THE PHILOSOPHY OF C.C. HENNIX[1]

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summary for a class given December 3, 1995

C.C. Hennix was born in Sweden in 1948. The period in which Hennix's work can be seen as a comprehensive vision begins in 1976. It is marked publicly by the two series at the Moderna Museet in Stockholm, with their catalogs *Brouwer's Lattice* and *Notes on Toposes & Adjoints.*

In the present summary, Hennix's work will be presented from its apex: as a venture in elevated experience, framed in terms of recent positions in foundations of mathematics and theoretical linguistics. The body of work extends seamlessly from theoretical texts to poetry, painting, installation art, and music.

From the early Seventies, Hennix experienced an assault on intellectual integrity from two opposite camps. At one extreme was big science and managerialism: a camp which, as will be noted below, wanted *man's logical mind* to be *an embodiment of a Darwinian struggle to maximize profits.* At the other extreme was a "humanistic" opposition which blamed the faculty of reason for the darkness which has supposedly overtaken civilization (including environmental pollution).[2] Hennix's response was that civilization will not forego reason, and that we cannot forego it. (The intrinsic majesty of secured certainty; and its indispensability to the maintenance of preferred states. See below.)

Hennix's work marks a change in direction for the endeavor called "philosophy." **Hennix's philosophy is an epistemic procedure aiming to conduct the subject to elevated experience.** Hennix's code-phrase for a "high" is a sustained state of awareness—a phrase which acknowledges La Monte Young's Theatre of Eternal Music. The state of consciousness that matters for philosophy is an *exceptional* state, and it has to be *attained.* Hennix delineates this state with a logical theory.

How, you might say, is Hennix entitled to assume that mind is structured algebraically? The precedents are there; it's just that the laity never sees them. The epistemology of Buddhist authors in Sanskrit. The conviction of logicians that their science comprises the laws of thought, which was explicit in Boole and Frege. Dedekind's proof that the universe of thoughts is a "real" infinity. Brouwer's conviction that his mathematics comprised a freedom of thought actually transcending language and logic. The twentieth-century "discovery" that natural language has an algebraic structure. Hennix accepted the claims of the savants that they delineated reality *in general.*

Hennix seized on topos theory. After Grothendieck, geometry and logic are indistinguishable. A "topos" is both a space and a theory, a world in which mathematics can be carried on in an intuitionistic and constructive way. In Hennix's work, a topos

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[1]When 1995 remarks of Hennix are cited, they come from phone conversations c. December 1, 1995.—HF

[2]The most graphic illustrations of this stance appeared in the feminist literature after 1976. Kathy Overfield, "Dirty Fingers, Grime and Slag Heaps: Purity and the Scientific Ethic," in *Men's Studies Modified: The Impact of Feminism on the Academic Disciplines,* ed. Dale Spender (1981), p. 237. Sally M. Gearhart, "An End to Technology," in *Machina Ex Dea,* ed. Joan Rothschild (1983).

becomes a cleared mental space in which thoughts are "fresh" and uncoerced, and their genealogy is transparent.

Hennix proposes accession to a psychic enclave (a "topos") such that:

One perceives the world—what is "there"—under the aegis of novelty and fascination.
One's thoughts are novel/fascinating—and uncoerced.
The genealogy of one's thoughts is transparent.
One has collateral series of thoughts; they proceed unimpeded by coercion or error.

Ironically, one of Hennix's heroes, Wittgenstein, was probably philosophy's most vehement opponent of the grading of human comportments as good or bad. (The last pages of *Tractatus*; also "Wittgenstein's Lecture on Ethics." Hennix prominently cites the "Lecture on Ethics," and yet did not perceive its most provocative features accurately.) Wittgenstein steps forward as the quintessential exponent of high modernism and high positivism. Positivism must destroy all absolute value, arriving at a reality which is uniformly banal.

Shortly thereafter, however, Wittgenstein began to defend common-sense value judgments—even equating philosophy itself to "tidying up a room," clearly an aesthetic judgment.[3] All the while, Wittgenstein seemed unaware of his own partisanship for science's norm of integrity.

Does Hennix's insistence that only results from "highs" matter place Hennix outside of Western philosophy? Yes, because Western philosophy judges that intoxication = hallucination = falsehood. The only philosophical paper I know of which was equable about psychedelic drugs was J.R. Smythies, "The Mescaline Phenomena," *British Journal for the Philosophy of Science*, 1953, p. 339.

Hennix's endeavor had a number of major guidelines.

°   To vindicate Flynt's concept art, to demonstrate that it was substantial. All the while, Flynt's presentation of concept art in 1961 was entirely syntactical. Hennix wanted a semantics-rich concept art.

°   Freedom of interpretation of abstract structures—a cardinal tenet of the "structure revolution." (See below.)

°   Computational linguistics' principle of analysis by synthesis. You succeed in understanding a communicative medium if you duplicate its results with a generative program.

°   Following the lead of the structure revolution, Hennix wished to discern universals. To see to the end of the universe. A basis from which the synthesis of all elevated states would follow.

°   Hennix committed to minimalism, interpreting it logically. To do everything with a *meager repertory*. It was not obvious that one could get important results in this way. (Simultaneously, Hennix exposed significant paradoxes.)

°   Hennix embraced logical justificationism: it is not permitted to continue, unless one has a proof that one is error-free. Already in 1976, Yale art professor Robert Horvitz and

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[3]"Wittgenstein's Lectures in 1930-33 III," *Mind*, 1955, pp. 16-27.

Swedish mathematical logician Torkel Franzén objected to this feature of Hennix's work. Horvitz wrote that Hennix's justificationism was an unconscious expression of Hennix's authoritarian personality. Franzén expatiated in a similar vein.

Hennix's case in favor of justificationism can now be understood as follows.

i) Justificationism is the appropriate way to strip all the clutter from thought, since the clutter has the character of error.
ii) To sustain or repeat an elevated outcome requires a self-understood method. Improvisation, winging it, is not good enough.

An example of a rigorous method supporting an ecstatic esthetic, which lends credibility to Hennix's approach, is Islamic ornamentation.

Returning to an earlier observation, then, Hennix posited that no serious endeavor can dismiss reason. In fact, it's much more than advocacy of reason in the abstract. Hennix spoke as a partisan of the logic profession, with explicit reference to Dharmakirti and the medieval logicians such as Buridan and Scotus. Hennix believed that figures such as Cantor, Frege, Hilbert, Wittgenstein, von Neumann, Tarski were legitimate geniuses.

Hennix unfolded the endeavor by employing many sources—paraphrasing those that were academically authoritative—and weaving them together. Hennix worked like a botanist, grafting existing species to produce a hybrid. What was profoundly novel was the subject-area which Hennix wanted this hybrid to account for—the subject-area which has just been outlined.

Hennix surfed the sources, one could say. That is, Hennix's use of the academically authoritative sources involved major stretches. Tierney complained that he and Lawvere had worked so hard to overcome the early vagueness of topos theory, and Hennix restored that vagueness.[4] From another angle, a Greek philologist might argue that Parmenides did not say, and could not possibly have meant, what Hennix ascribed to him.

If we get stuck at the outset in a debate over whether Hennix had the right to surf the sources, then we will never see the new landscape which Hennix secured. Let us agree that Hennix appealed to the sources not for purposes of scholarly reconstruction, but to catalyze personal ideas.[5] It is not forbidden, if you make it clear that that is what you are doing.

The difficulty in introducing students to Hennix is that each of the sources Hennix invokes is an arcane cultural "revolution," or wrenching extremism, in its own right. The attempts made by the Sunday supplements to popularize highbrow culture have missed these developments, or have been altogether inadequate to them. Even the educated laity will not have heard of them. Or: to know Cage or Young or Parmenides only as a name is not nearly enough. You have to be taken through the "dislocations" step-by-step.

• Cage's revolution in the early Fifties
• La Monte Young's crisis of the new of 1960-61

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[4]Conversation with Tierney, reported by Hennix to Flynt in 1983.

[5]In all fairness, it can be argued that Hennix saw lessons in the sources which are arguably there, but which conventional scholars do not see because they are mediocre, because they confine the authors in a workaday setting. If one chooses to take Parmenides seriously, then he is wrenchingly extreme. Similarly with Brouwer. To make these authors "workaday" does far greater violence to them than a heroically creative interpretation does. Beyond that, an entire field such as "medieval philosophy" is sold short by scholars because their view of what deserves attention is so mediocre.

- La Monte Young & Marian Zazeela, Theater of Eternal Music with Ornamental Lightyears Tracery, c. 1969-70
- Young's sponsorship of Pandit Pran Nath in the U.S., beginning in 1970[6]
- Flynt: concept art and *Blueprint for a Higher Civilization* and "Proposal for a Geniuses' Liberation Project," 1961 - 1975
- L.E.J. Brouwer and Intuitionism
- The *structure revolution* in twentieth-century exact science. From Hilbert and Gödel to Grothendieck, Lawvere, Montague, and Lambek's reformulation of Montague grammar in topos theory.
- Yessenin-Volpin and ultra-intuitionism
- The convergence of laissez-faire economics and physico-mathematical science. Graphically explicit in economics discourse; but not advertised to the laity by economists, at least not in a critical way. For that reason, this most important theme in intellectual history is unknown to the laity.[7]
- Parmenides
- Indian grammar and logic
- Japanese Buddhism and Noh drama

Particular developments which should be mentioned are:

- Wittgenstein's fusion of rigor and mysticism in the *Tractatus*
- Walter De Maria's minimal sculpture
- Thom, not only the catastrophe theory, but the linguistics
- The solution of the four-color problem in 1976 by Appel & Haken

Again, Hennix surfs these sources, turning them in a way that exposes a connection others didn't see.

Some remarks on what Hennix took from the scientific sources.

The principal scientific revolution of the 20th century is not quantum physics, but the structure revolution. *Structure has priority over substance or things.*

The fraying of mathematical reality. Quantity becomes a relative concept. It is not known which of the mathematical worlds is the one we live in. This direction is carried furthest by Yessenin-Volpin.

So Hennix anchored in some of the Establishment's own "revolutions" or evolutions:

°The continuum is not built up from its "points." Cf. intensionality.
°Quantity becomes a relative concept.
°Intuitionistic logic is the internal logic of a topos, a significant vindication for Intuitionism.

Hennix seized on freedom of interpretation, a cardinal tenet of the structure revolution, as permission to propound new ideas in the guise of tributes to the masters— wearing their respective authorities as successive masks.

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[6]Pandit Pran Nath has had two authorized records published. "Pandit Pran Nath: India's Master Vocalist," Shandar SR 10-007, 1971. "Ragas of Morning and Night," Gramavision Records 18-7018-4, 1986.

[7]The crowning example was Paul Samuelson's Nobel Memorial Lecture of 1970. The final version of this lecture was published in a 1975 issue of *Synthese* devoted to optimal control theory, etc. Hennix saw some of the references in a footnote in my "Proposal for a Geniuses' Liberation Project."

In all fairness to Hennix, results which get into the history books as triumphs of science are usually built on by later generations, not discarded as charlatanism. New subject-areas are treated by transferring old analytical machinery to the new landscape.

Today Hennix explains the use of the masters in the Seventies in the following terms. People such as Thom and Lacan and Lawvere were "hot," and they said that their work delineated reality *in general*. Hennix thought that the intellectual public would respect an enterprise which proclaimed its message through the masks of the masters. *Prestige-skimming*. Hennix offered the intellectual community a soft landing: telling them that they did not have to disavow existing authority and existing reputations in order to enter the new landscape.[8]

In recent conversations, Hennix says: the work was not embraced by the public because the academic aspirants were bluffing outrageously about their personal goals. A dispute in the intellectual arena was not the sticking point, because Hennix could have gone a long way toward winning such a dispute. It was not a philosophical snag but an extra-intellectual snag.[9]

I have repeatedly said to Hennix, how could you have relied as you did on Thom, Lambek, Wheeler, MacLane, Mathias, Finkelstein, Montague, Lawvere, Tierney, Geiser, Lacan—when the community in which they were comfortably ensconsed refused to give you respect? (The public charade gave the impression that these gentlemen were given a seat at the table simply because they showed that they had something to say. Yet the same courtesy was not extended to Hennix.) And what about the lesson that the celebrities' day in the sun came to an end—that other sensations superseded them? (Hennix's synthesis does not incorporate chaos theory, deconstruction, Chaitin, and linear logic, and one wonders if the only reason is that these fads appeared after Hennix left school.)

Hennix answers my question by shifting the focus from the academic masters to "the audience." "I didn't expect Lawvere or Tierney to welcome me." Evidently Hennix made an extremely erroneous extrapolation from one person, Dennis Johnson. Johnson was a creative mathematician who had credentials in avant-garde music and had had installation art at the World's Fair in Osaka in 1970. He apparently cared nothing for career or money. In a different way, Tony Conrad or myself could have given the same impression. La Monte Young must have seemed surrounded with scientifically literate people who were also denizens of the avant-garde. Hennix thought that the American woods were thick with scientifically literate bohemians, people who knew as much as Lawvere or Montague but lacked the academic appointments. Hennix says that these expectations of the audience were the biggest miscalculation.

We see today that Hennix's endeavor violated a number of profound cultural taboos.

It is taboo for an exact scientist to delve empathetically into psychedelic experience and ecstatic states.

It is taboo to be combative about the convergence of laissez-faire economics and physico-mathematical science—construing that convergence as a disgrace to the method of physico-mathematical science.

It is taboo for anyone to embark on a disinterested, unrestricted inquiry which is cognizant of the "pinnacles of cultural achievement," yet is not an orchestrated grab for success. Again, Hennix's greatest disillusionment concerned the degree to which the academic aspirants were bluffing about their *personal goals*.

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[8]I can testify: if you tell the public you start from zero, then you will have no audience. Intertextuality is not a state of affairs; it is a conformist command.

[9]To have Hennix say this in 1995 is extremely significant to me. It adds vindication to personhood theory's endeavor to develop a non-intellectual epistemology.—HF

Hennix's career can be divided in periods.

Before 1976. Hennix is primarily a composer, works at the electronic music studio in Stockholm, lives with Pran Nath and attends classes at Berkeley, writes the Mills College course proposal of 1973.

1976 to c. 1980. Hennix proprounds the first wide-ranging body of work, the two series at Moderna Museet, "Algebraic Esthetics" at Redbird Gallery, the Kitchen concert, "Intensional Logics for Intransitive Experiences," "Parmenides on Intensional Logics," the abstract Noh dramas, the 4-Color Maps, the cosmological poems, etc. etc. At the beginning of this period, Hennix is invoking Flynt in a very premature way. After the meeting with Flynt in New York in summer 1976, Hennix deletes all references to Flynt from the *Toposes & Adjoints* corpus.

1981 to 1985. Hennix on faculty, S.U.N.Y. New Paltz. Hennix writes a number of texts responding to Flynt's agenda in a considered way. Yessenin-Volpin announces the Gödel-Wette paradox. Publication of *Wch Way* 6.

1985 to 1990. Last period in the U.S. — pre-Socratic set theory, continuing collaboration with Yessenin-Volpin on the Gödel-Wette paradox, publication of *Io* #41, turn to French theory.

1990 to present. Return to Europe. Hennix affiliates with Lacanianism, especially in public appearances; while continuing to assist Yessenin-Volpin editorially.

Brief notes on themes in Hennix's work.

Working with tones and oscillators, Hennix generalized the concept of language to the waveforms — the invisible mathematical representations of sounds, and visual representations of waves on oscilliscopes.

Transferring the Principle of Sufficient Reason from philosophy to music. There has to be a sufficient reason to go from one note to another.

In 1976, Hennix had a Gagaku (oboe) band. Each musician was to play independently, was to write his own part book, a notebook on how to get high via music. It was also supposed to be based on *Hekiganroku* (100 model subjects).[10] The band was called "The Deontic Miracle" because they cheated the odds against having the piece performed. A fragment of the score appears in *Io* # 41, pp. 288-289.

Hennix sometimes speaks of language as a geometrical problem. First, the geometry of the grapheme. Carnap had said that syntax is combinatorial geometry. Symbolic forms. Waveforms comprise a language. Secondly, syntax is a geometry. Category grammar. Lift Montague grammar into category theory and get a topos.

The path to elevated experience begins with pristine perceptions which are not the result of rational calculation. But you cannot get beyond that by accident or happenstance. You can't sustain the ecstatic content by winging it. You must have an algorithm to go forward. Hennix wanted to see to the end of the universe to the "universals."

The diagram of the Creative Subject, the idealized mathematician — $\Delta(\Sigma)$ in *Notes on Toposes & Adjoints.* The bottom row consists of your noemas, your intensions—

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[10] The Japanese translation of Yüan-wu's *Pi-yen lu.*

languageless, pristine perceptions. Then there is a rational working out process. Each time you remember an intension is indicated by bracketing. You add brackets. When you come up all the way you've lost the original connection that was established. The top row is a union of remembered intensions.

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It is not the purpose of this summary to offer a critical response to Hennix's work. There is not much point in disputing a body of work which the public does not yet know. And I already wrote one major response to Hennix.[11] On the other hand, there is one aspect of the texts which Hennix circulated in 1979 which must be mentioned. Hennix stressed that the sensitive soul confronts the mundane world helplessly, and can only protect itself by retreat—by silence. In fact, Hennix presents a mystique to the effect that the pristine contents are incommunicable—an opposition to sociality, on the grounds that sociality can only be injurious.

Also Hennix presents a dismissal of ordinary language—on the grounds of a positivist-inspired logicism (Brouwer, early Wittgenstein, Tarski). The dismissal was hasty, to say the least.

When I was trying to edit Hennix's work in the early Eighties, I found these positions so tendentious that I couldn't ask my readers to accept them automatically. They had to be confronted. What follows is adapted from 1981 texts in which I characterized Hennix's position.

Hennix's "Intensional Logics for Intransitive Experiences" and "Parmenides on Intensional Logics," both from 1979, imply that at some point in infancy, the self accedes to a "stream of consciousness" which is flawless and complete. Beyond that, the entire indoctrination produced by contact with other people has only injurious, debasing consequences. There is no growth, no elevation produced by engagement with other people—no richer synthesis produced by the self's struggling intake of what other people thrust upon it. Growth comes not from triumphing over adversity, from getting the upper hand against the debasing status quo and transforming it to a higher stage. Rather, growth comes from never experiencing adversity or the communal status quo at all.

Consider a consciousness that desires to preserve its innocence and so rejects the impurity of action on the mundane world. What is the lack manifested here? [Hennix's phraseology makes authenticity a lack.] One thing is clear. The innocent consciousness lacks the persistence to externalize itself. One lacks the power to **make oneself an autonomous doer in the world and endure mundane existence without refuge in a false inauthentic consciousness.** Given an innocence which is too weak for autonomy, the result of the refusal to be impure must be refusal of communication and flight into an inner silence extinguishing the terms belonging to the natural language — because *the projection of deteminations* on objects, relations, and processes *by ordinary words* makes for weakness.

I found myself adopting the opposite of some of this as a slogan: as the emphasized passage suggests.

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[11]Critical Notes on the Person-World Premise, Part V (research done in 1981; final text 1993).

C.C. Hennix
ENCYCLOPEDIC GLOSSARY

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(Definitions specific to Hennix are italicized.)

Intuitionism Brouwer propounded a mystical view in which the impulse to science, which begins with counting, was called the "fall of man." Mathematics was to be a languageless solipsistic activity in which truth was identified with possession of a proof. Proof by contradiction was held to be invalid when the subject-matter is infinite. One of Brouwer's main tenets was that the continuum is not built up from its "points." He gave a proof that classical analysis is inconsistent, which hardly anyone takes seriously.
  Intuitionism was subsequently formalized by figures such as Heyting. The academic Establishment created a counterfeit of Intuitionism called constructive mathematics. Long regarded as eccentric, Intuitionism began to be vindicated when topos theory, a recent candidate for foundations of mathematics, was found to have an internal connection to intuitionistic logic and constructivism.

Creative Subject Brouwer's idealized mathematician. In the formalized version, the Creative Subject is an epistemic operator. *Monotone increasing consciousness.*

choice sequence Brouwer's method for obtaining the continuum

Brouwerian lattice the dual of a relatively pseudo-complemented lattice, represents the intuitionistic sentential calculus of Heyting

universal algebra not an object, a topic: the study of finitary operations on a set — emphasizes free algebras

arrow A structure-preserving function, also called transformation or morphism.
  In a topos (q.v.), arrows become the logical operations.
  Yessenin-Volpin: a denotational connection.
  Hennix merges these meanings to obtain: an invisible connection governed by a logic. Indeed, an arrow establishes a denotational connection. Arrows participate in concept formation processes. Knowledge of arrows is the specific awareness potential that forces us to take the denotational connections into attention at the site at which it occurs.

arrow wind *the cosmic wind of invisible connections*

diagram a set of arrows and points such that each arrow has a unique initial point and endpoint

exact sequence a sequence (linear diagram) of morphisms such that the image of each morphism is the kernel of the next morphism

empty arrow The arrow pictured to the right of this sentence.

category The totality of all structure-preserving functions of the mathematical objects of a given species.
  ? A category is a map of the streams developing in a mind Σ when Σ reflects over the concept formation processes that actualize the initiated potentials and currents in consciousness.

functor a morphism (arrow) in the category of categories

natural transformation Commutativity: a functorial morphism between functors such that the accompanying diagram commutes.

adjoint (functor) One of a pair of inverse functors which establishes a "moral" equivalence. Commutativity: the functor commutes with all generalized limits or colimits of the domain and codomain categories. A representation which, in effect, discerns a unique root of the function structure.

final object e.g. a singleton

Galois connection A pair of adjoints between two categories which are partially ordered sets.

sheaf a set varying through space

site a category with Grothendieck topology, defined in terms of conditions on the covering families

topos (Grothendieck) a category of sheaves over a site

Grothendieck space *Hennix uses this term for the Grothendieck topology or for a topos*

Cartesian closed category A category with terminal object, binary products, and exponential transposes.

topos Both a space and a theory, a topos serves as a possible "world" in which mathematical activity may take place. When it is a model of set theory, the sets are varying in some manner and are generally not determined by their points. Technically: (i) A Cartesian closed category possessing a subobject classifier and (strong) natural number object. (ii) A category with finite products in which every object has a power-object.

A topos is a collection of sites composed into stacks. To each site corresponds some arrows and frames, while their composite interaction is linked through the stack formations. When all stacks of a topos are formed, then the topos becomes a sealed object. Alternatively: A topos is a "cleared" place of the mind to which we have access by exercising abstract thinking independently of any notion of faith. [It is internally intuitionistic and constructive.] Alternatively: A topos is an object which traces out memory connections placed at the loci of the topos. Alternatively: a topos is a continuously variable natural transformation of the intrinsic geometric logic of the algebraic geometry contained in every possible analytic continuation of a Form as a site.

choice function a function which has a value in each set in its domain, so that it "chooses" a member from each set

end-extension in model theory, extension of a model, for a relation which is not total, to close the domain

reflection principle Montague & Lévy. A picture "in the small" is given by any well-defined cumulative hierarchy in which, by utilizing a truth predicate defined over some class D of statments, we obtain an ordinal at which every statement in D is reflected (for countable D).

isol "isolate," Dekker & Myhill

four-color problem A problem in graph theory. Given a plane surface decomposed into regions, are four colors sufficient to color the map so that no two adjacent regions have the same color? Solved by Appel & Haken, 1976.

modes the operators, necessary, possible, impossible, are given meanings according to the topics of the different modalities

alethic modality modality of "true": e.g. logically necessary

epistemic modality modality of "known": e.g. certain

deontic modality modality of "ought": obligatory, permissible, prohibited

possible world in models for modal logic — Hintikka, Kripke — *Hennix cites Wittgenstein, Tractatus, .2*

de re/de dicto a medieval way of distinguishing a reference *which assumes the existence of a specific entity* from a generic reference (which is considered to speak about a *proposition*)

intensional "sense"; the meaning-principle which selects a referent; depending on the mode of presentation

intensional logic logic transcending membership, depending on the mode of presentation[1]

indication in standard logic, the use of a signalling system

cross-identification Intensionality and possible worlds: whether to identify two individuals in different contexts as "the same." *For Hennix, also associated with "simpatico" or "soulmates."*

atomic act first use in mathematics was in recursion theory, for elementary step

empty word The word appearing to the right of this sentence.

baldness paradox Which is the hair whose loss makes a head bald?

Oracle Turing's god who can answer every question of number theory

oracle machine A human machine patched to a god who can answer every question of number theory. A machine-god hook-up.

van Rootselaar axiom If you have no evidence for ¬A, you are allowed to assume A, or ¬¬A.

white hole/black hole Penrose's notion of a gravitational singularity into which everything vanishes was made symmetrical with the introduction of white holes by Novikov, Sakharov, Kardashev. The Big Bang was a white hole; the Big Crunch would be a black hole. White holes are portals from the past; black holes portals to the future. Kardashev suggested that a higher civilization might use a quasar as its vessal to hop among universes through gravitational portals. *Hennix was one of a number of people who looked at this literature and concluded that the physicists were unwittingly conveying a psychological mythology in which an individual jumps from one life to another through psychological catastrophes. Hennix wrote algebras in which white and black holes are terms.*

chronon David Finkelstein, quantum of time

semeion quantum of meaning

semiosis meaning-creation

lecton quantum of knowledge

chronon-lecton pair stepwise additions to knowledge by the formalized Creative Subject[2]

Montague grammar Montague's adjunction of a semantics to transformational grammar via set theory

ultra-intuitionism Yessenin-Volpin's school of secured certainty in mathematics. Despite the name, Yessenin-Volpin is not a Brouwer follower. The school's most notable feature is an anti-customary concept of the infinite. In more detail, an infinite succession (of nonnegative integers) can be embedded in a finite segment of another series. We may wish to identify the integers in corresponding positions, or not to identify them: both options must be possible.

The academic Establishment created a counterfeit of ultra-intuitionism called strict finitism. At the same time, Yessenin-Volpin has been vindicated to the extent that the notion of quantity in mathematics has become highly relative.

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[1] Cf. *Intensional Mathematics*

[2] Cf. *Cambridge Summer School in Mathematical Logic*, ed. A.R.D. Mathias and H. Rogers (Berlin, 1973).

prototheories Branches of logic which precede the predicate calculus. They include the theory of rules and aims, modality theory, tense theory, semiotics, relevancy theory, collation theory, dispute theory.

the consistency proof Yessenin-Volpin's proof of the consistency of Zermelo-Fraenkel set theory, an achievement which Gödel is generally believed to have shown to be impossible.

indication Yessenin-Volpin: an action by which its author shows to the addressee a point with the help of a sign.

denotational connection An arrow. Obtains between the sign X and every point x of an indication.

situation   a class of (senses of) sentences

atomic act an identification or distinction

confidence trust

obstacle

Principle of Sufficient Reason various standard meanings in philosophy

negative evidence informally: absence of evidence for existence warrants a conclusion of nonexistence

modalities Yessenin-Volpin's definitions are specific to him

alethic modality organic or epistemic

organic modality modality of "feasible" — *intervention in the physical world*

epistemic modality modality of "known": certainly, perhaps, certainly not — *intervention in our abstraction capabilities*

optative   modality of goal-directed activity

deontic   modality of "ought": obligation, permission, prohibition

attending In a logical procedure, the opposite of abstracting from something.

tactic of attention a tactic for following connections — dictates how many subsequent terms of a series are surveyable

short-sighted tactic of attention   only the next element of a serial procedure is surveyable

shortest natural number series the degenerate case of the series of integers 0, 1, ..., in which "2" is unobtainable, i.e. is an infinity

Gödel-Wette paradox Wette's claim to prove the consistency of a set theory S using only means formalizable in S led Yessenin-Volpin to derive a contradiction from: the use of a diagonal substitution and respective "diagonal" identification in the presentation of a number associated with a formal object, where this presentation is considered to determine the object.

Symbolic Form *design or inscription of a sign; mental inscription*

Symbolic Order Lacan — *in Hennix, the phrase is used informally*

noema *initial, uninterpreted perception, the "ground level" of the Creative Subject*

fine sense *refined or subtle perception, sensitivity*

transitive *shared in a negative sense; plebeian, common*

intransitive *touching the mundane world at only one point*

intension   *Perceptual interpretation, a perceptual take.*

intensional logic *Logic for elevated perception.*

sustained state of awareness *code-phrase for elevated experience, a "high"*

hyperintension *Metamorphosis of one's sense of phenomena, a changing sense of what the world is saying, yielding an elevated perception/illumination.*

dignity *Instead of the classical meaning of a condition intrinsic and guaranteed, Hennix opts for the other meaning, that dignity is a sporadic achievement. Dignity is an ecstatic condition which has to be attained (one is fulfilled in one's identity to oneself, frictionless cross-personal identifications melt objects together).*

Bolshevism *Hennix's ill-advised expression for the view that all experiences are of the same value, i.e. profane.*

social democracy *Hennix's ill-advised expression for the view that everyone has to be given the honorary degree "genius." E.g. every self-described artist is a genius. Every recipient of the doctorate is a genius.*

miracle *Something which happens even though the conditions for it have not been met.*
The Deontic Miracle *Hennix's 1976 Gagaku combo*
4-color maps *Hennix's diffusion paintings in red, blue, and black on white paper*

metaxyan *intermediate*
Ataraxia *Nirvana*
BEING Parmenides' *to on*
the One Parmenides
Supreme Being *merger of Being and Turing's Oracle*
void Nagarjuna — sunya

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Io # 41: Being = Space X Action