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## Understanding and Cognitive Meaning: An Introduction

By Mark Crooks

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# Understanding and Cognitive Meaning: An Introduction

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John Dewey, 1939

## I. TWO EPISTEMOLOGIES

The following prolegomenon is intended as an heuristic regarding an empirical epistemology, an interpretive framework that properly delineates our reason, the human understanding. This introduction provides a bare summary and synopsis of a radical approach to epistemic foundations, designed to challenge the extant, prevalent one that arose principally from Descartes's work. The contrast between the two views may be put in terms of their respective emphases, namely, the Cartesian *gnostic* rather an alternative *Semantikal* hypothesis. *Gnosis* in Greek signifies knowledge and hence the focus of the gnostic schema, respecting its analysis of cognition, is upon knowing and certainty. *Semantikos* in Attic Greek denoted meaning or signification, with its implications of meaningfulness, ambiguity, meaninglessness, and understanding.

Certain Hellenic philosophers were oriented perhaps more toward a Semantikal perspective than the gnostic view, inasmuch as Plato and Aristotle alluded frequently to the inherent intelligibility of the cosmos, a universe discernible by reason, rather than to any absolute certainty attainable by dialectic.<sup>1</sup> Nonetheless this observation must be qualified, given Plato's domain of *eidos* or eternal Forms and Aristotle's "final" and complete knowledge had by his Prime Mover. In modern philosophy, Descartes and Kant are foremost expositors of the Gnostic view, with mathematics construed by them as by Plato as the exemplar of infeasible knowledge. Hegel's system also portrays

idiosyncratically reason's attainment to (his) finalized truth, but he situates this within a broader compass of an *intelligible*, hence *comprehensible* universe.

Probably all ancient and modern philosophers who have written on epistemology have referenced both meaning and understanding in varying degrees, as these are folk psychological categories that constantly inform every deliberation on such matters, no less so than the equally ubiquitous categories of truth, certainty, and knowing. In contrast, it may be argued that epistemology since Descartes is little more than a codification of folk psychology's gnostic proclivities. Beginning the seventeenth century, epistemic enquiry shifted dramatically with Descartes to an outright fixation upon certainty as the proper terminus of ratiocination, said to be consummated through a rather unspecified cognitive function called knowing.

Perhaps more accurately and charitably, folk epistemology has it that *thinking* leads or leads not, per each particular cognitive attempt to tentative certainty, while *knowing* is usually characterized as the outcome of exploratory thought, the grasping and retention of a truth finally achieved that preceding thought had studiously uncovered. But this progressive thinking is no other than *understanding by stages*, as sketched below. Hence, by implication the gnostic folk epistemology willy-nilly shades into our alternative Semantikal schema that highlights intelligible cognitive meaning: *semantikos*, hereby defined.

When I first read Descartes's *Meditations*, his most emphatic emphasis upon the question, "Of what can we be certain?" left me puzzled as to what this presumptive cognitive phenomenon of certainty might be. Rather than taking our concept of certain knowing as a simple given and then ascertaining the extent of knowledgeable certainty's jurisdiction and extent, the presumptive faculty of knowing with its predicated certainty might instead be critiqued even as to its actual existence.

The Cartesian gnostic desideratum is epitomized by the master as follows:

I shall . . . make every effort to conform precisely to the plan commenced yesterday and put aside every belief in which I could imagine the least doubt, just as though I knew that it was absolutely false. And I shall continue in this manner until I have found

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<sup>1</sup> Far to the contrary, in fact: we witness the frequent denouement of intellectual irresolutions that characterize the Socratic dialogues.

something certain, or at least, if I can do nothing else, until I have learned with certainty that there is nothing certain in this world. Archimedes, to move the earth from its orbit and place it in a new position, demanded nothing more than a fixed and immovable fulcrum; in a similar manner I shall have the right to entertain high hopes if I am fortunate enough to find a single truth which is certain and indubitable. (Descartes, 1641/1960, p. 23)

Leibniz argued (e.g., 1712/1973) that though we can successfully explain human actions teleologically in toto, we should also endeavor to give naturalistic ("mechanical") explanations for the actual execution of our providence as it occurs in the world. By analogy, we might allow that cognition in an ultimate construal is somehow "one" with its intelligible objects, in the sense of a heretofore inexplicable ontological and epistemic conformance of them. Yet we should, in first heuristic approximation anyway, resist the esoteric temptation to give such "transcendent" explanations for the individual's understanding and the broader cultural, secular development of knowledge.

This then is the challenge: to explain naturalistically how knowledge can arise between a discrete conceiver and the conceived universe. The Semantiks model discloses how our proprietary abstract conceptuality furnishes access to its intelligible cosmos, which clairvoyantly transcends the deliverances of sensorial immediacy. Civilization represents a corporate understanding among reasoners together possessed of linguistic conceptuality, all housed within a shared acculturating context. Ex hypothesi, it is possible to ascertain how the actual cognitive coherence involved between the intellect and its intelligible cosmos obtains.

## II. COGNITIVE MEANING CENTRALIZED

It may first be questioned *whether "knowing" is an actual cognitive function*: if it be a real form of cogitation by which a thinker "comes to apprehend reality" or if that presumed knowing be rather an epistemic fiction, inadvertently confabulated by folk psychology and its philosophical extensions. Taking Descartes's *Meditations* or Kant's *Critique of Pure Reason* as paradigmatic, it may be seen that those philosophers did not doubt notwithstanding the legendary Cartesian skepticism the actual existence of such gnostic constructs as "clear and distinct ideas" or "synthetic a priori judgments." Their primary enterprise lay in circumnavigating the extent of that knowing, so as to, in Locke's formulation, "determine the limits of human understanding," i.e., survey the boundaries of validated knowledge.

Might there obtain legitimacy in an attempt to question that paradigm of gnostic epistemology, which emphasizes so strongly the presumptive actuality of cognitive knowing and its consequential certainty (or

uncertainty, if knowledgeably unsuccessful) and to query the standard epistemic search for the "scope and limits of indubitable knowledge"? Semantiks suggests that ratiocinative understanding can account for progressive science without suppositional recourse to either Cartesian certainty or its generative "coming to know." What rationale might induce us to challenge the status of these latter as indefeasible givens, and consequently to seek an alternative to them in any identification of a more empirically oriented epistemology?

(1) A strong intimation that knowing is not a fundamental cognitive function but at best a subsidiary one – if indeed existent at all – is hinted by the epigraph to this work from John Dewey, on the indefinitely greater extent of meaning over that of verifiable truth. The keynote of Dewey's excerpt regards that far greater generality of meaning over truth valuation, wherein is to be found an extraordinarily suggestive insight. "*Meaning to be explicated is the genus to which truths, i.e., "certain" knowledge, are but a subclass.*" By Semantikal hypothesis, there would exist an actual cognitive function that generates intelligible meanings, while "understood truths" would be produced by a further, higher order cognitive determination. Contrarily, even if there were such an actual gnostic faculty of knowing that in a consummating intellectual operation grants us certainty, then before one could attain to that status of absolute certitude one provisionally first must have *understood the meaning* of the proposition under scrutiny. This assessment may be illustrated by a pair of antithetical statements:

It is raining.

*It is not raining.*

These contradictories, to an incarcerated and incommunicado person locked in a dungeon, would be completely indeterminate as regards their respective truth values. Notwithstanding, the prisoner would be able to *comprehend* unequivocally the cognitive meaning of both disjunctive propositions, though would not be able to *verify* in such opaque circumstances which one were the veridical disjunct. That this is not an unusual or contrived example can be seen, if someone were asked (say), "Was the sun shining all day or not on October 3rd, 1900 in your hometown?" Our inability to immediately supply an unequivocal answer betokens our "*uncertainty*" regarding the event but not our undeniable capacity to *understand* the question put to us.

Frye and Levi (1941) expound a logical dictum implicate with Dewey's pronouncement: truth value cannot be assayed and assigned until meaningful propositions are first formulated. And always keep in mind that such objective truth value is epistemically distinct from (fictitious) subjective Cartesian certainty about such truth.

(1) That contradictories may not be evidently determinate as regards their truthfulness, yet completely determinate respecting their intelligibility qua propositional content, underscores in a formal fashion the subsuming generality of cognitive meaning over verification. Therefore the emphatic centrality of knowing and certainty within gnostic epistemology appears a probable misdirection. Employing Dewey's metaphor, if cognitive meaning is an ocean then the territory of "certain knowing" must be seen as small isles against the oceanic background of intelligible *semantikos*. Why should one fixate merely the figure in any given scenario rather than its all-encompassing ground, as though the latter were conceptually invisible to us? This contrasting generality gives us the first reason for jettisoning the traditional epistemic overemphasis upon "finalized indubitable knowledge."

(2) The second posit against gnostic epistemology concerns the paradigm's explanatory poverty. Even if one grants that there were some sort of absolute knowledge or even *any* form of "knowing," partial or complete, the gnostic interpretive apparatus would cover only those islands of truths beyond question within the indefinitely larger ocean of rational meaning. Consider the other miscellaneous types of organized meaningfulness in the domains of our understanding, as (say) the "meaning" of the Ninth Symphony or Newton's *Principia*; or less exaltedly, the sensory schemata that endow familiar recognizability to our everyday perceptual surroundings; and the punchline of an ironic witticism.<sup>2</sup> (Non-semantikal meanings as within music understanding are here termed *intuitive sensibilities*. They will be treated in greater depth within my forthcoming tome, of which this monograph is a synoptic prolegomenon.)

(3) Not only is there no comparability between the respective numbers of typical instances that can be ranged beneath classes of *semantikos* versus certitude.

<sup>2</sup> "The college I went to turned out some great men."

"When did you graduate?"

"I didn't exactly graduate. I was turned out." (Braude, 1964, p. 34)

This joke typifies in several ways irony qua inverted meaning. (1) It initially appears that the speaker is to be placed in the company of certain "great men"; when in fact he "turns out" relatively insignificant in their presence insofar as he did not even graduate from college. Such an eventuation bespeaks an inversion of implied stature, an antithetical contrast that informs typical irony in that what is stated is opposite to what is meant, wittingly or unwittingly. (2) The jocularity pivots upon a term's equivocatory meaning, "turned out." In the first statement, it means to productively generate; in the concluding punchline, it means to expel from an educational institute, to disenroll from matriculation. By means of that semantikal equivocation, the irony of the punchline is highlighted. For what was implied as extremely positive self-flattery turns out negative in the extreme – hyperbolic contrast that is the essence of irony qua lampoon. (3) The speaker's satirization of self appears inadvertent. This constitutes another expressive form of irony -- a contrast between expectation and reality -- in which one's inflated and delusional self-estimate continues unabated despite heightened disconfirming evidence to the contrary.

Gnostic epistemology maintains a hyperbolic inversion of their proper order of inclusiveness. By this is meant that, when centering our investigative attention on cognition wholly through the lens of that gnostic template (e.g., "How far does our certainty extend?"), we pass by the entire field of *semantikos* within which any ostensible certain truth has its intelligible ground. Put more pronouncedly, it is "certain" truths that manifestly are incorporated beneath *semantikos*, not the other way around. Seen otherwise through the gnostic perspective, much or all of the genus that constitutes meaningfulness, excepting semantics and semiotics, is in practice left out of epistemological disquisition as if it were already perfectly understood. Hegel paraphrased the Socratic method, writing that it is precisely that which is most obvious to the point of conceptual invisibility that is most in need of expository clarification.

Again, intelligibility per elementary logic is the genus subsuming truth values. Accordingly if we direct the orienting *modus operandi* of *Semantiks* upon conceptual meaning and understanding, our possible comprehensive inclusion and explanatory prowess expands immeasurably insofar as so much more cognitive phenomena fall within the purview of meaningfulness rather than of certainty. Nevertheless, objective truth value of course still must be accounted for in *Semantiks* as in the gnostic schema, but there as a function of understanding sans certainty and absolute knowing. Our dutiful epistemic burden and obligation increase commensurately therewith in terms of greater explicative requirements when facing such an expansive array of semantikal phenomenology. The recompense is that should we fathom the outlines of a genus, *a fortiori* will its inclusive species be delineated more clearly in the procedure, per Aristotle's *Categories*. Translation: once *semantikos* is comprehended as to its defining generic parameters, its species will take on a Kantian architectonic unity. Anticipating my argument, *semantikos* is a natural kind underlying every homological form of rational understanding, which includes music, scientific hypothesis, mathematical deduction, humor, logic, and language inter alia. Staged ratiocinative *semantikos* is the means whereby the intelligible cosmos in its multidimensional systematic entirety comes to "makes sense" progressively for our intellectual thought.

### III. TRIANGULATING SEMANTIKOS

Tentative terms and methodology may be established for a summary investigation into cognitive meaning. *Semantikos* is the *meaningful cognitive product* that is generated by its fundamentally underlying *cognitive process* called *ratiocination*. By way of analogy, there is a proportion between the ostensible gnostic faculty of knowing with its outcome of certainty, and that of the actually existent interpretive function of

ratiocination with its own upshot of *semantikos*. Further, there can be no cognitive ordering by ratiocination without a correspondent expression of *semantikal* meaning or vice versa either conscious or otherwise. To emphasize this indissociable nature of ratiocination and conceptual meaning, their totality is termed *understanding*. Understanding, then, is the total process of ratiocination in its act of generating *semantikos*, as this generic meaning manifests in various contexts to be explored.

Additionally, while the denotation of "semantikos" is explicitly delimited here to cognitive meaning rather than to (say) "aesthetic meaning" or "empathic meaning," *semantikos* indeed is implicated in such *intuitive sensibilities*. Like perception, their intuitive contents undergo *sublation* ("semantikal raising") into cognitive schemata and thereby obtain conceptual signification, as when otherwise inherently meaningless visual percepts of printed ink on paper become intellectually understood by their being read. Though the term "meaning" in English denotes intention, purpose, and signification, it is solely this last character being examined presently. Of course in actual thinking cognitive meaning cannot be divorced from such as emotion, motivation, and providence excepting in pathologies yet nonetheless *semantikos* may be intellectually abstracted for greater expositional clarification of its presumed relatively autonomous functions within the mind as an operative totality.

Finally regarding nomenclature, *Semantiks* signifies the study of cognitive meaning in its various parallel instantiations, hypothesizing the nature of the ratiocinative process that brings into being those varied expressions of *semantikos*. By *semantics* is meant ordinarily the analysis of linguistic meaning; here it is assumed that language has no monopoly on cognitive meaning as such, being but one domain among many within the totality of *semantikos*. Howbeit, language stands alone as the first construction and ongoing instrumentality of ratiocination for the elaboration of *semantikal* conceptuality in its entirety.

Above was referenced an ocean of meaning within which objective truth appeared as scattered islands.<sup>3</sup> This imagery of ocean and isles sounds much like Gestalt Psychology's distinction between figure and ground. The suggestion is not simply an intended analogy but instead should be construed as homology: certainty qua figure, meaningfulness qua ground. If we objectively examine our cognition, especially learning per se, what act do we find ourselves engaged in during virtually all its moments? How often does the pole star of "fixed certainty" appear relative to those times of understanding or at least attempting to come to an

understanding? Whether comprehended speech of formal learning comes from a textbook or classroom lecture or within a more informal setting as by interlocutory discourse or silent thinking, incessantly we are occupied cogitatively in a tentative process of progressively *coming to understand thinking* as such.

What this continuous cogitation engenders is a routinized, experiential familiarity with the operation of understanding, viz., thought punctuated by salient highlights of *semantikos* characterized by folk psychology as moments of *insight*. When these moments of insightful understanding consummate comprehension and are believed to constitute instances of eureka truth, especially after periods of long discursive exploration, they become the focus of our riveted attention and admiration: "Just what I have been searching for!" Accordingly we may discern here the rationale for Descartes and the other gnostic epistemologists' fixation upon the query, "Of what can I know for certain?" We have before us at all times the vast and omnipresent conceptual field of meaningful understanding, so ubiquitous that *semantikos* becomes imperceptible to our introspective observation; compare the perceptual phenomenon wherein a stabilized retinal image quickly fades from vision. The rare prominence that stands out in relief against that transparent meaningfulness barring ambiguity or outright meaninglessness are those instances of confirmed, validated meanings that have been insightfully discovered. Within our apperception, "certain knowledge" (read: objectively validated insight) is the salient figure manifest against the invisible back/ground of oceanic cognitive meaning.

How can such cognitively global *semantikos* be rendered unnoticeable by a figure of truth within apperception? What happens is that the gnostic motivational impetus requiring intellectual "certainty," i.e., objective verification, invades the ocean of *semantikos* and fixates those figures of verified insight that stand out so prominently visible against the *semantikal* ground in toto. That grounding gives such truths their contextual setting and thereby their very existence qua objective and subjective "certainties" in relief against "mere" (unseen) meaningfulness. To re/orient our apperception to *semantikos* would necessitate a figure/ground reversal, in which habitual background became apparent figure and vice versa.

How might we induce such? A good start would be detailed re/examinations of the various forms of *semantikos*, its ubiquity now manifestly emergent after said transposition, asking then the question as to how we ever could have neglected the sheer number and typical diversity of cognitive meanings in favor of a tiny subclass of their confirmed instances.

<sup>3</sup> Dewey there contrasted determinate truths versus intelligible meanings but did not oppose knowing and certainty against understanding and cognitive meaning as we are doing here.

#### IV. SEMANTIKAL EPISTEMOLOGY

As per Semantikal postulation our ratiocinative understanding is the true ground and essence of human cognition, then when the "limits of knowing," "indubitable certainty," and "un/certain knowing" inter alia are spoken of, such talk must be misinterpreting the nature of thinking because of folk psychology's and gnostic epistemology's distortions and fictitious impositions upon our introspective deliverances. To set the picture aright, that characterization should be transposed from the gnostic scheme to our alternative paradigm.

In Cartesian perspective, there is a gnostic spectrum that ranges from nescience (ignorance) to uncertainty thence to certainty. In Semantikal terms, the proper cognitive continuum runs from meaningless to ambiguous or vague and thence to meaningful. Insight represents a moment of maximally coherent semantikos formation, which qua hypothetical schema admits of varying degrees of probable dis/confirmation; its distorted parallel gnostic version stipulates certain knowledge as the consequence of coming to know.

A glaring anomaly appears before our folk gnosticism that necessarily contests whether there actually be such a cognitive function identified as knowing. There has never been any body of knowledge, even -- indeed especially within -- science that might be considered finalized. I am not here repeating the academically fashionable shibboleth that no knowledge is ever complete. I instead maintain, *There exists no cognitive function above and beyond understanding that could generate anything except semantikos.*

That reservation emphatically includes any supposed Cartesian "un/certain knowledge." To state that *certain* knowing is nonexistent is not necessarily to imply that there ever obtains only *uncertain* knowledge, insofar as ex hypothesi there be no actual faculty of knowing that establishes or determines certainty to any degree and whose functional privation would eventuate in a contrary uncertainty. When we affirm that "There is no knowing," this is not meant to signify that there is only uncertainty throughout our cogitations for that would imply an acceptance of the dichotomous certainty versus uncertainty posit.

If it were rejoined that of course our certainty is always only tentative then by that proposition we have returned right back to the epistemic starting block. What is this certainty -- is it a genuine reason/able function or a fictitious one indeed might it somehow be a contextual expression of semantikos rather than a real cognitive phenomenon in its own right? If perchance knowing were a species of ratiocination, which latter represents knowing's genus, their respective products of certainty and semantikos should also show that same classificatory relationship of superordinate to subordinate. But our other rehearsed arguments

strongly suggest the feasibility of simply eliminating entirely such unnecessary gnostic complications.

What is notoriously undeniable in the realm of scientific advance, namely, that complete and unequivocal understanding is unattainable, surely holds in our everyday transactions with the uneventful world, in the sublunary constructs formed by a less exalted mode of understanding. A psychological sense of certainty is absolutely no guarantee of sound conception even if Cartesian criteria as clarity and distinctness were added thereto. Any person might adduce myriad instances in this life where conclusions theretofore seeming intractably indubitable have come crashing down when refuted by further evidence, experience, or logic (Frye and Levi, 1941). Within science and our mortal realm there evidently manifests no cognitive function as knowing that constructs let alone guarantees any kind of permanent, unequivocal knowledge.

When naïve apperception looks at cognition "from the inside" as duly informed by folk psychology, it sees a function of knowing. This may be understood in our Semantikal analysis as essentially a composite of ratiocination in its act of generating coherent semantikos followed almost immediately by a consequential rational assent. The latter's emergence from validated or self-evident insights qua schema/tic hypotheses generate cognitively firm articulates that do not blow away with the first challenge to their presumptive veracity, which beneficently prevents us from relinquishing successful interpretations that have repeatedly proven their worth. Nonetheless insofar as all "knowledge" (confirmed hypotheses) is inherently and ultimately provisional, necessarily applicable only within delimited contexts, there must be an operational egress to keep schemata from becoming permanently ossified and thereby precluding more comprehensive and veracious schemata from being eventually attained through further enlightening thought.

This is where imagination so eminently variable among individuals enters the fray on behalf of obsolescent ratiocination. Creative imagination can plasticize constructs when and where their limits of efficient application break down. Such cognitive adaptation is required either for better accommodation to the facts or to other components of the reticulated totality of semantikos, making for more comprehensive logical consistency. Our intellectual economy and equilibrium are in this way balanced between forces of malleable renovation and unyielding staticism.<sup>4</sup>

<sup>4</sup> The average understanding prefers its cherished prejudgments to the emotional hardship of questioning, let alone overturning its unworkable ideologies. It appears to be not a coincidence that those who are most ignorant tend to be those who are yet most omniscient in their own eyes. It is rigidifying belief that constricts both flexible thought and thereby an appreciation of one's own limitations in apprehending other and deeper insights. As Schopenhauer wrote, many people would rather die than think.

There are at least three reasons why traditional epistemology concentrated so exclusively upon the gnostic leitmotif when assessing cognition, rather than investigating the nature of semantikos, excepting only linguistic meaning or semantics, a major investigative topic since antiquity. That threefold rationale: (1) a motivational impulsion strives for cognitive closure qua certainty, which motive intrudes upon our introspective thought by fervently seeking and emphasizing "isles of truth" rather than their grounding semantikos; (2) folk psychology's categories of cognition, singular priority being given to "knowing with certainty" while taking for granted and hence obviously overlooking ratiocinative, semantikal themes; and (3) superficial naïve introspection seems indeed to divulge a faculty of certain knowing, reading that folk psychology construct into our apperceived thoughts. This last observation merits further consideration.

Let us try whether otherwise hazy and nebulous "certainty" might be more naturalistically interpreted and clarified by its bifurcation. Whenever an insight is formed via ratiocination, whether it expresses profundity or partakes of a more pedestrian character, there appears *pari passu* pervasive judgments therein, which may represent either *visceral belief* or *rational assent*. The former denotes Hume's (1739–1740/2000) "vivacity of impressions," i.e., intense sensory perceptions that by their very forcefulness determine which of various "ideas" are accepted as real or which behaviors should be undertaken.<sup>5</sup>

Sensorimotor schemata of both humans and infrahuman animals are in fact tailored to immediately presenting environmental exigencies, producing visceral belief upon relevant occasions, as (say) which foods to eat or what predator to avoid. These consequential primitive beliefs are a function of elementary behavioral conditioning, not of rational assent proper that devolves solely upon ratiocinative intellectual insight. A spectrum of rational assent may be envisioned: from the complete absence of affirmation due to outright chaotic interpretive meaninglessness; to an "uncertain" construct, i.e., one relatively incoherent, ambiguous, or disordered; to the moment of eureka qua "total comprehension." We italicize in passing the fundamental cognitive contrast between mere "instinctive" negotiations of the physical environment versus reason/able understanding of the intelligible cosmos.

So much for epistemic un/certainty. The Cartesian scheme now may be summarily discounted. *There is no actual cognitive function that answers to*

*"knowing" and as certainty is the presumed issue generated by that fictitious form of cognition, it too must vanish into folk psychology's gnostic misconception.* Accordingly it can be understood why indefeasible knowledge has never yet been produced or ever can be, individually or culturally. It may be said that even as our highest empirical expression of rational cognition, scientific knowledge, begins and ends only in hypothetical constructions, then this must be the essence of human ratiocination: to assimilatively and generatively understand continually higher orders of semantikos yet never to complete that progressive endeavor.<sup>6</sup> Therefore, knowing and its product of certainty are definitive fictions most properly understood as confabulated delusions, though the origins of these in apperception and folk psychology are perfectly comprehensible.

An objection arises at once. "It is not sought to apprehend merely *cognitive* meaning -- there is sought in science and elsewhere, *confirmed* propositions. Not merely *to understand* in a bald sense the particulars of competing hypotheses, but to *know for certain* which of those meanings corresponds to reality — *that* is what Descartes and science itself are getting at." This demurrer confuses the issue. There is indeed objective knowledge but it comes from an actual cognitive function of understanding, not through a fictive one of knowing. The confusion arises by continuing to assert the very folk psychological categories in question — a *petitio principii*. What folk psychology calls *certain knowing* may be elucidated properly as *understanding within a context of probable confirmation*.

Thus, though there be no actually existent cognition that determines for all time absolute truths, yet undoubtedly we possess objective knowledge. There is first the formation of intelligible propositions and interpretive schemata; thence the establishment by empirical investigation of successive working hypotheses. This is the challenge posed to Semantiks: to delineate an epistemology of that objectively verified understanding, tendered only in terms of ratiocination and semantikos bereft of knowing and certainty. How might such vindicated objectivity manifest by understanding alone?

Undoubtedly we possess a cognition that grants an *order of probability* and nothing more to our equivocal inferences. If we assume im/probable inferences in place of consummating un/certainties, we may with justification consider junking the very posit of any cognitive faculty designated as generating certain knowledge, a faculty that appears to do little or no

<sup>5</sup> This citation of Hume's construct does not mean that in any way I endorse his rather simplistic "skeptical" epistemology in which our causal inferences are depicted as having firmament solely upon empirical inductions. I am employing his characterization merely to highlight the non/rational nature of such "associative" belief.

<sup>6</sup> The proposition that "meaning is inexhaustible" (David Bohm) is a metaphysical postulate, insofar as the intelligible universe itself is inherently open-ended as to its innumerable interpretations. And semantikos as understood intelligible relations is precisely the cognitive phenomenon that is to be elucidated through the programme of Semantiks.

explanatory work anyway and which is probably nothing except a holdover from folk epistemology. In other words, it should be tried whether probable hypotheses might be generated by ratiocinative understanding alone, shorn of any ostensible confirming function carried out or finalized by an epistemic spectre called "knowing."

In this way we obtain simplicity of hypothesis for our Semantikal schema. There would be only ratiocination elaborating semantikos in its various forms while the relative verification or refutation of inferential constructs would admit only of an ultimately indeterminate veridicality. The objective determination of relative truthfulness would be given by some integral and higher order function of the understanding itself, which is responsible in a first order function for the meaningful, intelligible construct's original generation.

A term for patterned forms from Gestalt Psychology, *gestalten*, emphasized the spontaneous organization of maximally coherent percepts. In visual perception these articulated gestalten are segregated into figures collectively constituting the sensory field "out there." Such sensorial gestalten are cognitively sublated and thereby obtain abstract conceptual significance; we recognize (say) the functional utility of rakes, thrown horseshoes, and edible apples. A concept is its own gestalt, the abstract equivalent of such percepts; and while percepts manifest as those articulated entities within sensory fields, concepts homologously compose their own conceptual fields called schemata.

A relative lack of coherence among cognitive gestalten is ap/perceived as ambiguity or incoherent vagueness, as with an incompletely understood homework assignment. A complete absence of initial ordering, or a subsequent disordering of formerly cohesive construction, is experienced as outright meaninglessness of which it may be presumed that there are as many varieties as there are of meaningfulness and ambiguity.

Abstract conceptuality has a hierarchical structure comprising nested levels. The three generic and principal forms are concepts, schemata, and the culminating reticulate. The concept is an elementary unit of meaningfulness within this hierarchy; it consists of a discrete construct built by ratiocination. The schema is the next subsuming level of cognitive meaning that encompasses concepts and structures their "contextual meanings," e.g., a common noun qua concept within the denotation schema. Schemata qua abstract interpretive frameworks are epitomized by the various scientific models and theories. At the apex of conceptual meaning, the reticulate represents the totality of semantikal structure within an individual mind, i.e., the implicit articulation of all universes of discourse. The reticulate is the "total meaning" that constantly informs wakeful thought, an articulated cognitive

universality always implicitly accessible in its relatively seamless aggregate to one's conscious purview.<sup>7</sup>

Metaphorically, ratiocination as the impelling power of understanding "moves through" that implicit reticular totality of meaning at every moment of cogitation, even if only an infinitesimal fraction thereof is available to our conscious attentive focus at a given moment. By means of this omnipresent totality of semantikos, a lifetime of learning implicate with creative imagination can be brought to bear sometimes serendipitously upon an immediate perceptual content to "fathom its deepest meaning." Thus, Archimedes cried "Eureka!" upon witnessing a "mere" rise in bath water level, in which that visual-cum-tactile percept was sublated into a solution of the theoretical problem of specific gravity.

## V. CONCEPTUAL MEANING AND ORGANIZATION

"Conceptuality" and "cognitive meaningfulness" were used above in an interchangeable fashion. This was not unintentional, for our working hypothesis is that *semantikos is conceptual in its inherent nature*. A simple empirical illustration of this is associative agnosia, in which perceptual ordering remains intact while the cognitive meaning of what is perceived is absent due to that pathology (in effect, disrupted sublation). Agnosia expresses a denuding privation of perception insofar as sensory contents are normally illumined by informative conceptuality and recognized by memorial elicitations.

Cognitive meaningfulness then is conceptual in substance and not perceptual as such, i.e., perceiving bereft of concepts is meaningless (Kant, 1787/1997, B15). Perceptual content is routinely *sublated*, i.e., made intelligible by being invested with semantikal import inside our conceptual reason. For example, the sensorial tones, melodies, harmonies, and rhythms of the Sixth Symphony are schema/tically ordered within our audition of Beethoven's compositional design; and tabulated, statistical empirical data originating in observation and experimentation are formulated propositionally and explained within schema/tic scientific hypotheses. *Perceptual content, insofar as it is sublated within conceptuality's orderings, becomes semantikos thereby, precisely to the intelligible depth of meaningfulness that is characteristic of our proprietary cognition called reason*. Perceptual phenomena transmuted into empirical facts by sublation subserve

<sup>7</sup> Regarding such accessibility, in linguistics it is a commonplace observance that there is an indefinite number of reasoned and reasonable responses that can be generated from an equally indefinite number of questions asked about any topic upon which the interlocutor is informed. This facility represents the capacities of schemata informed by the implicit whole of their subsuming reticulate, i.e., by the vast repertoire of past learning — articulated cognitive meanings — set within an inexhaustible engine of plastic inferential understanding.

scientific hypotheses for reason yet only directly inform immediate behavior for all infrahuman species' behaviors. "Conceptuality" signifies here the architectonic, abstract intellectual ordering among all domains of semantikos within an individual psyche, inclusive of sublated perceptual contents.

Inherent in the structures of semantikos is a complementary dual nature. *Articulation* denotes that initial ordering in which each elemental concept or sublated percept "receives its cognitive due" in the functional whole schema that it helps to form in semipermanent fashion. *Integration* designates the "dictatorial" subsidiary procedure subsequent to articulation: force-fitted applications of the schema's relatively inflexible interpretive parameters are imposed so long as the cognitive template itself, when once formed, remains rigidified without fundamental modification. The extreme instance of that integrative modus operandi is called curve fitting and was given its historical exemplar with Ptolemaic epicycles, when the geocentric schema finally became unfalsifiable due to such interminable ad hoc reasoning. Any and every given construct of semantikos is both articulated in its origination and integrating in the schema's subsequent state of dynamic equilibrium.

This means that when a construct of semantikos is first generated, all the cognitive elements contributing thereto "donate" their individualized warp and woof to that systematic, holistic unity established among them. After that coherent semantikos (concept, schema) has solidified into an equilibratory state comprising its constituent gestalten, further "incoming" perceptual or conceptual elements are "interpretively channeled" into that relatively fixed framework. All structures of semantikos admit of this articulate-cum-integrate duality, including the overarching reticulate itself. The qualification of *semipermanence* alludes to the ever-present potential function of re/articulation, namely, to reorder extant semantikos at any level by busting up those fixed equilibria through acts of re/articulation called *creativity* in the vernacular, if the reordering be of original, comprehensive, and systematic conceptual compass.

## VI. THE FORM OF SEMANTIKOS

The constructive form of cognitive ratiocination is the proverbial "path of least resistance," viz., the simplest directive pathways manifest throughout perception and conception (Kohler, 1947; Vernon, 1937). Whereas the Gestalt Psychologists treated of perceptual orderings inter alia, ex hypothesi only its homologue in conceptual formation constitutes semantikos as such. Otherwise inherently "meaningless" perceptual contents obtain such intellectual import solely by their sublation into those very concepts and schemata. Thus the meaningful utility of apples for

purposes of cider making is "seen" only by conceptual sublation of the red phenomenal objects; while associative agnosia renders one "blind" to such practical significance by divorcing perception from conception.

Ratiocination qua ordering principle tends to generate or assimilate maximal coherence among constituent cognitive gestalten. The essential character of its constructive process is subsequently manifest in the "formal goodness" (Pragnanz) of semantikal configurations. The resultant cognitive meaning shows an imprint of its generative cause. But what is this form? A hint is given by the parallel nature of percepts' holistic coherence and harmony, epitomized in the structured visual field. In Gestalt Psychology the various forms of perceptual organization, usually numbered at six, are grouped under a *minimum principle* (Kohler, 1947), termed the *law of simplicity*, denoting the simplest ordering assumed by the sensorial gestalten in a phenomenal sensory field. *Simplicity, coherence, inclusiveness, continuity*, and like terms bespeak that phenomenon we observe in all our cogitation, namely, a tendency of thought toward an economy of ordering, whether in language, conception, or hypothesis formation. Poincaré (1905/1952) assessed scientific hypothesizing in this light when he asked how it so inexorably obtained that out of all possible hypothetical scenarios, the great creators tend to alight upon only those few that are maximally "attuned" to the problematic in question.

But if coherence of gestalten effected by the minimum principle and formally expressed as Pragnanz is the essence of both perception and conception, this implies that that shared, more fundamental type of ordering at bottom of them both is contrary to the traditional epistemic distinction between their kinds. Indeed, there should be posed a question mark regarding the routine interaction of perceptual and conceptual modes of ordering, which unthinkingly we so take for granted. For where is there any connection or interaction that must necessarily obtain between concrete sensory fields and abstract cognitive paradigms? Simply because of their habitual pervasion throughout our experience via sublation, that mutual implication appears so natural as to pass unquestioned, excepting afflictions of clinical associative agnosia. A more penetrating suggestion would be that they have a shared ordering type, viz., the minimum principle that somehow allows for reciprocal informing of percepts and concepts and thereby underlies their cross-pollination. As examples, visual images qua embodied cognitive meaning can "mean" grand solutions of theoretical problems to receptive creators as Archimedes and Newton (Koestler, 1964/1967); and similarly Einstein cited vague kinesthetic sensations as mediating his insights.

Ex hypothesi, then, perception and conception would share the same minimum principle organon but

as differentiated applications of that common organizing form adapted to their specific contents' relative complexity, sensations versus abstractions – though again perception as such is inherently meaningless without its conceptual sublation, for only conceptuality constitutes *semantikos*. The cognitive homologue of spontaneous organization within organized perception would be that maximal coherence qua *Pragnanz* among concepts, hypotheses, schemata, paradigms (meta/schemata), and within the reticulate itself. We may postulate many such homologies between perceptual orderings and those of conceptuality's, using the assumption that it is the minimum principle that effects those goodly formed constructs. Various such homological instantiations of *Pragnanz* structures may be plotted.

Further, our reason manifests a proprietary ratiocinative compass that is "one" in expression throughout all the domains of its semantikal applications. Reason has a given intellectual subtlety indeed profundity that it may train on any subject within its proprietary cognitive purview. Thus music, speech, and conceptual comprehension in general share the same semantikal "width and depth" of abstract, systemic, and generalized meaning, which lesser species intrinsically cannot "fathom."

The exemplary culmination of our ratiocination's unitary organizing process operating within its many universes of discourse constituting reason's vast dominion is *insight*. As examples: (1) Ratiocinative insight manifests most fabulously in the context of creative and assimilative hypothesis formation. Perceptual data may also play a part in inducing the articulation of such conceptual schemata, as statistical and tabular formats would represent the sublated sensorial content and referent of empirical hypotheses. (2) There is even rational "sensorimotor insight" as when a musician "in a flash" has finally coordinated the fine-tuned afferent-cum-efferent, tactile and muscular execution of a difficult passage, a skill that is implicate with a paradigmatic matrix of music understanding. (3) Contrarily to musicianship, the sensorimotor coordination of toddlers first learning to walk is of course not an expression of rational insight insofar as their inchoate reason lies secluded in undeveloped potentiality. Such an elementary attainment would nonetheless constitute a genuine instance of early "ontogenetic insight," geared toward eventual clairvoyant and providential purposiveness of rational adulthood that uses bodily deployments toward its goals in the temporal world.

Thus all exhibitions of rational insight show one common *formal* capacity of ratiocinative ordering that articulates abstract concepts and schemata; while its more generic minimum principle orders perception and aesthetic understanding, inter alia. Within the various sciences reasoning's typical systematicity is too evident

to require elaboration, as assimilative and creative insight in (say) chemistry is no different in kind from that within physics respecting its essential logical, deductive, and comprehensive structural nature; their difference lies only in variegated contexts of application.

## VII. SCIENTIFIC PROGRESS AND ITS TRUTHS

An illustration of definitive veridical *semantikos* vindicated by no absolute certainty may be given. The most plausible hypothesis concerning Plato's recounting in *Timaeus* of the Atlantis city-state is the perfectly naturalistic one that identifies it with the Aegean island of Santorin during its pre-Hellenic Mycenaean period (Galanopoulos and Bacon, 1969). Literary, archaeological, geographical, geological, chronological, and cultural evidence demonstrably converge in favoring that thesis. When such cohesiveness is obtained among "the facts" with their varied and sixfold qualitatively unique dimensions, it might even be said that such objective consilience is "too pretty" not to be true. In general, this signifies that *maximal cross-corroboration of the constitutive concepts ("facts") determines the probable truth of a successful hypothesis*. It is this relative best-fit that lies behind the plausibility of Ockham's razor and related aesthetic and organizational criteria qua *Pragnanz's law of simplicity*. Such criterial truthfulness and explanatory parsimony as Ockham's, then, would represent the conceptual expression of that same minimum principle ordering manifest in perceptual contexts as were investigated by the Gestalt Psychologists (Ellis and Koffka, 1950; Koffka, 1935; Kohler, 1947).

Semantiks can readily explain how relative veridicality of individual working hypotheses can manifest yet also how they can be superseded when progressively better models and theories are developed to overcome anomalies or to attain to greater explanatory compass. The better model is such because of its improved evaluative fit, i.e., the more optimal coherence among its constituent conceptual gestalten, relative to other models exhibiting inferior cohesion. Scientific progress consists of ever more comprehensive and accurate explanatory theories' internal consilience, which ultimately must break down at the limits of their conditional applicability. Those intellectual limits are hurdled through so-called paradigm shifts, namely, re/articulative creations of scientific schemata within or across squared, triangulated universes of discourse.

The extended epistemological implication is that the very constructions of hypothetical understanding as inherently open-ended forbid positing any "final comprehension." In other words, it is not merely a contingent fact that science has never yet attained to any irrevocable system of explanation; it is a principled impasse, at least insofar as the cosmos itself has no bottom to its intelligible substrate (Bohm, 1981). The

very function of ratiocination is to make the structures of cognitive meaning as concepts and schemata more mutually informative by their triangulated, squared desegregation; to broaden and order more coherently and comprehensively thereby our rational conception as a whole. Triangulation and sublation appear somewhat analogous in this sense: sublated perceptual contents, otherwise intrinsically meaningless yet when so transmuted by conceptual semantikos attain to empirically relevant factual status fit for hypothetical, scientific interpretation. Similarly, triangulation disambiguates not outright meaningless gestalten but instead ambiguous deliverances, both perceptual and conceptual.

The veracity of a semantikal model (concept, hypothesis, schema) would correspond to its intelligible object "out there" by dint of a *proportion* (Latin *ratio*, reason) between that construct's internal logical consistency and its objective referent's equivalent simplest form that that construct attempts to map. As Pragnanz's structurally coherent "goodness" obtains qua logical and evidential consistency within the interpretive model, so that inhering consistency in those intellective relations ideally obtains "proportionately to" the real world's intelligible structures and events thus conceived. As an initial shorthand expression of this "equal ratios" postulation, that proportion is sketched as follows. *Ideal hypothesis: law of simplicity = intelligible reality: least action.*

With this Semantikal epistemology, there is no need for recourse to ontological and quasi-mystical reputed identifications of gnostic knowing "in here" with its *certainly known* referents "out there."

A conceptual schema and its conceived "object" (intelligible relations) might then be disjoined spatiotemporally as mental understanding from its intelligible objective -- as neural sensory cortices are discontinuous with their perceived distal stimuli -- yet still manifest progressively attained proportionate correspondence in (simplest) kind and degree between successive working hypotheses and those intellectually comprehended referents. Thereby objective and veridical knowledge become established in stages by scientific and cultural creative advances. Thought and reality's ontological and epistemic disjunction would also explain why understanding can never be absolute but only "approximately correct." Knowledge is ever essentially tentative as the history of science documents, insofar as all scientific models cognitively "in here" can be only an hypothetical and probabilistic mapping of their intelligible reality "mirrors," never constituting their identity "out there."

Fundamentally, ratiocinative understanding and its understood reality are in formal coherence within an ontological potentiality that becomes progressively actualized through creators' insights and cultural institutions' teaching thereof. Accordingly there would be

an identity of sorts obtaining between "knower" and "known." The "preestablished harmony" between mind and world makes it possible for cognitive ordering to often successfully conjecture, hypothesize the most plausible interpretation of reality's many natural dimensions. Thereby the semantikal structures of our cognition, generated within the individual and collective understanding, attain to a holistic Pragnanz within conceptuality in toto, here called the reticulate.

Understanding as ratiocination is a *dynamic process* and not *immutable stasis* that proximately parallels the relations had among the intelligible objects and events composing universal cosmos thus intellectually squared. It may be seen by inspecting the nature of this correspondence that the hypothetical constructions generated must forever be approximate and successively unfold -- and never end -- via creative insight and culture. Again, such cognitive approximations are precisely what are observed both in mundane thought and in scientific chronicles.

Kuhn (1970) has distinguished the stages of hypothesis formation, consolidation, stagnation, and eventual overthrow of paradigmatic sciences. Often the initial impetus to revolutionize established theories comes about through recognizing confounding and intractable anomalies. Ptolemaic astronomy degenerated into a fixed universe of discourse that held incontestable sway over the catalogued astronomical data in its throes. That geocentric discourse epitomized the function of cognitive integration qua pejorative curve fitting, i.e., interpretive force fitting at its most hidebound. A creative act of Copernican insight liberated those empirical facts from the closed dynamics of the geocentric paradigm and by that act of re/articulation established a new schema/tic contextual meaning for those facts, namely, heliocentrism. Even more generally, the ousting of geocentrism paved the way for re/articulating the more superordinate medieval Weltanschauung that by ethos subsumed Ptolemaic astronomy's strictly astronomical universe of discourse. That Renaissance intellectual revolution pertained to a renovated reticulate, the highest semantikal structure within an individual mind; yet also was pertinent in a figurative sense to the collective psyche when applied to institutionalized acculturation within Western civilization.

Kuhn struggles to account for the transience of scientific knowledge within his implicit gnostic epistemology. For example, it may be asked that if the entire series of scientific paradigms be incomplete, how might veridical objective knowledge ever become attainable. With Semantikal epistemology there is posited an inherent open-endedness of cognitive meaning, read into and out of the intelligible universe (cosmos) that is admitted to be inherently inexhaustible - - re/articulated interpretive paradigms are necessarily incumbent forever. We are accordingly obligated to account for the objectivity of verified hypothetical

schemata (theories) that manifests at every stage of progressive science, when construed solely as vindicated probable semantikos, devoid of fictitious certainty.

How is such objective and confirmed ratiocination cognitively possible, given that ex hypothesi there is no ulterior and absolute truth determining function above that of ratiocinative understanding? J.J. Gibson (1966) showed that perceptual ambiguity is perfectly resolved in the real world of sentient organisms by multiple views of an object, determinately triangulated through locomotion and orienting movements of the head and sense organs. In these contexts, the perceptual best fit of a given scenario before us is a function of disambiguating the sensorial gestalten by means of those multiple vantages.<sup>8</sup>

More comprehensively, the so-called "cognitive" (perceptive) map (Hochberg, 1964) would be a phenomenal chart of such individual articulated perspectives within an individual mind, an implicit higher order perceptual construct qua field mapping of the percepts' collectivity that tacitly and informatively guides current environmental negotiation. By extrapolation, there is posited here a homological function for cognitive paradigms ("universes of discourse"), whose inclusive concepts and schemata are abstract templates rather than concrete ones, yet whose minimum principle has a common form with perceptually organized "cognitive" maps. *Ratiocinative hypotheses have been, when sharing perception's ideal Pragnanz format, most efficiently triangulated, disambiguated, and rearticulated by multiple interpretive "perspectives" within systematic cognitive multitasking, to bring about the maximally coherent schemata and hence probable truth.* For example: the present Semantiks model itself represents such an attempted systematic squaring of the extant cognitive sciences toward a more consistent paradigm regarding the nature of reasoning.

The neural isomorphism of ratiocinative understanding would be sought by using the specified parameters obtained at this functional level of semantikal description. Contrariwise, if indeed knowing be not a real cognitive function then no neural substrate could ever be found, supposing any viable gnostic descriptive model might be devised for that purpose. Any attempt to plot neurological correspondences therefrom would be analogous to Ptolemaic curve fitting of astronomical observations into the geocentric paradigm, and that after the Copernican paradigm had been made known.

Semantiks has the promise of application to issues in cognitive psychology, just as the non-naturalistic, epistemic gnosticism apparently has no

such potential. The cognitive phenomenon wherein a perceptual search space is narrowed by verbal (discursive conceptual) instructions, after which the understanding does not follow a serial order of tracking but rather is attentively narrowed to a *relevant* focus, may be seen as an expression of constraining the parameters of semantikos; relevance being no other than directive and circumscribed cognitive meaning. How such is accomplished might best be researched by determining how the total understanding comprising both perception (sensory items) and conception (verbal instructions) is able to configure conscious attentiveness to bring about such relevant selectivity.

Finally, the concept of the schema has had a long and useful employment within cognitive psychology, in terms of accounting for the consolidation of memories via *meaningful* ordering and their efficient retention and recall thereby (Bartlett, 1932; Mayer, 1992). By my use of this term and construct, I reference precisely that same cognitive function though put into the more expansive interpretive context of Semantiks. Indeed the nature of memory as organized within schemata may be the best starting point for investigation of cognitive meaning inside the understanding considered globally, for memorially based learning constitutes the meaningfully organized repository of articulated semantikos in its essence. Learning is nothing else except the understanding in an essential action of assimilation of cognitive meaning, while memory is the organization, storage, and recollection of relevant meaning; relevance being meaning appropriate to a given context of schema/tic interpretation.

The above proposals are meant as adumbrative systematic modeling of interrelated semantikal phenomena involving cognitive meaning, ambiguity, meaninglessness, perception, and conceptuality inter alia. The confirmatory data for this interpretive scheme of Semantiks are obtained from various universes of discourse, including music comprehension (e.g., Pragnanz "closure" of ap/perceived dissonant tonal ambiguity, obtained through modulation's key resolution); humor apprehension (irony, e.g., the climaxing punchline as an inversion of meaning); and hypothesis formation (all the sciences constituting but one conceptual, theoretical meaning-type).

What is needed are not so many more "new facts" as the reinterpretation of such familiar ones. That means investigation of traditional epistemological and psychological problems in light of the phenomenon of cognitive meaning, rather than fixating its subclass of verified propositional and theoretical meanings as with the traditional gnostic philosophers' obsession with that inveterate hobbyhorse called "certain knowing." (Though investigation of Dewey's "isles of truthful meaning" qua hypothesis verification remains a legitimate topic for continued cogent epistemic investigation, though

<sup>8</sup> Cf. Helmholtz's "perceptual inferences": percipients tend to see the most likely case of what is actually out there (Gregory, 1970).

situated now in a Semantikal orientation.) This involves an analysis of such cognitive parameters as meaningfulness, ambiguousness, and meaninglessness along the graded spectrum of semantikos in its myriad manifestations. More generally, it means recognizing the oceanic intelligible meaning that has always been in front of all rational beings at every moment of their wakeful conscious understanding, though we did not attentively focus in proper fashion and identify let alone emphasize its true monumental significance.

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