

Transformational Information: Hermetic Knowledge and Agency

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Abstract

This article develops the concept of transformational information as a non-reductionist framework for analyzing how information mediates transformation, knowledge, and agency. Information is not treated merely as data, message, or representation, but as structured difference capable of producing durable and examinable change in orientation, coherence, trajectory, or practical capacity. The article reconstructs selected Hermetic motifs—logos, correspondence, disciplined practice, participation, and unity—as informational categories: encoding, structure-preserving transmission, stabilization, alignment with relevant order, and reflexive audit. The claim is not that Hermetic sources anticipated modern information theory. Rather, Hermetic traditions provide a historically traceable symbolic-epistemic vocabulary of transformative knowing that can be translated into contemporary methodological language. The article distinguishes data, syntactic information, semantic information, pragmatic information, and transformational information, then applies this account illustratively to cognition, scientific knowledge production, legal sovereignty, biological regulation, physical information, and Hermetic epistemology. Its original contribution lies in using Hermetic motifs as evaluative categories for determining when information becomes transformational rather than merely descriptive. Transformation approaches knowledge, in the stronger sense proposed here, when information is encoded, transmitted without uncontrolled distortion, stabilized without becoming rigid, aligned with declared criteria, subjected to independent reflexive audit, and converted into agency. The framework avoids reducing distinct domains to a single technical model while identifying recurring conditions under which information can become transformative.

Keywords: transformational information, Hermetic knowledge, philosophy of information, epistemology, agency, scientific autonomy, sovereignty, cognition, symbolic mediation, reflexive audit

1. Introduction

Information is often treated as a message, signal, dataset, representation, or description of something more fundamental. In that view, reality exists first, systems act, observers measure, and information reports what has happened. This article proposes a more active interpretation. Information can also be analyzed as an organizing condition through which systems constrain possibilities, stabilize development, preserve coherence, and become intelligible to observers or agents.

The article develops this claim through the concept of *transformational information*. Transformational information is not merely information that is received, stored, or transmitted. It is information that produces durable and examinable change in a system or agent. It alters orientation, interpretation, coherence, trajectory, or practical capacity. Yet not every change deserves to be called transformation in

a strong epistemic sense. Noise changes systems. Distortion changes messages. Manipulation changes behavior. The decisive criterion is not change alone, but whether the change is structured, durable, constrained, auditable, and open to correction.

This article connects that idea with Hermetic knowledge. The term *Hermetic* is used here in a restricted scholarly sense. It refers to the body of symbolic, philosophical, and epistemic motifs associated with the late antique Hermetica, especially the *Corpus Hermeticum* and the Latin *Asclepius*, together with their later reception in Renaissance and Western esoteric scholarship. In this article, “Hermetic” does not refer to modern popular esotericism in general, nor is it used as a synonym for occultism. It denotes a historically traceable tradition of symbolic knowledge concerned with logos, correspondence, disciplined transformation, participation in intelligible order, and the unity of knowledge [1–5].

The central claim is not that Hermetic sources anticipated modern information theory. That would be historically imprecise and methodologically unnecessary. The claim is more limited and more defensible: selected Hermetic motifs provide a symbolic-epistemic vocabulary for transformation, and this vocabulary can be reconstructed into a contemporary account of informational transformation.

The guiding research question is: *Under what conditions does information become transformational rather than merely descriptive?*

This question matters because information can clarify, confuse, stabilize, destabilize, reveal, conceal, liberate, manipulate, or distort. A person may receive information without being transformed by it. A legal system may declare rights while blocking the informational pathways required to exercise them. A scientific system may produce data while filtering which questions become visible. A symbolic system may create intensity without preserving truth, order, or discipline. Therefore, transformation alone is insufficient. The relevant question is whether information changes a system in a way that remains constrained, stable, auditable, and revisable.

For this reason, the article introduces the following definition:

Transformational information is structured difference that produces durable and examinable change in a system’s orientation, coherence, agency, or trajectory while remaining constrained by identifiable structures and open to correction.

In this article, *identifiable structures* means explicitly describable constraints that can be named, examined, and criticized within a given domain. These may include logical rules, biological regulatory patterns, legal procedures, scientific standards, symbolic correspondences, physical regularities, or institutional pathways.

The term *alignment* does not mean that different domains are identical, nor that physical, biological, legal, cognitive, and Hermetic phenomena share the same mechanism. Alignment means that a claim, representation, signal, procedure, or symbolic form remains answerable to the relevant constraints of its own domain. In physics, this may involve compatibility with conservation relations, measurement conditions, or mathematical invariants. In biology, it may involve regulatory coherence, signaling pathways, timing, and organismic context. In law, it may involve procedural executability, intelligibility, remedy, and contestability. In cognition, it may involve stable discrimination, corrective capacity, and behavioral reorientation. The common feature is not the content of these domains, but the requirement that information remain constrained by the order it claims to describe, guide, or transform. Alignment is therefore not a metaphor of similarity, but a criterion of domain-specific accountability.

The term **agency** refers, in human contexts, to the practical capacity to act, respond, choose, correct, refuse, consent, or reorganize one’s orientation within constraints. In non-human or biological contexts,

the term is used only in a restricted analogical sense and refers to adaptive capacity, regulatory responsiveness, or functional reorganization, not conscious intention.

The article makes three contributions. First, it defines transformational information as structured, durable, and examinable change rather than mere information transfer. Second, it reconstructs selected Hermetic motifs as informational categories rather than metaphysical claims. Third, it applies this reconstruction illustratively to cognition, science, law, biology, physical information, and Hermetic epistemology while preserving the domain-specific meanings of information and agency.

The originality of the article does not lie in claiming that information can transform systems in a general sense. Similar concerns appear in information theory, cybernetics, philosophy of information, information literacy, systems theory, and science studies. Its specific contribution is the reconstruction of Hermetic motifs as informational categories through which transformation can be evaluated in terms of encoding, transmission, stabilization, alignment, reflexive audit, corrigibility, and agency conversion.

2. Methodological Scope

This article uses conceptual reconstruction and cross-domain abstraction. It does not present an empirical proof of a universal law of information. It does not reduce biological, legal, scientific, symbolic, or cognitive phenomena to Shannon information. It does not claim that Hermeticism is a scientific theory. It does not use Hermetic sources as evidence for physical, biological, or legal claims.

Its method is reconstructive, not historical-causal. It identifies recurring Hermetic motifs and translates them into informational categories. These categories are then used to analyze how information mediates transformation across different domains.

Accordingly, the term *Hermetic* is used analytically rather than devotionally or doctrinally. Hermetic motifs are examined as epistemic forms, not as articles of belief.

This also means that the Hermetic source domain cannot serve as its own proof. Although Hermetic motifs provide the symbolic vocabulary reconstructed in this article, the criteria developed from them must be evaluated by tests that are not reducible to Hermetic language itself. A claim of Hermetic transformation, for example, cannot be validated merely because it feels symbolically coherent or internally meaningful. It must show stabilization, reduction of distortion, alignment with declared criteria, openness to correction, and some form of independent check. Such checks may be philosophical, historical, textual, practical, psychological, legal, or empirical, depending on the domain under discussion. The audit is therefore external to the self-confirming language of the claim, even when the vocabulary being reconstructed originates in Hermetic sources.

The approach has three levels. First, at the historical-symbolic level, Hermetic motifs provide the vocabulary of logos, correspondence, practice, participation, and unity. Second, at the informational level, these motifs are translated into encoding, transmission, stabilization, alignment, and audit. Third, at the methodological level, the resulting categories are applied to domains in which transformation requires informational organization.

The ambition is integrative, but the claims are limited. The article does not offer a complete theory of physics, biology, law, science, cognition, or Hermeticism. It offers a theoretical schema for identifying how information mediates transformation in each domain.

Any claim of informational transformation should therefore be evaluated by asking: What is encoded? What possibilities are constrained? What is transmitted, and through which channel? What becomes more

stable? Which relevant patterns or constraints are preserved? What independent audit could fail the claim? What would count as correction? What new agency or system capacity becomes possible? Without these questions, the term “information” becomes too broad and loses scientific usefulness.

3. Methodological Translation and External Audit

A central methodological difficulty of this article lies in the relation between Hermetic source motifs and contemporary evaluative criteria. If Hermetic motifs are used to generate categories such as encoding, transmission, alignment, stabilization, and reflexive audit, the framework must avoid validating itself through the same symbolic language from which it was reconstructed. For this reason, the movement from Hermetic motif to informational category is not treated as proof, deduction, or historical continuity. It is treated as a controlled act of conceptual translation.

This translation has three distinct steps. First, a Hermetic motif is identified as a recurring symbolic-epistemic function within the Hermetic and Hermetic-reception tradition. Second, that motif is translated into a contemporary informational category only if it can be stated without reliance on Hermetic doctrine. Third, the translated category must be tested against non-Hermetic criteria within the domain in which it is applied. Logos may therefore inspire the category of encoding, but the adequacy of encoding is not judged by Hermetic symbolism. It is judged by clarity of representation, transmissibility, stability, and the possibility of correction. Correspondence may inspire the category of structure-preserving transmission, but its validity is not established by symbolic resonance. It is established only when relevant relations are preserved and distortions can be identified. Unity may inspire reflexive audit, but audit is valid only when the test can fail.

The Hermetic source domain therefore provides the vocabulary of reconstruction, not the authority of validation. The validation of the framework occurs only after translation, through criteria that are external to Hermetic self-description. This prevents circularity. It also prevents the categories from being adjusted after the fact so that every phenomenon automatically fits the model. A phenomenon does not qualify as transformational information merely because it can be described in Hermetic or symbolic language. It qualifies only when the translated criteria can be specified in advance, applied consistently, and exposed to possible failure.

For this reason, every application of the framework must declare three elements before interpretation begins: the domain-specific object of transformation, the criteria by which transformation can be recognized, and the conditions under which the claim would fail. Without these elements, the framework would risk becoming a retrospective classification scheme rather than a methodological tool. The purpose is not to make all domains fit the same symbolic pattern, but to ask whether information in a given domain produces constrained, durable, examinable, and corrigible change.

4. Information Beyond Data

A careful account must distinguish several levels of information. Shannon’s mathematical theory clarifies syntactic information, uncertainty, signal organization, and transmission [6]. Wiener’s cybernetics links information with control and communication [7]. Bateson’s formulation of information as “a difference which makes a difference” emphasizes relevance and effect [8]. MacKay connects information with meaning and mechanism [9]. Dretske develops a theory in which information is connected to knowledge and indication [10]. Floridi treats information as a central category of philosophical analysis [11]. Barwise

and Seligman examine information flow through distributed systems [12]. The present article builds on these traditions but adds a narrower concept: transformational information.

Data refers to recorded differences, signals, marks, measurements, or traces. Data may exist without interpretation or transformation.

Syntactic information concerns formal organization, probability, uncertainty, transmission, compression, and noise.

Semantic information concerns meaning, reference, interpretation, truth, or contextual relevance.

Pragmatic information concerns action. It matters not only what information means, but what it enables a system or agent to do.

Transformational information concerns structured change. It changes the coherence, trajectory, interpretation, or agency of a system while remaining constrained by identifiable structures and open to audit.

The concept of information used in this article is intentionally broad, but not unlimited. It does not mean that every state, process, law, symbol, signal, or biological event is information in the same sense. Rather, the term is used only where a structured difference constrains possible interpretation, response, organization, or action. A physical measurement, a legal notice, a biological signal, a scientific publication, and a Hermetic symbol are not informational in the same technical sense. They become comparable only at a higher methodological level: each may function as a constraint that changes what a system can recognize, preserve, correct, or do.

This distinction is essential. The article does not claim that syntactic information, biological signaling, legal intelligibility, cognitive meaning, and symbolic mediation are identical. It claims only that each may perform an informational role when it reduces arbitrariness, organizes response, and makes transformation examinable. The framework therefore uses information as a family of domain-specific concepts rather than as a single universal substance.

The same caution applies to agency. In human contexts, agency means the practical capacity to interpret, decide, correct, refuse, consent, act, or reorganize one's orientation within constraints. In biological contexts, agency is not used in this strong human sense. It refers only to adaptive capacity, regulatory responsiveness, or functional reorganization. A cell, immune pathway, or organism does not exercise agency in the same way as a legal subject or reflective human agent. The term is therefore analogical only at the level of functional responsiveness. Where conscious interpretation, responsibility, or legal standing is involved, the term agency is used in its stronger sense. Where biological regulation is involved, it is used in a restricted sense and should not be confused with intention, self-reflection, or personal autonomy. This distinction prevents the framework from flattening fundamentally different mechanisms. Biological adaptation, legal agency, cognitive transformation, and symbolic initiation are not the same process. They can be compared only insofar as each involves structured differences that constrain future possibilities. The framework is therefore comparative, not ontologically reductive.

The term transformational information is not used here in the sense of transformational information technology or transformative information literacy. Those literatures address organizational, technological, or educational transformation. The present article uses the term philosophically and epistemologically: information is transformational when it produces durable, examinable, structurally constrained, and corrigible change in knowledge, agency, or orientation.

This distinction is important because not every signal is meaningful, not every meaning is actionable, and not every action produces genuine transformation. A legal document may contain data. Its semantic

content may state a right. Its pragmatic meaning may explain how to exercise that right. But it becomes transformational only when it changes the actual agency of the person or institution involved.

Similarly, a scientific result may be data-rich but transformation-poor if it cannot enter the visible field of inquiry. A spiritual symbol may be emotionally powerful but epistemically weak if it cannot stabilize cognition or align with any identifiable order. A biological signal may be present but ineffective if the receiving system cannot interpret or respond to it.

Transformational information therefore requires three conditions. It must change a system in a relevant way. It must preserve or align with relevant constraints. It must remain open to audit, correction, or failure. This makes transformational information narrower than general meaning and more methodologically demanding than vague claims of transformation.

5. Hermetic Motifs as Informational Categories

Hermetic knowledge becomes academically analyzable when its symbolic motifs are reconstructed as informational categories: forms that encode, constrain, transmit, stabilize, align, and audit transformation. The five motifs selected here are not presented as exhaustive. They are chosen because they recur in Hermetic and Hermetic-reception contexts as epistemic functions: symbolic articulation, relation between levels, disciplined transformation of the knower, participation in intelligible order, and integration or unity of knowledge. Their selection is methodological rather than doctrinal [1–4]. Other Hermetic motifs could be reconstructed differently; the present selection is limited to those most directly relevant to information, transformation, and agency.

Table 1. Conceptual Translation of Hermetic Motifs into Informational Categories

Hermetic Motif	Informational Category	Methodological Function
Logos / Symbol	Encoding	Information enters form and becomes shareable
Correspondence	Structure-preserving transmission	Information survives translation across levels
Disciplined practice	Stabilization	Information reduces volatility and noise
Participation	Alignment with relevant order	Information remains accountable to domain-specific constraints
Unity	Reflexive audit	Information survives independent self-checking

This reconstruction does not treat Hermeticism as scientific proof. It treats Hermetic motifs as a historically significant symbolic vocabulary for thinking about transformation. Their contemporary value lies in whether they can be translated into operational procedures.

5.1 Logos as Encoding

Hermetic traditions place great weight on word, symbol, name, number, image, and sacred articulation. In informational terms, this corresponds to encoding. Transformation requires form. What cannot be encoded cannot be transmitted, examined, stabilized, or corrected.

Encoding does not mean that all knowledge must be verbal. Diagrams, equations, rituals, gestures, formal systems, legal texts, biological signals, and computational models are all forms of encoding. The decisive point is that information must enter a structured medium. Failure of encoding produces vagueness, private impression, or non-transferable experience.

5.2 Correspondence as Structure-Preserving Transmission

Hermetic correspondence is often reduced to a slogan. In a rigorous account, correspondence must mean more than resemblance. It must refer to the preservation of relations across levels, contexts, or representations.

In informational terms, correspondence becomes structure-preserving transmission. A transformation from one level to another must preserve relevant relations or clearly declare the distortion introduced. A connection between domains is valid only if relevant constraints remain recognizable. Failure of correspondence produces arbitrary analogy, uncontrolled metaphor, or symbolic inflation. *Symbolic inflation* occurs when symbolic intensity is mistaken for structural validity.

5.3 Disciplined Practice as Stabilization

Hermetic traditions usually connect knowledge with discipline, purification, attention, and repeated practice. In informational terms, this corresponds to stabilization. Information becomes transformative only when it can be integrated without producing instability.

Stabilization reduces noise, impulsive interpretation, path-dependence, and volatility. It allows a system to distinguish signal from transient excitation. Failure of stabilization produces intensity without integration.

5.4 Participation as Alignment with Relevant Order

Participation is one of the most important Hermetic and Platonic motifs, but it must be handled carefully. This article does not use participation as a metaphysical claim. It reconstructs participation as *alignment with relevant order*. A representation participates in a domain only when it remains answerable to the constraints by which that domain can be evaluated.

This does not mean that different domains share the same mechanism. It means that each domain has criteria that prevent arbitrary interpretation. In physics, alignment may involve consistency with measurement, conservation, symmetry, or mathematical description. In biology, it may involve signaling pathways, regulatory timing, and organismic context. In law, it may involve intelligibility, procedural access, evidence, remedy, and contestability. In cognition, it may involve stable discrimination, correction of prior interpretation, and changed action capacity. In Hermetic epistemology, it may involve the disciplined relation between symbol, attention, correspondence, practice, and transformed knowing.

Failure of participation produces pseudo-alignment: the appearance of connection without evaluable constraint.

5.5 Unity as Reflexive Audit

Hermetic knowledge often culminates in unity. In this account, unity is reconstructed as reflexive audit. A transformed state must survive examination that is not fully controlled by its own internal narrative. It must not merely confirm itself through its own symbolic language.

Independent audit means that the test must be capable of producing an unfavorable result and must not be defined solely by the internal assumptions of the claim being tested. This is especially important for the Hermetic application of the framework. Hermetic epistemology provides the symbolic source material for reconstruction, but it cannot function as the sole authority validating that reconstruction. A Hermetic claim becomes epistemically stronger only when it can be examined through declared criteria such as textual coherence, historical traceability, disciplined practice, psychological stability, practical consequences, conceptual consistency, and openness to correction. Failure of reflexive audit produces pseudo-coherence, dogma, self-sealing explanation, or circular validation.

6. The Methodological Value of the Hermetic Bridge

The use of Hermetic motifs requires justification. If the framework can be stated in the language of information theory, systems theory, cybernetics, epistemology, and agency theory, it may be asked why Hermetic material is needed at all. The answer is not that Hermeticism supplies scientific evidence unavailable elsewhere. Nor is the answer that Hermetic sources anticipated modern information theory. The value of the Hermetic material lies elsewhere.

Hermetic traditions preserve a historically significant vocabulary of transformation in which knowledge is not merely descriptive but formative. In this vocabulary, knowing is connected with symbolic mediation, disciplined practice, correspondence, participation in order, and the transformation of the knower. Modern information theory is powerful in analyzing signal, uncertainty, transmission, and formal structure, but it does not by itself provide a historical symbolic language for the transformation of the subject. Systems theory and cybernetics address feedback, regulation, and control, but they do not usually frame transformation through the symbolic education of the knower. Hermetic epistemology therefore contributes not empirical proof, but a historical grammar of transformative knowing.

The methodological value of Hermeticism in this article is therefore heuristic and reconstructive. It helps identify dimensions of transformation that may be underemphasized in purely technical accounts: the role of symbol, disciplined reception, correspondence between levels of interpretation, integration of knowledge and agency, and the need for reflexive self-audit. Once translated, these dimensions must stand or fall by non-Hermetic criteria. The Hermetic source domain opens the question; it does not settle it.

This makes the framework less vulnerable to the objection that the Hermetic component is unnecessary. Without Hermetic material, the article could still produce a general theory of informational transformation. But it would lose the specific historical claim that Hermetic traditions offer a symbolic grammar in which knowledge is already understood as transformative, disciplined, and participatory. The purpose is not to replace contemporary theory with Hermetic doctrine. The purpose is to show how a premodern symbolic vocabulary of transformation can be translated into a modern methodological account without becoming either esoteric assertion or reductionist information theory.

7. Criteria of Transformational Information

Transformational information can be evaluated through seven criteria.

Table 2. Operational Criteria for Assessing Transformational Information

Category	Core Question	Success Criterion	Failure Mode
Encoding	Is information in a structured form?	Clear representation	Vagueness
Constraint	Does it reduce arbitrariness?	Defined limits	Noise
Transmission	Does it survive transfer?	Controlled distortion	Corruption
Stabilization	Does it reduce volatility without suppressing correction?	Greater coherence with corrigibility	Rigid fixation
Alignment	Does it remain accountable to relevant domain constraints?	Fit with declared criteria	Pseudo-alignment
Reflexive Audit	Can it survive independent checking?	Non-circular verification	Pseudo-coherence
Agency Conversion	Does it change what can be done?	Executable capacity	Inert knowledge

These categories translate the Hermetic reconstruction into evaluative criteria for determining when information becomes transformational. Symbolic mediation, correspondence, disciplined stabilization, alignment with relevant order, reflexive audit, and agency conversion are treated as practical criteria for distinguishing durable transformation from mere intensity, impression, or uncontrolled change.

The seven criteria are not intended as a universal checklist that automatically applies in the same way across all domains. They function as a domain-translation protocol. In every application, the criteria must be specified before the phenomenon is classified. The object of transformation must be named. The relevant constraints must be declared. The type of distortion must be defined. The form of audit must be capable of failure. The mode of agency must be appropriate to the domain.

In a legal context, transformation may mean that a formal right becomes practically exercisable. Distortion may mean procedural opacity, inaccessible language, hidden requirements, excessive cost, or blocked remedy. Audit may involve judicial review, procedural transparency, documentation, appeal, or external oversight. Agency conversion means that the person can actually understand, invoke, contest, or enforce a right.

In a cognitive context, transformation may mean a durable change in interpretation, attention, discrimination, or self-correction. Distortion may mean false certainty, emotional over-identification, self-confirming interpretation, or unstable conviction. Audit may involve behavioral consistency, openness to correction, reflective comparison, psychological stability, or practical consequence. Agency conversion means that the person can perceive, decide, or act differently in a stable and examinable way.

In a biological context, transformation may mean a measurable change in regulatory state, signaling response, stress physiology, immune activity, endocrine rhythm, or behavioral regulation. Distortion may mean mis-signaling, excessive activation, suppression, mistiming, or dysregulation. Audit must involve measurable indicators, plausible pathways, and reproducible or at least clinically examinable effects. Agency conversion in this context means adaptive capacity, not conscious decision.

In a Hermetic context, transformation may mean a disciplined reorganization of symbolic cognition, attention, ethical orientation, practice, or interpretive capacity. Distortion may mean symbolic inflation, arbitrary analogy, self-sealing doctrine, emotional intensity mistaken for knowledge, or pseudo-coherence. Audit may involve textual coherence, historical traceability, consistency of practice, psychological stability, conceptual clarity, and openness to correction. Agency conversion means that symbolic knowledge changes orientation and conduct rather than remaining merely decorative or emotionally stimulating.

These examples show that the framework does not impose one meaning of information or agency on all domains. Instead, it requires each domain to define its own constraints, mechanisms, and failure conditions. This is what allows the framework to remain comparative without becoming vague.

Informational transformation occurs when information changes a system in a way that remains organized, durable, aligned with relevant order, open to independent audit, and capable of modifying practical orientation. The important point is not mathematical uniformity, but methodological accountability.

8. Stabilization, Rigidity, and Corrigibility

Stabilization is necessary but not sufficient. Information becomes transformational only when it produces durable organization, but durability can also become rigidity. A cognitive system may stabilize around false belief. A legal system may stabilize around unjust procedure. A scientific field may stabilize around

institutional consensus that excludes anomalies. A symbolic system may stabilize around self-confirming doctrine. For this reason, stabilization must always be paired with alignment and reflexive audit.

The framework therefore distinguishes stabilizing transformation from rigid fixation. Stabilizing transformation increases coherence while preserving corrigibility. Rigid fixation increases coherence by suppressing correction. The difference lies in whether the stabilized pattern remains open to external constraint, counterevidence, and revision. A transformation that cannot be corrected may be stable, but it is not epistemically reliable. Stability becomes valuable only when it reduces noise without eliminating the possibility of revision.

This also clarifies the relation between transformation and preservation. Transformation does not mean constant change, and stabilization does not mean mere conservation. A genuine transformation changes the organization of a system while preserving the possibility of correction. It creates a new orientation, but not a closed one. The strongest form of transformational information is therefore not instability, novelty, or intensity, but durable reorganization under conditions of continuing audit.

9. Illustrative Domain Applications

The following sections are illustrative applications. They do not aim to provide complete theories of cognition, science, law, biology, physics, or Hermetic epistemology. Their purpose is to show how the same evaluative categories can clarify different forms of informational transformation when each domain specifies its own constraints, mechanisms, and failure conditions.

9.1 Cognitive Transformation

Cognition is not merely storage of information. It is the active organization of relevance. Attention selects, filters, weights, stabilizes, and integrates information. Enactive and predictive approaches to cognition emphasize that cognition is not passive representation alone, but active engagement, prediction, correction, and embodied orientation [13, 14]. In this context, transformation occurs when information changes not only what is known, but how perception, interpretation, and action become organized.

Transformational information reorganizes attention, interpretation, self-correction, or action capacity while increasing stability and discrimination. It may appear through language, symbol, memory, image, conceptual structure, disciplined study, reflection, or symbolic practice. Its success lies not in intensity alone, but in whether cognition becomes more stable, more discriminating, and more open to correction. Agency appears when the agent can respond differently, correct prior interpretation, and act from a more stable informational orientation. An experience may be intense but unstable. It may change mood without improving discrimination. It may produce conviction without audit. Transformation approaches knowledge only when it stabilizes without becoming closed.

This distinction is important because not every cognitive or emotional change is transformational information in the sense proposed here. A mood shift, a motivational impulse, a placebo response, or a new belief may produce change without satisfying the stronger criteria of transformational information. A cognitive change qualifies only when it can be connected to identifiable input, stabilized interpretation, changed discrimination, corrective capacity, and altered action possibilities. Without these criteria, the framework would merely rename ordinary psychological change as transformational information.

9.2 Scientific Information Ecology

Science is not merely the accumulation of data. It is an information ecology. Scientific claims pass through instruments, laboratories, journals, peer review, indexing systems, citation networks, metrics, funding priorities, institutional prestige, and increasingly AI-mediated retrieval. Kuhn showed that scientific fields

are shaped by paradigms and problem spaces [15], while Merton's sociology of science emphasized the norms and institutions that shape scientific credibility [16]. This concern is developed in the author's related work on scientific autonomy, which analyzes institutional funding, publication systems, consensus infrastructures, and AI-mediated access as interacting layers of scientific filtering [17].

Scientific information becomes transformational when it changes the visible field of inquiry: which questions can be asked, which evidence is recognized, which anomalies remain visible, and which methods survive institutional filtering. Each stage of scientific communication can improve reliability, but each can also narrow the field of visible inquiry.

Agency appears at the level of inquiry: the scientific community gains or loses the capacity to ask, test, publish, retrieve, and contest certain questions. The informational danger is recursive closure. If publication systems, prestige structures, consensus mechanisms, and AI retrieval all reinforce the same visible literature, the scientific system may mistake filtered visibility for truth. Scientific autonomy therefore requires not only good data, but also plural channels, anomaly visibility, methodological diversity, and transparent filtering.

9.3 Legal Sovereignty and Operational Access

Law is also an information architecture. It defines categories, status, rights, duties, procedures, permissions, prohibitions, liabilities, evidence standards, and remedies. A right is not operational merely because it is declared. It becomes operational only when the informational conditions of its exercise are available.

Procedural legal theory has long emphasized that law depends not only on commands but also on knowable, stable, and practicable forms of legality [18]. This point connects to the author's related work on conditionalized sovereignty and defensive sovereignty. The former analyzes how legal systems may preserve formal autonomy while conditioning its practical exercise; the latter examines whether citizens retain the operational capacities required to defend rights against arbitrary power [19, 20].

A right becomes executable when the person can understand the status, access the procedure, communicate with the relevant institution, provide evidence, receive a decision, contest that decision, preserve privacy, and obtain remedy. If these channels are blocked, delayed, hidden, monitored, made too costly, or made too complex, the right remains formal but loses practical force.

This is the informational core of sovereignty. Sovereignty is not merely legal status. It is operational access to the informational and procedural channels required to convert formal recognition into effective agency. Rights can therefore be disabled without being abolished. A system can preserve the language of freedom while weakening the informational conditions required to exercise it. This produces rights-disabling opacity.

9.4 Biological Regulation

Biological systems are regulated by information. Genes, epigenetic markers, cellular signaling, immune recognition, endocrine rhythms, neural signaling, and environmental feedback all involve structured differences that alter state and behavior. A living organism is not a passive receiver of signals. It responds according to context, timing, receptor state, history, stress load, metabolic condition, and regulatory capacity.

The role of information in biological explanation has been widely discussed, but it must be used with caution. Godfrey-Smith argues that genetic coding has a legitimate explanatory role in specific cellular contexts, while broader uses of informational language in biology require careful restriction [21]. Jablonka

and Lamb's work on genetic, epigenetic, behavioral, and symbolic inheritance also shows that biological explanation can involve multiple channels of transmitted and regulated information [22].

Many biological disorders can be partially analyzed as failures of signaling, regulation, feedback, timing, or adaptive constraint. This does not reduce disease to information. It shows that biological dysfunction often includes an informational dimension.

In biological contexts, agency is used only in the restricted sense of adaptive capacity, not conscious intention. Contextual and meaning-related effects may influence physiology through expectation, attention, stress modulation, behavior, and social signaling. Placebo and context effects show that meaning, expectation, and therapeutic setting can influence measurable physiological processes, but these effects must be studied with methodological care rather than generalized into vague claims of "information medicine" [23].

The biological application requires particular caution because the language of information is often overextended in discussions of health, meaning, and healing. A placebo effect, therapeutic communication, ritual context, or expectation effect does not automatically qualify as transformational information. It qualifies only when the informational component can be distinguished from the general physiological response.

For example, a therapeutic statement may reduce anxiety and thereby affect stress physiology. This is not yet sufficient to call it transformational information in the strong sense proposed here. The claim becomes stronger only when the informational input is identifiable, the pathway is plausible, the physiological or behavioral change is measurable, and the change modifies future regulation, interpretation, or adaptive capacity in a durable way. A brief mood improvement, temporary reassurance, or unspecific positive response would not meet the standard. A lasting change in stress regulation, treatment adherence, pain perception, behavioral orientation, or physiological response pattern may meet the standard if the pathway and outcome can be examined.

This distinction separates transformational information from vague claims of informational healing. The framework does not treat meaning as a substitute for mechanism. It treats meaning, expectation, communication, and symbolic context as possible inputs that may influence biological processes only through specified pathways. Where no pathway, measurable change, or durable regulatory effect can be identified, the claim should remain outside the category of transformational information.

9.5 Physical Information

Physical information provides a technically developed reference case for analyzing information as constraint, but this section does not attempt to advance a new theory of physical information. It is not used as a foundation for the other domains. It serves only as a contrast case showing that, in some fields, information can be defined with high mathematical precision.

In communication theory, information concerns uncertainty, signal structure, noise, and transmission [6, 24]. In statistical physics, information is closely related to entropy and state description. In quantum theory, information is tied to measurement, correlation, distinguishability, and entanglement [25].

The present article does not transfer the mathematical apparatus of physics into law, cognition, biology, or Hermetic epistemology. It also does not claim that these domains become more rigorous by borrowing physical terminology. The relevance of physics is methodological rather than foundational: it demonstrates that informational concepts become powerful only when their variables, constraints, and conditions of application are clearly specified. Since this article is intentionally non-mathematical, the physical section functions as a caution rather than a proof. It shows what cannot simply be imported.

9.6 Hermetic Epistemology

Hermetic epistemology functions here as the symbolic source domain of the article. Its motifs have already been reconstructed as informational categories. This final application clarifies the central claim: Hermetic knowledge can be interpreted as symbolically mediated transformational information when it stabilizes cognition, preserves correspondence, supports alignment with relevant order, and remains open to reflexive audit.

The Hermetic material is not used as evidence for scientific claims. It is used as a historical-symbolic source of epistemic motifs that can be reconstructed into operational categories. In this sense, Hermetic epistemology may be understood as a symbolic case of transformational information when it reorganizes cognition through correspondence, disciplined stabilization, alignment with relevant order, and reflexive integration.

A Hermetic claim therefore cannot be accepted merely because it appears symbolically rich, emotionally powerful, or internally coherent. It must remain answerable to declared criteria: textual traceability, historical plausibility, conceptual clarity, consistency of practice, psychological stability, ethical consequence, and openness to correction. This does not turn Hermetic epistemology into empirical science. It makes it academically analyzable as a symbolic system of disciplined transformation.

10. Failure Modes

The account identifies several recurring failure modes. These failure modes show that information may produce change without producing knowledge, agency, or durable transformation.

Noise occurs when differences enter a system without stable structure. Noise changes states but does not produce coherent transformation.

Distortion occurs when information is corrupted during transmission, translation, compression, or interpretation.

Overfitting occurs when a claim appears valid only because the test conditions have been narrowed around it.

Pseudo-coherence occurs when a system appears internally consistent but cannot survive independent audit.

Symbolic inflation occurs when symbolic intensity, identity, or emotional force is mistaken for structural validity.

Institutional filtering occurs when channels of knowledge are shaped by funding, prestige, publication systems, citation patterns, consensus infrastructures, or AI-mediated retrieval.

Rights-disabling opacity occurs when legal autonomy exists formally but cannot be exercised because the informational conditions of action are blocked, hidden, delayed, monitored, or made unusable.

Biological dysregulation occurs when regulatory information becomes unstable, excessive, suppressed, mistimed, or misinterpreted by the organism.

Cognitive closure occurs when attention becomes trapped in a self-confirming pattern that filters out correction.

Pseudo-participation occurs when a representation claims deep alignment with reality but cannot specify which structures it preserves.

Rigid fixation occurs when stabilization suppresses correction and protects error from examination.

These failure modes clarify why change alone is not sufficient: transformation becomes epistemically relevant only when it is constrained, durable, ordered, and open to correction.

11. Threats to Validity

The account faces several risks.

First, the term information may be overextended. To avoid this, the article distinguishes technical, semantic, pragmatic, and transformational uses of information. It also treats information as a family of domain-specific concepts rather than as a universal substance.

Second, cross-domain abstraction may become too general. To avoid this, the article does not claim that all domains are governed by one identical informational law. It identifies a shared methodological role: structured differences may constrain possible futures in different domains.

Third, Hermetic material may be misunderstood as a scientific proof source. To avoid this, the article uses Hermetic motifs only as symbolic-historical sources for epistemic reconstruction. Validation occurs only after translation through domain-specific criteria capable of failure.

Fourth, alignment may be biased. A system may appear well ordered because the relevant criteria were chosen after the fact. To avoid this, the criteria used for evaluation should be declared before interpretation, justified within the domain, and open to criticism.

Fifth, stabilization may become rigidity. A system can stabilize around error. For this reason, stabilization alone is not sufficient. It must be combined with alignment, audit, and corrigibility.

Sixth, reflexive audit may become circular. A system may verify itself through its own assumptions. To avoid pseudo-fixpoints, audit must include independent checks capable of failure.

Seventh, agency may be overextended. To avoid this, the article distinguishes human agency from biological adaptive capacity. The same term is not used to erase differences between conscious action, legal standing, cognitive reorientation, and non-conscious regulation.

12. Implications

The account has several implications.

First, information should not be treated only as content. In many domains, it also functions as a constraint on possible states, interpretations, or actions.

Second, transformation should not be romanticized. Transformation can be false, unstable, manipulative, destructive, or rigidly self-confirming. Only constrained, durable, examinable, and corrigible transformation can approach knowledge in the stronger sense proposed here.

Third, constraint should not be misunderstood as mere limitation. A constraint can reduce arbitrary possibilities while opening determinate possibilities for action. A legal procedure limits how a right can be exercised, but precisely through that limitation it can make the right executable. A cognitive distinction limits vague interpretation, but it can also make correction and decision possible. A biological signal constrains a response pathway, but this constraint can enable coordinated regulation. In this sense, agency conversion does not mean that information magically causes action. It means that information reorganizes the field of possible action by making some paths intelligible, available, stable, or executable.

Fourth, Hermetic epistemology can be made academically analyzable when reconstructed as an informational account rather than presented as doctrine.

Fifth, scientific autonomy requires more than evidence production. It requires informational plurality, anomaly visibility, methodological diversity, and transparency of filters.

Sixth, legal sovereignty requires informational access. Formal rights become weak when citizens cannot understand, access, contest, or execute them.

Seventh, biological and cognitive transformation should be studied through state change, regulation, stability, feedback, measurable patterns, and corrigibility rather than vague appeals to “energy” or “meaning.”

Eighth, AI can be understood as an informational amplifier in the context of this framework. It can expand access, but it can also intensify existing filters, compress minority positions out of visibility, and reproduce prestige-weighted knowledge structures.

13. Conclusion

This article has developed the concept of transformational information in relation to Hermetic knowledge and agency. It argued that selected Hermetic motifs—logos, correspondence, disciplined practice, participation, and unity—can be reconstructed as informational categories: encoding, structure-preserving transmission, stabilization, alignment with relevant order, and reflexive audit.

The argument is reconstructive and comparative. It does not claim that Hermeticism anticipated modern information theory, that all domains share one technical meaning of information, or that symbolic systems can validate themselves through internal coherence. Hermetic motifs provide the source vocabulary for reconstruction, but validation occurs only after translation, through domain-specific criteria capable of failure.

Transformational information is structured difference that produces durable and examinable change in a system’s orientation, coherence, agency, or trajectory while remaining constrained by identifiable structures. This definition remains useful only if the relevant domain declares what counts as transformation, distortion, alignment, audit, and agency. Legal agency, biological regulation, cognitive reorientation, scientific inquiry, and Hermetic epistemology are therefore not treated as the same process. They are compared only insofar as each involves structured differences that constrain possible futures.

The decisive step from information to agency lies in the transformation of possibility. Information does not produce agency simply by being present. It produces agency when it reduces indeterminacy, clarifies orientation, stabilizes interpretation, and makes action paths executable. Yet stabilization alone is not enough. A system can stabilize around error, dogma, opacity, or dysfunction. For this reason, transformational information must remain open to correction. Durable change becomes epistemically relevant only when it is constrained, auditable, and revisable.

The Hermetic contribution lies in providing a historical symbolic grammar of transformative knowing. Hermeticism is not used as scientific evidence, but as a source domain in which knowledge, symbol, discipline, correspondence, and transformation of the knower are already linked. Once translated into contemporary methodological language, these motifs become evaluative categories rather than doctrinal claims.

The final thesis can therefore be stated as follows: Hermetic knowledge becomes academically analyzable when its motifs are reconstructed as informational categories through which transformation can be encoded, constrained, stabilized, aligned with declared criteria, subjected to reflexive audit, and converted into agency.

Information becomes transformational when it changes what a system can recognize, preserve, test, correct, and do. In this sense, Hermetic knowledge can be read not as a relic of premodern speculation, but as a symbolic grammar of transformation that becomes academically useful only when translated into the language of information, constraint, audit, corrigibility, and agency.

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