experience. The unity of consciousness is the product of the perpendicular integration of the ontological axis (the anterior-posterior directionality that constitutes the subject) and the existential axis (the left-right bilaterality that constitutes the relational engagement with the world).

Cephalization is the biological inscription of the ontological axis — directed individual consciousness oriented in the world. Bilateral symmetry is the biological inscription of the existential axis — the simultaneous relational pairing of the hemispheres. The two are anatomically perpendicular, and they intersect at the cephalized brain, which is the biological site where perpendicular consciousness exists.

## **III. Reconciliation with the Dimensional-Intersection Cosmology**

In its original formulation this argument grounded the perpendicularity principle biologically while leaving the metaphysics of perpendicularity at the level of a structural claim about consciousness and the physical field. The system as now stated permits a more precise articulation, and the perpendicularity of the two biological axes must be understood in light of it. The perpendicularity principle is, in its developed form, the dimensional relation across which substance has no shared meaning while the registers remain continuous at their intersection. Substance is dimensionally indexed: what counts as substance in one register has no cross-dimensional meaning in another, so the relation between dimensional registers is neither sameness of substance nor a substance-gap, but dimensional distinctness joined by continuity at the intersection — on the paradigm of the body and the soul, which are dimensionally and substantially distinct yet continuous where they meet.

This refines the biological argument in an important way. The cephalized brain is not merely the geometric intersection of two bodily axes; it is the biological locus of the intersection between the physical register and the soul-register. The two perpendicular biological axes — cephalization and bilaterality — are the physical register's own structure, the architecture within which the

intersection with the soul-register is biologically realised. The brain is the place where the dimensionally higher soul-register and the dimensionally lower physical register are continuous, and the perpendicular axes are the form that physical register takes at the site of that continuity. The perpendicularity of consciousness with respect to the physical field, which the principle asserts, is realised biologically as the perpendicularity of the two axes whose intersection is the brain — the physical register structured so as to be continuous, at that intersection, with the register of the soul.

It must be stated, in keeping with the system as now corrected, that this is a kenotic and effluent relation, not a creation from nothing. The soul is not a foreign substance inserted into a body across a gap; it is the divine spark, dimensionally conditioned into the human register, continuous from its source and continuous with the physical register at the intersection the brain constitutes. The biology does not bridge a substance-gap between matter and an immaterial soul — a framing the dimensional account rejects as a category error, since cross-dimensional substance has no meaning. It realises, in the physical register, the intersection at which the dimensionally distinct registers are continuous. The perpendicular axes are the physical inscription of the register's own structure at the point of its continuity with what lies dimensionally perpendicular to it.

## **IV. The Two Axes and the System's Architecture**

With the perpendicularity principle restated dimensionally, the two biological axes can be connected to the developments of the system that bear on them directly, for each axis has acquired a more precise articulation elsewhere in the corpus.

### **IV.1 — The Existential Axis: The Dyad, the Triad, and the Lateral Pathologies**

The existential axis — the left-right bilateral pairing of the hemispheres — is the same hemispheric division that the formal account of the Dyad and the Triad articulates. The left hemisphere, the Dyadic, is the form of construction, building the complex unity by combination; the right hemisphere, the Triadic, is the form of relation, supplying the context in which the constructed unity stands related. The existential axis is therefore not merely a relational pairing in the abstract but the biological realisation of the two forms of the divine mind — construction and relation — imaged in the bilateral brain. The two hemispheres are the existential pair because they are the constructive and relating forms, each incomplete without the other, integrated into the single consciousness whose unity their integration produces.

The same axis carries, in its pathologies, the lateral asymmetry developed in the analysis of guilt and shame. Guilt is left-lateralised — the left hemisphere's specific, analytical, relational judgment; shame is right-lateralised — the right hemisphere's global, holistic self-as-object perception. The existential axis is thus the axis along which the affective self-evaluations divide, the left-right bilaterality bearing not only the constructive and relating modes of cognition but the specific and global modes of self-judgment that are their affective expression. The pillar structure of the Tree — the left Pillar of Severity and the right Pillar of Mercy — is the symbolic encoding of

this same existential axis.

## **IV.2 — The Ontological Axis: The Upright Stance and the Pillars**

The ontological axis — the anterior-posterior axis of cephalization — acquires its fullest expression in the upright human stance, where the axis is rotated into alignment with the gravitational vertical, the brain above and the metabolic infrastructure below. This vertical alignment is the same vertical that the pillars of the Temple and the body inscribe: the lateral vestibulospinal tract holds the standing structure erect along precisely this axis, the antigravity architecture that establishes the body upright in strength. The upright ontological axis and the pillars of structural integrity are the same vertical — the cephalization axis aligned with gravity, held erect by the uncrossed antigravity pathway, making the standing human body the inscription of the Tree's vertical, from the crown above to the kingdom underfoot.

## **V. The New Layer: The Anterior-Posterior Cingulate Gradient**

The original argument treated the ontological axis at the gross anatomical level: the anterior concentration of consciousness against the posterior metabolic pole. There is a finer structure within the anterior-posterior axis that the recent analysis of the self-conscious emotions brings to light, and it constitutes a genuinely new development of the perpendicular-axes account. The ontological axis is doubly significant: it bears not only the gross anterior concentration of consciousness but a fine anterior-posterior evaluative gradient within the cingulate cortex — the gradient between the anterior cingulate and the posterior cingulate.

The analysis of guilt and shame identified two orthogonal neural axes of self-evaluation. The first is the lateral axis already discussed — left-hemisphere guilt against right-hemisphere shame — which is the existential axis. The second is an anterior-posterior axis within the cingulate: guilt leaning toward the anterior cingulate, the evaluator of the obligation incurred by a specific act, and shame leaning toward the posterior cingulate, the default-mode hub of self-referential, global-self processing. This anterior-posterior cingulate gradient runs along the same direction as the cephalization axis — the ontological axis. The evaluative pole sits forward, toward the anterior; the self-referential pole sits rearward, toward the posterior.

This is structurally suggestive in a way that deserves development. The ontological axis, in the system, is the axis of the soul's orientation — toward the divine ground or toward the material pole. The cingulate gradient along the same anterior-posterior direction is the axis of self-evaluation — from the forward evaluative witness to the rearward self-referential ground. The two may be aspects of one structure: the anterior, evaluative, witnessing pole corresponding to the orientation toward the ground (the evaluative witness that the system locates at Tiphareth, the anterior cingulate at its evaluative end), and the posterior, self-referential pole corresponding to the settling into the self-referential foundation (the posterior cingulate at the Yesod end, the default-mode self-referential ground). The cingulate axis the corpus identifies with the path of Probation — the anterior cingulate of Tiphareth to the posterior cingulate of Yesod — runs along

the ontological direction, the anterior-posterior axis of cephalization, so that the soul's evaluative-to-self-referential gradient is inscribed along the same biological axis as its ontological orientation.

The claim is offered as a development to be pursued rather than a settled identity, since the correspondence between the soul's ontological orientation and the cingulate's evaluative gradient, though structurally exact in direction, requires its own argument to establish as more than a directional coincidence. But the directional alignment is genuine: the ontological axis is the anterior-posterior axis, and the brain's own anterior-posterior gradient of self-evaluation, the ACC-PCC cingulate axis, runs along it. The cephalization axis is therefore doubly inscribed — grossly, as the concentration of consciousness at the anterior pole; and finely, as the cingulate gradient of self-evaluation running from the anterior evaluative witness to the posterior self-referential ground. The ontological axis bears both, and the perpendicular-axes account is enriched by the recognition that the anterior-posterior direction it identifies is not a single threshold but a gradient with its own evaluative structure.

The existential axis is the lateral bilaterality — the Dyadic and Triadic hemispheres, the guilt-shame lateral asymmetry, the two pillars. The ontological axis is the anterior-posterior cephalization — the upright vertical of the pillars, and, finely, the ACC-PCC cingulate gradient of self-evaluation running from the anterior evaluative witness to the posterior self-referential ground. The two perpendicular axes of the brain carry the two perpendicular axes of the soul.

## **VI. The Philosophical Significance**

The biological grounding carries specific philosophical weight. It addresses the persistent objection that mind-body dualism introduces an arbitrary division into nature with no basis in the physical order: evolution did not produce consciousness in spite of the perpendicularity structure but produced the specific biological architecture — cephalized brain with bilateral symmetry — that instantiates it. The biological and the philosophical converge on the same structure from different directions because the structure is real. It also provides a basis for understanding why consciousness is associated with specific biological complexity rather than distributed uniformly (as panpsychism proposes) or emerging at an arbitrary computational threshold (as some functionalist accounts propose): consciousness in the system's sense requires the perpendicular structure, the intersection of the ontological axis that creates directional individuality and the existential axis that creates relational engagement. Cephalization with bilateral symmetry is the biological formula for that intersection.

And it clarifies the relationship between evolutionary complexity and the moral ontology the system derives from the perpendicularity principle. Moral evil is possible only for beings whose consciousness occupies the perpendicular register and can orient away from the ground through genuine freedom; the biological analysis shows this capacity is not uniformly distributed but correlated with the degree of cephalization and bilateral integration. The progression of cephalization through evolutionary history is the biological history of the conditions of the possibility of catharturgy: the emergence of anterior neural concentration crosses the threshold of

ontological orientation; the full bilateral brain crosses the threshold of relational self-consciousness; the prefrontal cortex crosses the threshold of cathartic capacity — the recognition of one's privated orientations and the freedom to reorient. This three-stage sequence is the biological history of the progressive instantiation of the perpendicular consciousness in the material world, the material substrate becoming more adequate to the full expression of what the soul's perpendicular structure is.

The split-brain finding bears specifically on catharturgy. When the corpus callosum is severed, the hemispheres develop conflicting responses — the alien hand undoing what the other hand does — demonstrating that the unity of consciousness is not a metaphysical given but an active biological achievement, continuously maintained. The divided consciousness that makes cathartic work necessary is therefore a biological reality, not merely a spiritual metaphor: the privated orientations are habitual patterns distributed across the bilateral architecture, some verbal-analytical and some intuitive-somatic, whose integration is itself the cathartic achievement. This is why purely intellectual understanding does not accomplish transformation: the right hemisphere's intuitive-somatic networks carry equally important and often more stubbornly privated material, and genuine cathartic work must engage both the analytical-verbal mode (Hod) and the intuitive-somatic mode (Netzach), their integration being the work itself.

Intellectual precision requires acknowledging the argument's limits. Radially symmetrical organisms have some neural organisation and presumably some experiential state; sponges lack even that; the hard problem applies in principle to any organism with any experience. The argument does not deny that other organisms have experience but distinguishes the specific structure of consciousness the perpendicularity principle describes — the directional, bilaterally integrated consciousness with genuine freedom of orientation, self-reflection, and moral stakes — which has its biological instantiation in the cephalized, bilaterally symmetrical organism and most fully in the vertebrate with a developed bilateral brain. The argument claims not that consciousness requires cephalization in some absolute sense, but that the specific form the perpendicularity principle describes has its biological instantiation there.

## **VII. The Upright Stance and Convergence with Iamblichan Theurgy**

The upright human posture is a particularly exact encoding of the perpendicular axis. In most bilaterians the anterior-posterior axis runs horizontally, parallel to the ground, so that the cephalization axis and the gravitational vertical are themselves perpendicular. In the upright human a further rotation aligns the cephalization axis with the gravitational vertical: the head above, the feet below, the anterior pole of consciousness at the top and the posterior-metabolic pole below. This is the physical encoding of what the mystical traditions describe as the soul's vertical axis — the Tree of Life from Kether above to Malkuth underfoot, the chakra system from crown to root, the Middle Pillar of the Golden Dawn — and, as developed above, the vertical of the Temple pillars held erect by the antigravity architecture. The bilateral axis runs perpendicular to this vertical at the level of the brain, the two Pillars of Severity and Mercy as its symbolic encoding.



This bears on the Iamblichan theurgy central to the system. Iamblichus holds that the soul has descended completely into the body — genuinely and fully embodied, not merely associated with it as Plotinus and Porphyry held — and cannot return to its origin through contemplation alone, the return requiring theurgical activation of the divine signatures within the embodied order. The biological analysis explains why this is correct in structural terms. The perpendicular consciousness is not a foreign visitor in an alien body; it is constituted by the specific biological architecture of the cephalized, bilaterally symmetrical organism, continuous with the physical register at the intersection the brain constitutes. The theurgical work of return cannot therefore be accomplished by withdrawing from the body — the flight of the alone to the Alone that bypasses embodiment — but must be accomplished through the architecture of embodied consciousness: through the bilateral integration of the hemispheres and the orientation of the ontological axis. The cathartic practices work with this architecture: the activation of the directional axes of bilateral world-engagement, the activation of the vertical ontological axis, their combination integrating the embodied structure toward its ground.

## VIII. Concluding Synthesis

The insight that prompted this analysis — that the perpendicular ontological principle can be found directly in evolutionary biology — is not merely an interesting parallel but evidence that the structural architecture of consciousness is real, visible from both the philosophical and the biological direction. Cephalization is the biological inscription of the ontological axis: the act by which directed, individual, self-constituting consciousness becomes a structural feature of the material world. Bilateral symmetry is the biological inscription of the existential axis: the act by which relational, simultaneous, world-engaging consciousness becomes the specific structure of conscious experience. These two axes are anatomically perpendicular, they intersect at the brain, and their intersection is the biological site where the perpendicular consciousness exists — and, in the dimensional terms the system now states, the site at which the physical register is continuous with the register of the soul.

The account is enriched by the developments of the system. The existential axis is the Dyadic and Triadic hemispheres and the lateral axis of the affective self-evaluations; the ontological axis is the upright vertical of the pillars and, in its fine structure, the anterior-posterior cingulate gradient of self-evaluation. The relation between the registers is kenotic and effluent, continuous at the intersection, not a creation from nothing across a gap — the soul the divine spark dimensionally conditioned into the human register, the brain the intersection at which it is continuous with the physical. The perpendicularity of consciousness is not a philosophical stipulation imposed on biology but a structural fact about what consciousness is, the two perpendicular axes of the brain carrying the two perpendicular axes of the soul.

The tree of life stands upright. The head is above; the roots go down; the arms extend in both directions. The ontological axis rises from the metabolic ground to the cephalized crown, aligned in the upright stance with the gravitational vertical and held erect by the antigravity pillars; the existential axis runs across it at the brain, the two hemispheres that are the constructive and relating forms of one mind. This is not a symbol imposed on biology. It is the structure of the

perpendicular consciousness, inscribed in the body that the divine outpouring has dimensionally conditioned, and continuous — at the intersection that is the brain — from the ground from which it was poured.

## References

Corballis, Michael C. 'Bilaterally Symmetrical: To Be or Not to Be?' *Symmetry* 12, no. 3 (2020): 326.

Etter, Christopher E. *Kenotic Effluent Panapotheism: The System Stated; Nothing and Threeness; The Bounded Fractal of Contained Multiplicity*. Catharturgy Corpus, 2026.

Etter, Christopher E. *The Dyad and the Triad; The Neurological Distinction Between Guilt and Shame; The Pillars of the Temple and the Body*. Catharturgy Corpus, 2026.

Gazzaniga, Michael S. 'Forty-Five Years of Split-Brain Research and Still Going Strong.' *Nature Reviews Neuroscience* 6 (2005): 653–659.

Held, Lewis I. *Twisted: The Incredible Story of Mything Links, Genes, and Development*. Cambridge: Cambridge University Press, 2014.

Hombria, James Castelli-Gair, et al. 'Anterior Hox Genes and the Process of Cephalization.' *Frontiers in Cell and Developmental Biology* 9 (2021): 695725.

Iamblichus. *De Mysteriis*. Trans. Emma C. Clarke, John M. Dillon, and Jackson P. Hershbell. Atlanta: Society of Biblical Literature, 2003.

McGilchrist, Iain. *The Master and His Emissary: The Divided Brain and the Making of the Western World*. New Haven: Yale University Press, 2009.

Sperry, Roger W. *Split-brain studies on hemispheric specialisation (1961 and subsequent)*.