Encyclopedia Dialectica

Brief

The **Q** Dialectical Algebra

as «Characteristica Universalis»:

A Step-by-Step Guide on How to Use It as an «Organon» for Discovery

by Aoristos Dyosphainthos

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About the Author

Aoristos Dyosphainthos. The author wishes you to know the following about himself: "The General Council of the Foundation has asked me to help make *dialectical ideography* more accessible to the interested public, in a series of shorter works, written in a language a little bit closer to everyday English. Damned if I won't!"

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E.D. Brief. The Q Dialectical Algebra: How To Use.

(0) The Q Dialectical Ideography as an Heuristic, Intentional/Intuitional 'Tool of Discovery'.

(0.0) <u>A Note to the Reader</u>. This Brief will be, indeed, unusually brief relative to the literature of the Foundation so far extant. It will also, necessarily, therefore, be short on illustrations, and therefore, too, somewhat abstract. You have my promise to provide, at a later date, a "cookbook" full of "worked examples" of the uses of dialectical ideography -- examples mostly not treated elsewhere in the F.<u>E.D.</u> writings extant so far, and, in many cases, elicited on a more mundane, less grandiose scale than are the three main examples of this Brief. -- A.D.

(0.1) Step 1. Assign the initial [hypo] thesis to g1.

Suppose that you have formed an <u>initial</u> [hypo]<u>thesis</u>, mnemonically denoted by $\underline{\alpha}$, as to the root, seed, or originating/governing ontological category for the dynamical-taxonomic classification, and systematic 'theorization', of a universe of discourse that has already come to be known to you -- that has been experienced previously by you -- '<u>un</u>systematically', or "chaotically" [cf. Marx].

Once you have identified this *«arché»* ontological category, or classification -- this *"governing source"* or *"beginning"* -- you may then proceed to employ the \underline{Q} arithmetic, its algebra, and its *'organonic algebraic method*', as set forth herein, to *'solve for the successor ontology'* -- to heuristically facilitate your dialectical, [meta-]systematic ordering, theoretico-intuitive comprehension, and scientific/'psycho-historical' mastery of that empirical/experiential material.

The first step is to associate -- to "assign", or "interpret" -- that initial hypothesis, or «*arché*» *thesis*, with the first meta-number of the **Q** succession, namely, with $\mathbf{\hat{q}}_1$. We denote that *action of assignment* by --

or

$$\hat{\underline{g}}_1 \Leftrightarrow \underline{\alpha}$$

 $\hat{\underline{g}}_1 \Leftrightarrow \underline{\text{thesis}}_1$

-- making sure that what $\underline{\alpha}$ stands for is, say, an alphabetical character-symbol, or phonogram, converted by you, for this usage, into a 'phono-mnemonic ideogram', which abbreviates, for you, and 're-minds' you of, a definite meaning, or "intension", connoting, for you, a unified complex of determinations -- of aspects, attributes, characteristics, facets, features, or predicates. It should, that is, '<u>character</u>-ize', for your mind, the originating category of the domain of your experience which you wish to comprehend categorially, systematically, and 'onto-dynamically' -- in short, <u>dialectically</u>.

Scholium 0.1 — Whenever one employs the \underline{Q} ideography as an heuristic tool to re-explore one's experience of a given sub-totality, for the systematic re-construction of a domain or universe of discourse for that totality, one is by that practice entertaining, at least implicitly, an hypothesis that the self-development of that domain, and/or of that sub-totality, is a special case of the generic pattern of self-development which the \underline{Q} rules-system encodes and codifies; that the domain in question, and/or the sub-totality in question, can be fittingly modeled as one which self-develops as an '«aufheben», qualo-Peanic, archeonic consecuum-cumulum', i.e., that this domain's and/or this sub-totality's self-construction is a «species» of the \underline{Q} encos» — of the «genos» of "'<u>dialectic</u>". The use of this heuristic tool should be expected to be misguiding, or «<u>dia</u>-bol-ikós», as well as «<u>huper-bol-ikós</u>», as well as «<u>para</u>-bol-ikós», for those applications for which this hypothesis is <u>orrect</u>.

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(0.2) Step 2. Insert the initial [hypo] thesis Symbol into the Generic Q, 'Self-Iteration' Formula.

Write out as follows:

$$= \llbracket \underline{\alpha} \rrbracket^{2^{\tau}} = \llbracket \underline{\text{thesis}}_1 \rrbracket^{2^{\tau}} \Leftrightarrow \llbracket \underline{\hat{q}}_1 \rrbracket^{2^{\tau}}.$$

(0.3) <u>Step 3</u>. 'Self-iterate' the <u>initial</u> [hypo]<u>thesis</u> for $\tau = 1$.

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[Note on Notation: For their usage herein, the ideograms listed below may be defined as follows -

- '⇒' stands for the word "implies";
- 's stands for "equals by definition";
- 'B' denotes a generalized addition operation, including both the heterogeneous and the idempotent -- opposite extreme -- cases;
- '=" denotes the operation of '«aufheben» self-negation' -- ""the dialectical operator" par excellence;
- 'Q' denotes the 'qualitative metafinite-differencing operator' or 'ontology-incrementor', and;
- 'B' denotes a generalized multiplication operation, namely, 'dialectical product-tion'].

Write do	own: $\tau = 1$	⇒	$\alpha \underline{\mathbf{Q}}_{\tau} = \alpha \underline{\mathbf{Q}}_{1}$	-		- [[<u>a</u>]] ²	-	<u>∝∎∝</u> ∎ = ≓∎ <u>∝</u> ∎ =
			<u>α</u> ⊞ <u>□α</u>	-	<u>α</u> ⊞ ^A g _{aa} ■	■ Âa ⊞ Âaa	-	
	thesis	²¹ =	thesis ₁	-	thesis1 t	hesis ₁]	-	ଙ୍ଗ <u>thesis</u> 1] =
	thesis	1 🖽 🗖	thesis ₁	-	thesis₁ ⊞	contra-the	sis ₁	antithesis-sum ₁
⇔	τ = 1	⇒	$\underline{\mathbf{Q}}_{\mathbf{r}} = \underline{\mathbf{Q}}_{1}$	-	[² ¹	- [[ĝ,]	² =	ĝ₁⊑ ĝ₁] = ⊶⊑ ĝ₁] = ĝ₁⊠ĝ₁
		-	<u>ĝ</u> ₁ ⊞ □ĝ ₁	-	$\hat{\underline{\mathbf{g}}}_1 \triangleq \hat{\underline{\mathbf{g}}}_{1+1}$	$= \hat{\mathbf{g}}_1 \boxplus \hat{\mathbf{g}}_2$		

That is, apply that 'generalized multiplication' rule of the rules-system \underline{Q} which we call the '*«aufheben»* evolute product rule'. That rule, for any "Natural" Numbers ℓ , m, and n, such that $\ell + m = n$, i.e., for any three numbers in the ensemble, or '*ideo-«arithmos»*', denoted by $N = \{1, 2, 3, ...\}$, prescribes the following, generic, algorithm, which '*arithmeticizes*' the operation of the <u>conservation</u> of $\hat{\mathbf{g}}_m$ by $\hat{\mathbf{g}}_\ell$, plus its ℓ <u>elevation</u> --

$$\hat{\mathbf{g}}_{\ell} \boxtimes \hat{\mathbf{g}}_{m} = \hat{\mathbf{g}}_{m} \boxplus \hat{\mathbf{g}}_{\ell+m} = \hat{\mathbf{g}}_{m} \boxplus \hat{\mathbf{g}}_{n},$$

-- which, for the special case of the 'self-«aufheben»' operation wherein $\ell = m$, as above, for $\ell = 1$, becomes --

 $\hat{\mathbf{q}}_{\ell} \boxtimes \hat{\mathbf{q}}_{\ell} = \hat{\mathbf{q}}_{\ell} \boxplus \hat{\mathbf{q}}_{\ell+\ell} = \hat{\mathbf{q}}_{\ell} \boxplus \hat{\mathbf{q}}_{2\ell}$

-- remembering that, for any "Natural" Numbers m, and n, $m \neq n$ implies that the unit-length, directional line-segment representing $\hat{\mathbf{g}}_{m}$ in the geometrical model of ${}_{\mathbf{N}}\mathbf{Q}$, i.e., in the 'analytical-geometric space' of ${}_{\mathbf{N}}\mathbf{Q}$, is perpendicular to the one representing $\hat{\mathbf{g}}_{n'}$ or $\hat{\mathbf{g}}_{m} \perp \hat{\mathbf{g}}_{n'}$ and that $\hat{\mathbf{g}}_{m}$ is then <u>non-qualitatively different</u> from $\hat{\mathbf{g}}_{n'}$ i.e., that $\hat{\mathbf{g}}_{m}$ is thus <u>qualitatively different</u> from $\hat{\mathbf{g}}_{n'}$ or $\hat{\mathbf{g}}_{m} \ddagger \hat{\mathbf{g}}_{n}$. The sub-rule of the rule of \mathbf{Q} 'generalized addition' for the case of 'non-homogeneous sums', or 'heterogeneous sums', holds, for that reason, that $\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{n'}$, cannot amalgamate, or reduce, to any $\hat{\mathbf{g}}_{x}$ such that \mathbf{x} is in \mathbf{N} , i.e., such that $\hat{\mathbf{g}}_{x}$ is in ${}_{\mathbf{N}}\mathbf{Q}$. Re-expressed via the ideogramic shorthand of symbolic formal logic, this sub-rule becomes $[\nexists \mathbf{x} \in \mathbf{N}, \therefore \nexists \hat{\mathbf{g}}_{x} \in {}_{\mathbf{N}}\mathbf{Q}] \hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{n} = \hat{\mathbf{g}}_{x}]$. Note how the $\underline{\mathbf{Q}}$ product-rule achieves an 'ideographical mimesis' of Hegel's "aufheben" operation of qualitative transformation/elevation/conservation, thus making each $\underline{\mathbf{Q}}$ 'meta-number' an "aufheben" operator. <u>E.D. Briefs. The Q Dialectical Algebra: How To Use.</u> [\mathbf{v} 1.0] 2 Distributed "Samizdats by Foundation Encyclopedia Dialectica

(0.4) Step 4. Contemplate/Calculate the Connotations/Intension of first contra-thesis term, assigned to g.

Next, contemplate the possible ontological, qualitative, categorial, or taxonomic, 'classificatorial' <u>meaning</u>, or <u>connotation</u>, of '<u>delta- α </u>', <u> $\Box\alpha$ </u>, or $\hat{\mathbf{q}}_{\alpha\alpha'}$ in terms of your experience of the sub-totality, and universe of discourse, you are re-exploring, and in terms of your mental perception of your «*arché*», mnemonic, intensional/connotational symbol, <u> α </u> or $\hat{\mathbf{q}}_{\alpha}$. Expect that the connotations of $\hat{\mathbf{q}}_{\alpha\alpha}$ will be, in some way(s), contrary to those of $\hat{\mathbf{q}}_{\alpha}$, 'intensioning' some determinations opposite to those of $\hat{\mathbf{q}}_{\alpha}$ for some of the key characteristics of $\hat{\mathbf{q}}_{\alpha}$ or α .

As you come to an intuitive grasp of this 'oppositional addition' [----] aspect of the addition of $\hat{\mathbf{g}}_{\alpha}$ and $\hat{\mathbf{g}}_{\alpha\alpha}$ ---

<u>thesis_1 = contra-thesis_1</u> = $\underline{\alpha} = \hat{\mathbf{q}}_{\alpha\alpha} = \hat{\mathbf{q}}_{\alpha\alpha} = \hat{\mathbf{q}}_{\alpha\alpha} \Leftrightarrow \hat{\mathbf{q}}_{1} = \hat{\mathbf{q}}_{2}$

-- with $\hat{\mathbf{g}}_{\alpha}$ denoting your '*«arché»* <u>thesis</u>' and $\hat{\mathbf{g}}_{\alpha\alpha}$ denoting its <u>first</u> '<u>contra-thesis</u>', frame a new, singular 'abbreviative ideogram', a univocal, mnemonic ""character[*izing*]-symbol", or 'intuitive literal', to stand, more meaningfully, in place of $\hat{\mathbf{g}}_{\alpha\alpha}$, to record your own advancing cognition of the potential meaning of $\hat{\mathbf{g}}_{\alpha\alpha}$. We will denote this new symbol, here, per the generic-descriptive purposes of this section, generically, by $\underline{\boldsymbol{\beta}}$, so that the *categorial self-progression* modeled by $[\underline{\boldsymbol{\Gamma}} \ \underline{\alpha} \ \underline{\boldsymbol{\eta}}^{2^{n}}$ so far, to $\tau = 1$, looks like this --

 $\underline{\alpha} \rightarrow \underline{\alpha} \rightarrow \underline{\beta} \leftrightarrow \hat{q}_1 \rightarrow \hat{q}_1 \rightarrow \hat{q}_2$

-- such that $\underline{\alpha} \rightarrow \underline{\beta}$ denotes the first '<u>antithesis</u>-<u>sum</u>' emerging from the connotations of the '<u>first thesis</u>', $\underline{\alpha}$, now explicitly superposed with, and counter-posed to, those of the '<u>first contra-thesis</u>', denoted by $\underline{\beta}$.

(0.5) <u>Step 5</u>. 'Self-iterate' the <u>initial</u> [hypo]<u>thesis</u> for $\tau = 2$; apply the "*rule of additive commutation*" twice*.

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 $\begin{bmatrix} \text{thesis}_1 &\equiv \text{thesis}_1 &\equiv \text{contra-thesis}_1 &\equiv \text{contra-thesis}_1 &\equiv \hat{\mathfrak{g}}_{\text{contra-thesis}} &\equiv \hat{\mathfrak{g}}_{\text{contra-$

That is, apply the "additive idempotency" sub-rule of the rule of 'generalized addition' of the rules-system \underline{Q} . That sub-rule, for any Number k in N = {1, 2, 3, ... }, holds that --

$\hat{\mathbf{g}}_{\mathbf{k}} \equiv \hat{\mathbf{g}}_{\mathbf{k}} = \hat{\mathbf{g}}_{\mathbf{k}}$

Apply also that more general sub-rule of the 'generalized multiplication' rule of the rules-system $\underline{\Omega}$ which we call the *non-distributive multiplication sub-rule* of the '*«aufheben» evolute product*' rule. That rule, for any "Natural" Numbers k, ℓ , m, and n, such that $\mathbf{k} < \ell < \mathbf{m} < \mathbf{n}$, i.e., for any such four numbers in the *«arithmos»* N, prescribes the following, generic, *non-distributive algorithm* for *generalized multiplication* over *generalized addition*, in which only the 'meristemal' or "vanguard" ontological category, here denoted $\mathbf{\tilde{g}}_{\ell}$, of the 'sum-operator' or 'sum-function', here denoted $\mathbf{\tilde{I}}\mathbf{\tilde{g}}_{k} \equiv \mathbf{\tilde{g}}_{\ell}\mathbf{J}$, is required to *«aufheben»-subsume* the ontological categories constituents of its 'sum-operand' or 'sum-argument', here denoted $\mathbf{\tilde{I}}\mathbf{\tilde{g}}_{m} \equiv \mathbf{\tilde{g}}_{n}\mathbf{J}$ --

$$\begin{split} & \left[\hat{\mathbf{g}}_{k} \equiv \hat{\mathbf{g}}_{\ell} \right] \boxtimes \left[\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{n} \right] = \left[\hat{\mathbf{g}}_{k} \equiv \hat{\mathbf{g}}_{\ell} \right] \left[\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{\ell} \right] \boxtimes \left[\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{\ell} \right] = \left[\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{\ell} \right] \equiv \left[\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{\ell+m} \right] \equiv \left[\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{\ell+m} \right] \equiv \left[\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{m} \right] \equiv \left[\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{m} \right] \equiv \left[\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{m} = \hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{m} = \hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{\ell+m} = \hat{\mathbf{g}}_{\ell+m} \right] = \left[\hat{\mathbf{g}}_{m} \equiv \hat{\mathbf{g}}_{\ell+m} \equiv \hat{\mathbf{g}}_{\ell+m} \right]. \end{split}$$

This general sub-rule, of *poly-qualinomial multiplication*, and, specifically, of <u>*hi-qualinomial multiplication*</u>, becomes, in the special case which we have encountered above, in which $\mathbf{k} = \mathbf{m}$ and $\boldsymbol{\ell} = \mathbf{n}$, the following --

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[Note on Notation: the ideogram 'E' stands for the phrase "is an Element of".]

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<u>Scholium 0.5</u> -- Observe, via your experience of Steps 0.4 and 0.5, the two parallel, but quite contrary in content, 'streams of symbolization' that issue from either side of the '++' assignment symbol, as, for each

successive value of $\tau \in W = \{0, 1, 2, 3, ...\}$, we write, and enact, the recipe $\llbracket \alpha \rrbracket^{2^*} \Leftrightarrow \llbracket \hat{\mathfrak{g}}_{4} \rrbracket^{2^*}$. One stream, the 'stream of symbolization' for the right-hand side of the '++' symbol, above, is strictly algorithmic, mechanical, and both minimally-interpreted and minimally-meaningful. The other stream, the 'stream of symbolization' for the left-hand side of the '++' symbol, above, can be massively interpreted, heuristic, intuitive, rich in intension/connotation/determination; as replete with subjective meaning as a given user's mind can make it, per the degree of 'upworking' of the user's experience of the domain of discourse in question, and/or of the phenomenology of the sub-totality in question, that is cognitively extant and available for association with/assignment to the symbol a. [Within the algebraic 'genericity' of this Oth Section's general instructions, the 'stream of symbolization' issuing from the left-hand side of $\left[\alpha \right]^2 \leftrightarrow \left[\alpha \right]^2$, namely, from $\left[\alpha \right]^2$, may not appear much less "algorithmic" than that issuing from its right-hand side, namely, from $[\hat{g}, \hat{g}]^2$. The fuller 'semanticity' of the left-hand side may be experienced by you, more convincingly, via the "specificities" of the examples which follow, below, in Sections 1, 2, and 3.]. The point called to your attention now, via this Scholium -- for fuller demonstration later on -- is that the strict, unvarying uniformity of the right-hand side of $[\alpha]^{2^{*}} \leftrightarrow [\alpha]^{2^{*}}$ is designed to provide its user with a *stable guide* to the *generic structure* of dialectical self-progressions, while the potentially infinite diversity and variety of the left-hand side is designed to provide the user with a method of expression of *potentially universal applicability* to all of those *specific* phenomenologies which 'instance' the generic dialectical process.

Thus linking of the intuitive with the rigorously algorithmic is related to the mathematico-scientific methodology of 'Dialectical Meta-Axiomatics', which F.E.D. advocates as the standard for Marxian, Dialectical Science, including for the 'psych[e]o-historically' expanded Science of Mathematics. 'Dialectical Meta-Axiomatics' «aufheben»-conserves, without apology, the full rigor of formal-logical/mathematical-logical deductive proof, of «verstand» or «dianoetic» reason, within each Axioms-System of the Gödel-Incompleteness-driven, 'Gödelian-ideo-dialectical' self-progression of Axioms-Systems, which self-progression constitutes the Godelian Meta-System for those Axioms-Systems. But it also applies dialectical reason in the trans-deductive realm of the necessarily non-deductive derivation/determination of the possible Axioms, and to the rational justification of the choice/selection of Axioms from among those possibilities. Moreover, it applies dialectical logic also to the "aufheben" transitions between pairs of Axioms-Systems, from predecessor Axioms-System to its "conservative extention" in the successor Axioms-System, both «aufheben»-conserving the Axioms of the predecessor Axioms-system in the Axioms of the successor Axioms-System, while also adding, via «aufneben» "transformation" / "elevation", the new comprehension Axioms, and the new 'ideo-ontology' that they implement, which renders "decidable", within the successor Axioms-System, the "undecidable" propositions of the predecessor Axioms-System, which was thus Gödel-Incomplete with respect to [at least] those propositions. E.g., it forms new kinds of "number" concepts, able to solve the diophantine equations that are unsolvable within the number 'ideo-ontology' of the predecessor Axioms-System -- the equations the unsolvability of which is asserted by the undecidable propositions of that predecessor Axioms-System. It forms these new, higher kinds of numbers as new kinds/logical-types of sets, qualitatively, ideo-ontologically different from the predecessor logical-types of sets, within the "power-set" «aufheben» 'self-internalization', or 'self-subsumption', of those sets of the predecessor Axioms-System's 'ideo-ontology' which represented the highest horizon of the number-concept extant within that predecessor 'ideo-ontology'. This «aufheben» process renders the truth of the formerly undecidable propositions provable via the new comprehension Axioms added to form the new-Axioms-subset of the successor Axioms-System, and also renders the formerly unsolvable diophantine equations solvable within the successor Axioms-System, using the new kinds/logical-types of sets, defining the new kinds of numbers thus «aufheben»-created within the successor Axioms-System. That is, 'Dialectical Meta-Axiomatics' drops the pretence that each Axiom in the Axioms-set of an Axioms-System can always be "self-evident", and uniquely-determined, with no possible alternative, contrary Axiom(s). By this pretense, the dimension of dialectical reason -- of the non-deductive derivation of multiple candidates for a given key Axiom, and of the *iustification* of the selection of one Axiom from among those multiple candidates -- has for so long been dogmatically denied [ever since Plato for the anti-dialectical traditions of academia, for which the Occidental Dark Ages have never yet ended!] 'Dialectical Meta-Axiomatics' admits that axiomatic 'alternativity' veritably abounds, and that Axiom-choice needs to be justified dialectically, that is, "self-reflexively" and "self-reflexively", in light of each candidate Axiom's consequences in the context of the «arithmos» of Axioms -- of the rest of the Axioms -- it is candidate to join, and in light of the purposes for which the Axioms-System it is candidate to join is being designed. The classic examples of such 'alternativity' -- of the "independence" or Gödel-undecidability of key Axioms with respect to the rest of the Axioms of a given Axioms-system -- include the choice of the Euclidean or 'fifth Axiom', the Parallels Postulate, versus one of its possible contraries, for the Axioms-System of Euclidean Geometry vs. those of the Non-Euclidean Geometries, and the choice of the Cantor Generalized Continuum Hypothesis, vs. one of its possible contraries, and/or of the Axiom Of Choice, vs. one of its possible contraries, for Axioms-Systems of *Theories of Totalities* ["Set *Theories*"]. *Dialectical Meta-Axiomatics*' also rejects any pretence that first order Axioms-Systems have but one possible, "categorical", unique "interpretation", or "model" – an old dogma that has been refuted both by the Löwenheim-Skolem Theorem, and by the first order co-applicability of the Gödel [syntactical] Completeness Theorem and the Gödel [semantical] <u>In</u>completeness Theorem. 'Dialectical Meta-Axiomatics' grasps the 'intra-duality', or 'intra-multiplicity', of the 'interpretability' or 'modelability' of a given first order Axioms-System, as a potential «arché», for a 'metasystem-atic dialectical', categorial-progression', 'Axioms-Systems-self-progression' exposition, and dialectical-algebraic modeling, of the alternative models of that first order Axioms-System. "Diachronically", between each predecessor/successor pair of Axioms-Systems, the methodology of '<u>Dialectical Meta-Axiomatics</u>' practices an expository, pedagogical discipline, which uses an heuristic, intuition-involving, "intensional" derivation of the self-*«aufheben»* self-progression of Axioms-Systems -- of the Axioms-Metasystem. '''Synchronically'', <u>within</u> each, progressive, Axioms-System contained in the Axioms-<u>Metasystem</u>, '<u>Dialectical Meta-Axiomatics</u>' justifies the theorems implied by that Axioms-System's Axioms-collective via rigorous deductive logic. Those theorems are also justified, and explained conceptually and intuitively [«begrifflichkeit»], without apology. Indeed, the main expository narrative, in a work of 'Dialectical Meta-Axiomatics', may be the intuitive/conceptual exposition, with the parallel stream of formal-logical, algorithmic/mechanical deductive proof -- which may often compel the mind to assent to a proposition without comprehension -- consigned to the End-Notes or Appendices, as a necessary verification check on the conceptual/intuitive narrative's flow or progression of claims/assertions, but with bridging, interconnecting commentary - "'transversals" and asides -- linking from the deductive proofs to the intensional-heuristic/intuitive narrative, and from the intensional-heuristic/intuitive narrative to the deductive proofs, whenever and wherever such interconnexions can be profitably 'explicitized'.

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The \underline{Q} ideography is, as we have noted, an ideography of "<u>intensions</u>", of "connotations", of implicit meanings, rather than an ideography of "<u>extensions</u>", of "<u>denotations</u>", of explicit lists of elements. Of the interconnexion between extensional and intensional representations, Leibniz wrote as follows, in his <u>New</u> <u>Essays on Human Understanding</u>: "The common manner of statement concerns individuals, whereas Aristotle's refers rather to ideas or universals. For when I say every man is an animal I mean that all the men are included amongst all the animals; but at the same time I mean that the idea of animal is included in the idea of man. 'Animal' comprises more individuals than 'man' does, but 'man' comprises more ideas or more attributes [e.g., more <u>determinations</u> - F.<u>E.D.</u>]: one has more instances, the other more degrees of reality; one has the greater extension, the other the greater intension". [translated and quoted in Wolfgang Lenzen, Leibniz's Logic, in Dov Gabbay, John Woods, editors, <u>Handbook of the History of Logic</u>, vol. 3, <u>The Rise of Modern Logic from Leibniz to Frege</u>, Elsevier, [NY: 2004], p. 11, emphasis as in original].

(0.6) <u>Step 6</u>. Contemplate/Calculate the Connotations/Intension of the <u>first uni-thesis</u>, assigned to \hat{g}_3 .

Next, try to conceptualize the combinatory connotation suggested by the symbol $\hat{\mathbf{q}}_{\beta\alpha} \leftrightarrow \hat{\mathbf{q}}_3$. Try to arrive at a univocal abbreviative character-symbol that characterizes, for your cognition, the category of "complex unity" -- the 'unified complex' -- which integrates the contrary connotations of the categories $\underline{\beta}$ and $\underline{\alpha}$ -- the intuitive unification that we will here denote generically by $\underline{\gamma}$.

(0.7) Step 7. Contemplate/Compute Connotations/Intension for the second contra-thesis, assigned to g.

Likewise, try to conceptualize the 'self-combinatory', self-confrontative self-critique or immanent critiqueembodying category, arising from the 'self-reflexion'/'self-reflexion' of the category $\underline{\beta}$ or $\hat{\mathbf{g}}_{\beta}$, and suggested/connoted by the symbol $\underline{\Box}\underline{\beta}$ or $\hat{\mathbf{g}}_{\beta\beta} \leftrightarrow \hat{\mathbf{g}}_{4}$.

We will here denote that category generically -- algebraically -- via the literal variable $\underline{\delta}$, such that --

$\begin{bmatrix} \underline{\alpha} & -\underline{\omega} & \underline{\beta} & -\underline{\omega} & \underline{\beta}_{\beta\alpha} & -\underline{\omega} & \underline{\beta}_{\beta\beta} \end{bmatrix} = \begin{bmatrix} \underline{\hat{q}}_{\alpha} & -\underline{\omega} & \underline{\hat{q}}_{\alpha\alpha} & -\underline{\omega} & \underline{\hat{q}}_{\beta\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\omega} & \underline{\Omega} & -\underline{\omega} & \underline{\hat{q}}_{\alpha\alpha\alpha} & -\underline{\omega} & \underline{\Omega} & \underline{\alpha} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\omega} & \underline{\beta} & \underline{\alpha} & -\underline{\omega} & \underline{\beta} & \underline{\alpha} & \underline{\alpha} & \underline{\beta} & \underline{\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\omega} & \underline{\beta} & \underline{\alpha} & \underline{\alpha} & \underline{\beta} & \underline{\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\omega} & \underline{\beta} & \underline{\beta} & \underline{\beta} & \underline{\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\omega} & \underline{\beta} & \underline{\beta} & \underline{\beta} & \underline{\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\omega} & \underline{\beta} & \underline{\beta} & \underline{\beta} & \underline{\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\alpha} & \underline{\beta} & \underline{\beta} & \underline{\beta} & \underline{\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\alpha} & \underline{\beta} & \underline{\beta} & \underline{\beta} & \underline{\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\alpha} & \underline{\beta} & \underline{\beta} & \underline{\beta} & \underline{\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\alpha} & \underline{\beta} & \underline{\beta} & \underline{\beta} & \underline{\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\alpha} & \underline{\beta} & \underline{\beta} & \underline{\beta} & \underline{\beta} & \underline{\beta} & \underline{\beta} \end{bmatrix} = \begin{bmatrix} \underline{\alpha} & -\underline{\alpha} & \underline{\beta} & \underline{\beta$

[[[[[thesis1 ---- contra-thesis1] ---- uni-thesis1] ---- contra-thesis2]].

The 'poly-qualinomial' sum, above, we term, again, the 'second antithesis', or 'second antithesis-sum'.

The categorial self-progression modeled by $\left[\underline{\alpha} \right]^{2^{\tau}}$ from $\tau = 0$ through $\tau = 2$ thus look like this:

 $\underline{\alpha} \rightarrow \underline{\alpha} \twoheadrightarrow \underline{\beta} \rightarrow \underline{\alpha} \twoheadrightarrow \underline{\beta} \twoheadrightarrow \underline{\gamma} \twoheadrightarrow \underline{\delta} \iff \hat{q}_1 \rightarrow \hat{q}_1 \twoheadrightarrow \hat{q}_2 \rightarrow \hat{q}_1 \twoheadrightarrow \hat{q}_2 \twoheadrightarrow \hat{q}_3 \twoheadrightarrow \hat{q}_4$

Scholium 0.7 -- The **Q** ideography, as *«characteristica universalis»*, does not deliver a single, monolithic, certain, and incontrovertible truth, *«à la»* Leibniz's oft-cited desideratum, recently re-evoked as follows --

"...Leibniz was looking for a "universal characteristic" by means of which he hoped to become able to apply the logical calculus to arbitrary (scientific) propositions so that their *factual truth* could be calculated in a purely mechanical way. This overoptimistic idea was expressed in a famous passage:

If this is done, whenever controversies arise, there will be no more need for arguing among two philosophers than among two mathematicians. For it will suffice to take the pens in hand and to sit down by the abacus, saying to each other (and if they wish also to a friend called for help): *Let us calculate.*" [p. 1, Wolfgang Lenzen, *Leibniz's Logic, op. cit., emphasis as in original*].

Rather, in line with the revelations -- since Leibniz's life -- of the axioms-relativity of logical and mathematical truth, of axiomatic 'alternativity', and of inherent axiomatic incompleteness, that began, no later than the discovery of the non-Euclidean geometries, and continued with Gödel's and Cohen's work, the $\underline{\Omega}$ ideography is a <u>dialectical</u> «characteristica universalis» which accommodates and embraces 'alternativity'.

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(1) Example 1.: Historical Dialectic - The Dialectic of Nature [The «Aufheben» Self-Progression of Natural Systems].

Suppose that you are working out, and working up, a model to reconstruct historically -- and 'retrodictively' / predictively -- the self-construction of the total cosmos -- of cosmos, or «*physis*», as ultimate totality -- in terms of the putative human knowledge-data thereof which is extant at this time, or which you have experienced up to the present time. Suppose further that you believe that the ontological category ['*onto*'] that you name "*pre*-nuclear units" or "*pre*-nuclear «*monads*»" -- the ontic category of those apparently discrete units of mass-energy which, you believe, arose into existence, in *the history of nature, prior to* the arising into existence of atomic nuclei -- is the ultimate "'ancestor"' category of all the physical categories that contemporary science can discern. Suppose, finally, that you hold that this general category -- or «*genos*» category -- comprises a finite number of 'sub-«*genos*»', or "*species*", sub-categories -- perhaps those of "photons", "electrons", "quarks", "mesons", etc., perhaps broken out further into 'sub-sub-species' for, e.g., the «*monad*» and 'anti-«*monad*»' variants of each sub-species, e.g., electrons vs. "anti-electrons" ["positrons"], etc. Let us '*phono-mnemonically*' denote this *as-far-as-now-known* "*ultimate-ancestral*" (*"physis*»-ontological category', or '*physio*-ontological category', of "pre-**n**uclear particles" by the *character-symbol*, or **Q**-algebraic ideogram, **n**, connoting, for us, that «*genos*» of species and sub-species... . Let also take **n** as denoting the specific '«*arché*»' for our *historical-dialectical model* of *the history of nature* as that of a '*multi-ontic archéonic consecuum-cumulum*'.

(1.1) <u>Step a</u>. Assign the ontological category for the physio-«arithmoi» of "pre-<u>n</u>uclear monads" to \hat{g}_1 .

First, let's "interpret" $\hat{\mathbf{q}}_1$ by, or "assign" $\hat{\mathbf{q}}_1$ to, our $\underline{\mathbf{n}}$: $\underline{\alpha} = \underline{\mathbf{n}}$ --

write:

$\hat{\mathbf{q}}_1 \Leftrightarrow \underline{\mathbf{n}} = \underline{arche} = \underline{onto}_1 = \underline{first onto} = \underline{pre-nuclears}$.

[Note on Notation. We use (1) an *«arithmos»* of *<u>'rectilinearly-styled'</u> ideograms, \{-3, \Box, \neg, \neg, \neg, \exists, \Box, \neg, \exists\}, for the generic/minimally-interpreted dialectical ideography, (2) an <i>«arithmos»* of *'curvaceous'*, or *'curvilinearly-styled'* ideograms, $\{-3, \Delta, \neg, \neg, \neg, \bullet, \diamond, \langle, \rangle\}$, for that dialectical ideography as interpreted for systematic dialectic as well as for *'meta-system-atic dialectic'*, and (3) an *«arithmos»* of *'dia-gon-al'*, or *'angularly-styled'* ideograms, namely, the symbols-set $\{-3, \Delta, \neg, \neg, \neg, \bullet, \diamond, \langle, \rangle\}$, for that dialectical ideography as interpreted for *historical dialectic*.].

(1.2) Step b. Insert the mnemonic ideogram denoting the "pre-nuclear «monads»" onto into the Q, 'self-iterator'.

Second, let's insert the 'phono-mnemonic ideogram' denoting the '*onto*', i.e., the category of '*physis*-ontology', i.e., the '*physio*-ontological category' of "pre-<u>n</u>uclear *«monads»*", into the \underline{Q}_r 'self-iterator'.

Write: ${}^{\mathbf{n}}\underline{\mathbf{Q}}_{\tau} = \langle \underline{\mathbf{n}} \rangle^{2^{\tau}} = \langle \underline{\mathbf{onto}}_1 \rangle^{2^{\tau}} \Leftrightarrow [[\underline{\mathbf{n}}]_1]^{2^{\tau}}$.

(1.3) <u>Step c</u>. 'Self-iterate' the "pre-<u>n</u>uclear monads" symbol for $\tau = 1$.

Third, let's see what happens when <u>n</u> 'self-multiplies'.

Write:
$$\tau = 1 \Rightarrow {}^{n}\underline{Q}_{r} = {}^{n}\underline{Q}_{1} = \langle \underline{n} \rangle^{2^{T}} = \langle \underline{n} \rangle^{2^{1}} = \langle \underline{n} \rangle^{2} = \underline{n} \langle \underline{n} \rangle = \underline{r}^{d} \langle \underline{n} \rangle = \underline{n} \langle$$

(1.4) <u>Step d</u>. Consider the connotations, the possible meaning/intension/identification, of the $\hat{\mathbf{q}}_{nn}$ term, assigned to $\hat{\mathbf{q}}_{2}$.

Fourth, let's see if we can identify, within the scientific data/experience of the reconstruction of past natural history -- of the ontological growth of the cosmos -- the 'physio-onto', or 'physio-ontological category', which arises from the self-confrontation and self-interaction -- from the 'self-reflexion' or 'self-refluxion of the inherent, '<u>essence</u>-ial' activity of -- the various, local, physical-spatially-'contexted', self-expanding, or expandedly self-reproducing, and self-densifying/spatially self-concentrating populations of «*monads*» comprehended by the category of pre-nuclear "particles", denoted **n**.

A quite commonly helpful self-query for this effort of semantic-identification of $\hat{\mathbf{g}}_{\alpha\alpha}$ [$\leftrightarrow \hat{\mathbf{g}}_{\mathbf{n}n}$ in this case] is: '¿are there known '<u>meta</u>-«monads»' of a known '<u>meta</u>-«arithmos»', possibly connoted by $\hat{\mathbf{g}}_{\alpha\alpha}$, that emerge from the mutual 'monadic' confrontation/interaction within self-expanded, 'self-densified', self-concentrated local populations of the «monads» of the «arithmos» connoted by $\hat{\mathbf{g}}_{\alpha}$?'. I.e., in other words: '¿by what name should we call those '<u>meta</u>-units' that arise from the mutual interactions of locally dense, concentrated populations of the units called "'pre-**n**uclear particles"', the units of the ontological category denoted **n**, such that each '<u>meta</u>-unit' of the therefore-termed '<u>meta</u>-ontology' or 'ontological <u>meta</u>-category', denoted by $\underline{\mathbf{A}}$ **n**, or by $\hat{\mathbf{q}}_{\mathbf{nn}}$, is a 'self-internalization'/'self-subsumption', and higher 'unit-ification', or '<u>meta</u>-monad-ization', of a heterogeneous multiplicity of the units -- the 'pre-**n**uclear units' -- of the ontological category whose «monads» include "protons", grasped as '<u>meta</u>-pre-**n**uclear-"particles"', each one made up out of a heterogeneous multiplicity of pre-**n**uclear "particles", e.g., each one made up out of a heterogeneous multiplicity of "quarks"?

If we hold that these '*meta*-units' belong to an existential category that should be named "<u>sub-atomic particles</u>", which includes, among its own species/sub-«*arithmoi*», that of the "proton" units, that of the "neutron" units, etc., we can then connote this new category of «*physis*» ontology via the 'phono-mnemonic', abbreviative category-symbol <u>s</u>, so that we have --

	<u>onto</u> ₁ ♦	meta-c	onto ₁	-	<mark>ĝ</mark> n ♦	Â _{nn}		<u>n</u> -	⊅ <mark>ĝ</mark> nn	-	<u>n</u>	∲ <u>s</u>		⇔	<u>ĝ</u> 1 8	a ĝ ₂ ;	
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∢ <u>onto</u> ₁)	ئے د (∢ <u>onto</u>	1 ▶ =	01	nto ₁	(<u>on</u>	<u>to</u> ₁	-	<u>∢ o</u>	nto ₁)	2	-	1	onto	1 \$	<u>∆onto</u> ₁	-
<u>onto</u> ₁ � <u>i</u>	meta-onto	21 =	onto ₁	♦ <u>ont</u>	02												-
pre-nucle	ars → p	-ª ∢ pre	-nuclea	<u>'s</u>)	= <u>p</u>	re-ni	uclear	s∢ p	re-nucl	ears		• •	pre	-nuc	lears		-
pre-nucle	ars 🗢 🗛 pi	re-nucl	<u>ears</u> = p	re-nu	clear	<u>s</u> 🔶	meta-	pre-n	uclear	<u>s</u> = <u>pr</u>	e-n	ucle	ars	<u>s</u> <u>s</u>	sub-a	tomics	
with <u>n</u> 'abbreviati	denoting o ive ideogra	ur '« <i>ari</i> am', a	ché» <u>ont</u> univocal	o', and , 'pho	1 <u>s</u> d no-n	lenot nner	ing its 10nic'	<i>first</i> ""cha	' <u>meta-</u> racter[<u>onto</u> ', izing]-	we	e ha nbo	ve f 1''',	frame or 'ii	ed a ntuit	new, sing ive litera	gular l', to

'abbreviative ideogram', a univocal, 'phono-mnemonic' ""character[*izing*]-symbol", or 'intuitive literal', to stand, more meaningfully, in place of \mathbf{g}_{nn} , to record our advancing cognition of the potential meaning of \mathbf{g}_{nn} . We have expressed this new existential category here, per the instantiating/exemplary purposes of this section, specifically, by \mathbf{s} , so that the *categorial self-progression* modeled by $\mathbf{\langle \underline{n} \rangle}^{2^{\mathsf{T}}}$ so far looks like this --

 $\underline{n} \rightarrow \underline{n} \Leftrightarrow \underline{s} \iff \hat{q}_1 \rightarrow \hat{q}_1 \boxplus \hat{q}_2$

-- such that $\underline{\mathbf{n}} \Leftrightarrow \underline{\mathbf{s}}$ denotes the first '<u>multi-ontic-cumulum</u>' emerging from the connotations of the '<u>first onto</u>', denoted specifically by $\underline{\mathbf{n}}$, now explicitly superposed with those of the '<u>first meta-onto</u>', denoted specifically by $\underline{\mathbf{s}}$: the first two components of a [<u>trans</u>-Leibnizian] '<u>Meta-Monadology</u>' of the 'physio-ontology' of the cosmos.

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The '<u>multi-meta-ontic meta-monadic consecuum-cumulum</u>', or, in this $\tau = 1$ case, the '<u>bi-ontic meta-monadic</u> <u>consecuum-cumulum</u>', denoted by $\underline{\mathbf{n}} \Leftrightarrow \underline{\mathbf{s}}$, is such that "matter", organized <u>only</u> up to the pre-/sub-<u>n</u>uclear level of material organization, still persists in existence -- is *«aufheben»*-conserved -- and may retain the bulk of the 'onto-mass' of the cosmos, even after the appearance of "matter" organized up to the next-higher level of material organization, the level of pre-atomic/<u>s</u>ub-atomic organization -- even after the irruption of the first pre-/<u>s</u>ub-atomic "particles" out of sufficient self-densifications of sub-/pre-<u>n</u>uclear "particles". That is, the cosmos is '<u>evolute</u>' in its 'diachronico-synchronic' structure, rather than '<u>convolute</u>'. The cosmos continues to reveal all of the past whorls of its spiral/helical self-unfoldment, rather than covering over each previous whorl with its successor-whorl. The cosmos, in short, exhibits an *«aufheben»* self-structuring.

Note that the constituents of the localized cosmological populations of this -- as of epoch $\tau = 1$ -- newly emergent, unprecedented physical ontology of 'sub-atomic «monads»' collectively exhibit "emergent qualities", dynamical qualities, or "laws" of behavior, which differ markedly from -- which differ <u>qualitatively</u> from -- those exhibited by the earlier-emergent/earlier-emerged, '«arché»-ic' ontology/localized cosmological populations of 'pre-/sub-<u>n</u>uclear «monads»'.

(1.5) <u>Step e</u>. 'Re-self-iterate' the result of the previous 'self-iteration', for $\tau = 2$.

Fifth, let's re-self-iterate the result of our first self-iteration, applying the rule of additive commutation twice* --

Write: $\tau = 2 \implies {}^{n}Q_{n} = (n)^{2^{1}} = (n)^{2^{2}} = (n)^{4} = (n^{2})^{2} = (n + s)^{2}$ $(\underline{n} \oplus \underline{s}) \oplus (\underline{n} \oplus \underline{s}) = (\underline{n} \oplus \underline{s}) \oplus (\underline{n} \oplus \underline{s}) = ((\underline{n} \oplus \underline{s}) \oplus (\underline{n} \oplus \underline{s}))$ $\left(\left(\underline{n} \oplus \underline{s} \right) \oplus \left(\underline{s} \oplus \underline{s} \oplus \underline{s} \oplus \underline{s} \right) \right) = \left(\left(\underline{n} \oplus \underline{s} \right) \oplus \left(\left(\underline{n} \oplus \underline{g} \oplus \underline{s} \oplus \underline{s} \oplus \underline{s} \oplus \underline{s} \oplus \underline{s} \right) \right) \right)$ * $(\underline{n} \oplus \underline{s} \oplus \underline{n} \oplus \hat{q}_{sn} \oplus \underline{s} \oplus \hat{q}_{ss}) = (\underline{n} \oplus \underline{n} \oplus \underline{s} \oplus \underline{s} \oplus \hat{q}_{sn} \oplus \hat{q}_{ss}) = (\underline{n} \oplus \underline{s} \oplus \hat{q}_{sn} \oplus \hat{q}_{ss})$ $(onto_1)^{2^3} = (onto_1)^{2^2} = (onto_1)^4 = (onto_1^2)^2 = (onto_1 + meta-onto_1)^2$ (<u>onto</u>₁ ⊕ <u>meta-onto</u>₁) ♦ (<u>onto</u>₁ ⊕ <u>meta-onto</u>₁) $r 4 onto_1 \oplus onto_2$ $(onto_1 \oplus onto_2) \oplus \Delta (onto_1 \oplus onto_2))$ ((onto1 + onto2) + (onto2+(onto1) + onto2+(onto2))) (onto1 + onto2) + (onto1 + gonto2,onto1) + (onto2 + g onto2,onto2) *(onto1 + onto2 + onto1 + g onto2, onto1 + onto2 + g onto2, onto2) € onto1 + onto1 + onto2 + onto2 + g onto2, onto1 + g onto2, onto2) (onto1 + onto2 + g onto2, onto1 + g onto2, onto1) onto₁
 onto₂
 onto₂
 onto₁
 onto₁
 meta-meta-onto₁
 onto₁
 onto₁ pre-nuclears + sub-atomics + hybrid[sub-atomics; pre-nuclears] + meta-meta-pre-nuclears =

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τ = 2	2	⇒	Q,	- <u>C</u>	2 -	Π	$\hat{\mathbf{g}}_1 \mathbf{I}^2$	-	E	ĝ₁]	2 ² =	I	ĝ₁ 1	4 =	E	<u><u><u></u></u><u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u></u>] ²	-	E ĝ	1 🖽	<u>ĝ</u> 2]] ²		-
Eĝ,	⊞ĝ	2] ⊠	Iĝ,	⊞ Â ₂]] -	Ľĝ₁	⊞ <u>q</u> 2	DCĝ		â₂]		•Eĝ	, œ ĝ	1 ₂]	-	Eĝ,	B	û 2 1	⊞		1 ⊞	ĝ2.	0	-
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(1.6) Step f. Consider the connotations, the possible intension/identification, of the new term, assigned to g.

Sixth, try to conceptualize the 'meta-connotation' suggested by the combination of the connotations of \underline{s} and of \underline{n} suggested by the ideogram $\hat{\mathbf{q}}_{sn} \leftrightarrow \hat{\mathbf{q}}_{3}$. Try to arrive at a <u>specific</u> univocal abbreviation-symbol that '<u>character</u>-izes', for your cognition, the category of "complex unity", the 'unifying complex', which integrates the connotations of the categories $\underline{s} \& \underline{n}$, replacing <u>generic</u> $\underline{\gamma}$: what should we mean by a category denoted by $\hat{\mathbf{q}}_{sn}$, given that it would appear to connote populations of pre-nuclear/sub-atomic hybrid units, or hybrid «monads»?

Often, we have found, in 'physio-dialectic' applications, such a category of ontological "'hybrids", or of ontological "'hybridization", can be located by attributing to it an *«arithmos»* of 'ontological *conversion formations*'. By an 'ontological *conversion formation*', we mean, in this context, a discrete cosmological process/formation which converts *«monads»*, or units, of a *predecessor onto* into *«monads»* of a *successor* onto. That is, in this example, we do <u>not</u> mean the process/formations which mediated the "*primitive*

accumulation" or "original accumulation" of \underline{s} ub-atomic "particles" from pre- \underline{n} uclear "particles". The $\{\underline{n}\}^{2^{x}}$ dialectical model 'retrodicts' that this was a process of <u>self</u>-interactive '<u>self-conversion</u>' by spatially concentrated, locally densified populations of pre- \underline{n} uclear "particles", irrupting \underline{s} ub-atomic "particles", as modeled by $\underline{n}(\underline{n})$, i.e., by the '<u>self-function</u>', '<u>self-operation</u>', or '<u>self-application</u>', "In "off" \underline{n} ", i.e., as modeled by $\underline{n}(\underline{n}) = \underline{n}^{2} = \underline{\hat{q}}_{n}^{2} = \underline{n} \oplus \underline{s}$. The classic example of an ontological category of "'heterotic", 'ontological other-conversion' is that of the «arithmos» that has stars as its units or «monads». Each new star is an 'autokinesic self-formation' that [initially] converts «monads» of the ' \underline{s} ub-atomics' onto -- i.e., Hydrogen ions, e.g., naked protons -- into «monads» of the ' \underline{a} tomics' onto, that is, into the nuclei of atoms of "higher atomic species", e.g., Helium nuclei, through the process known as "stellar nucleosynthesis". The star «monads» would thus be aptly 'retrodicted' if a term arose, in the later [higher τ -value] epochs' ontological self-expansion of the $(\underline{n})^{2^{T}}$ dialectical model, that looked like this: $\hat{\underline{q}}_{as}$, wherein \underline{a} would denote the ontological category of atoms as «monads». If the initial irruption of the \underline{a} "meristem" should be termed the "formal subsumption" of the predecessor ontology by \underline{a} .

That is, what we <u>do</u> mean, in this example, is a population of processes/formations which conduct <u>not</u> an initial, self-terminating, "original accumulation" of <u>sub-atomic</u> "particles", but an <u>ongoing</u>, 'reproductive accumulation', or '[expandedly] self-reproducing conversion' of populations of units/«monads» of the <u>n</u> «arithmos»/category, into populations of units/«monads» of the <u>s</u> «arithmos»/category, catalyzed by the very presence of the units/«monads» of category <u>s</u> previously-synthesized, first by "original accumulation" and later by "reproductive accumulation" as well, i.e., via formations, structures, or '<u>self</u>-structurings' -- self-organizing systems -- that involve/contain <u>both</u> <u>n</u>-type «monads» and <u>s</u>-type «monads», not just <u>n</u>-type «monads» alone, and that, "in the net", <u>consume</u> <u>n</u>-type «monads», as their "fuel", thereby, <u>producing</u> new <u>s</u>-type «monads», and which <u>produce</u> those <u>s</u>-type «monads» by turning the <u>n</u>-type «monads» that they <u>consume</u> into new <u>s</u>-type «monads», i.e., which "synthesize" <u>s</u>, from <u>n</u> as "raw material". ¿Do, or did, these possible 'conversion formations', the <u>g</u>_{sn}, 'retrodicted' as such by the <u>{n</u>}²⁵ dialectical model of the dialectic of the cosmos, actually exist? ¿Do they even still exist, in nature, per the scientific data/experience accumulated as part of the astronomical/astrophysical/cosmological project of the theoretical reconstruction of the <u>self</u>-construction of the cosmos by modern science to date?

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We interpret \mathbf{Q}_{τ} dialectical models as models asserting neither <u>certainty</u> nor as models asserting <u>probability</u>, but merely as models asserting <u>possibility</u>. Richer dialectical-ideographic languages, capable of descriptive expressions of greater "determinateness", of greater "thought-concreteness" and "thought-complexity" in the Hegelian-Marxian sense, arising later than does \mathbf{Q} in the 'meta-systematic dialectical' self-progression of the dialectical ideographies [for more on this, see Example 4, below], for higher values of τ in the \mathbf{Q}_{τ} model of that dialectical self-progression, are needed in order to adequately assert either <u>certainty</u> or <u>probability</u>. Thus, we interpret the \mathbf{Q}_{τ} model for $\tau = 2$ as asserting simply the <u>possibility</u> that <u>onto</u> $\mathbf{\hat{q}}_{sn}$ is a non-empty one; that 'self-formations' answering to a "hybrid" <u>onto</u> 'denotable' by that ideogram appear in the history of nature during and, perhaps, after this same τ -epoch, also characterized by the emergence of 'self-formations' answering to a <u>non</u>-hybrid or 'self-hybrid' <u>onto</u>, denotable by the ideogram $\mathbf{\hat{q}}_{ss}$ [also not yet identified within this discourse; but regarding which see sub-section 1.7, below]. That model does not, we hold, anything about the <u>probability</u>, or the <u>frequency</u> of observation/encounter/manifestation/instantiation, of the «monads» answering to the putative $\mathbf{\hat{q}}_{sn}$ «arithmoi».

Suppose you were to discover, in the data/experiential material turned up so far by modern science in its effort to reconstruct the 'self-meta-evolution' of this cosmos, that there is evidence, e.g., of the existence of pre-stellar and/or pre-galactic 'self-formations' which, in the net, convert cosmological populations of pre-nuclear "particle" «monads» into cosmological populations of **gub-atomic** "particle" «monads», in a way which is "'presided-over'' by the auto-catalytic presence of «monads» of the **s** category already produced. You would then be justified, we hold, in framing the hypothesis that those 'self-formations' answer to the 'retrodiction', by the ^{n}Q model of the dialectic of nature, of the objective existence, in the cosmological past, and, perhaps, also in the cosmological present/future, of local «arithmoi» of an ontic category 'character-izeable' by the 'characters-complex' or 'connotations-complex' \hat{g}_{an} .

(1.7) <u>Step q</u>. Consider the connotations, the possible intension/identification, of the new term, assigned to $\mathbf{\hat{g}}_4$. Seventh, try to conceptualize the '<u>self</u>-combinatory', <u>self</u>-confrontative <u>self</u>-critique or <u>immanent</u>-critiqueembodying category, arising from the 'self-reflexion'/'self-refluxion' of the category $\mathbf{\underline{s}}$ or $\mathbf{\hat{q}}_{\mathbf{s}} \leftrightarrow \mathbf{\hat{q}}_{\mathbf{2}}$, and suggested/connoted by the symbol $\mathbf{\underline{\Delta \underline{s}}}$ or $\mathbf{\hat{q}}_{\mathbf{s}\mathbf{s}} \leftrightarrow \mathbf{\hat{q}}_4$. Try to determine, if possible, a new 'phono-mnemonic', abbreviative ideogram that can encompass the connotations of the '<u>multi</u>-vocal' ideogram, $\mathbf{\hat{q}}_{\mathbf{s}\mathbf{s}}$, '<u>uni</u>-vocally'. We will here denote that category generically, algebraically, via the literal variable $\mathbf{\underline{x}}$, connoting that the connotative 'uni-symbol' sought is an ontological, qualitative value which is, as of this moment, a 'qualifier' "<u>unknown</u>" --

$\underbrace{ n \oplus \underline{s} \oplus \widehat{q}_{sn} \oplus \widehat{q}_{ss} }_{ = \underbrace{ q}_{n} \oplus \widehat{q}_{s} \oplus \widehat{q}_{sn} \oplus \widehat{q}_{ss} }_{ = \underbrace{ q}_{n} \oplus \widehat{q}_{nn} \oplus \widehat{q}_{nnn} \oplus \widehat{q}_{nnn} }_{ = \underbrace{ n \oplus \underline{h} \oplus \underline{h} \oplus \widehat{q}_{nnn} \oplus \underline{h} \oplus$

$(\underline{n} \oplus \underline{s} \oplus \hat{q}_{sn} \oplus \underline{A} \underline{s}) = (\underline{n} \oplus \underline{s} \oplus \underline{\gamma} \oplus \underline{\chi}) = (((\underline{onto}_1 \oplus \underline{meta-onto}_1) \oplus \underline{uni-onto}_1) \oplus \underline{meta-onto}_2)) =$

((((onto1 + meta-onto1) + uni-onto1) + meta-meta-onto1)).

The 'poly-qualinomial' sum above denotes what we term the 'second meta-ontic, meta-monadic meristem', or 'ontological vanguard', of the 'bi-meta-ontic, bi-meta-monadic' physio-cumulum, as 'ontological meta-state' of the 'self-meta-evolving' totality of Nature as of epoch $\tau = 2$, per the "Q dialectical model of the history of Nature. Again, let us ask ourselves: ¿What shall we call the 'meta-«monads»' or 'meta-units' of the 'meta-onto' of the 'meta-«arithmoi» denoted and connoted by gss, if we expect that each 'meta-«monad»' of gss is made up out of a heterogeneous multiplicity of the units/ «monads» of its predecessor onto of «arithmoi», gs = S, that is, if the «monads» of gss = As are 'meta-sub-atoms' each made up out of a heterogeneous multiplicity of 'sub-atoms', created via a self-«aufheben» 'self-internalization', or 'self-subsumption', of localized populations of sub-atomic «monads»? ¿What should such 'meta-sub-atomics' properly be named? If our answer is that these 'meta-units', or 'meta-«monads»', of gss must be "atoms" [in the sense of modern, not of ancient, science], i.e., those 'meta-"particles" each made up out of varying numbers of electrons plus of the sub-atomic "particles" called <u>protons</u> and <u>neutrons</u>, then we can re-denote \mathbf{q}_{ss} by \mathbf{q}_a or \mathbf{a} , and write: $\mathbf{Q}_a = \{ \mathbf{n} \oplus \mathbf{s} \oplus \mathbf{q}_{sn} \oplus \mathbf{a} \}$. Thus, our solution to the qualitative algebraic problem posited above can be written-out as follows: $\chi = a$, $\hat{\mathbf{g}}_1 \rightarrow \hat{\mathbf{g}}_1 \equiv \hat{\mathbf{g}}_2 \rightarrow \hat{\mathbf{g}}_1 \equiv \hat{\mathbf{g}}_2 \equiv \hat{\mathbf{g}}_3 \equiv \hat{\mathbf{g}}_4$ n + s + gsn + a and we have: $n \rightarrow n \Leftrightarrow s$

(2) Example 2.: Meta-System-atic Dialectic -- The Dialectic of Arithmetical/Algebraical Systems of Logic.

<u>Note</u>: We use the term "logics" here in a very «gen»-eral sense. By a "logic" we mean a "«species»" system of rules belonging to the «genos» of systems of rules regarding 'followership' -- regarding what [ought to/does] follow(s) [from] what.

Suppose that our project is to model the 'qualo-Peanic self-progression' -- the "'dialectic''' -- of the extant/possible systems of arithmetical/algebraical logic. Suppose that our aim in this project is <u>not</u> necessarily to present these systems in their [<u>psych[e]o-]historical</u> order of appearance in Terran human history. Suppose that, instead, our aim is to present them in a "'systematic''' order. Suppose that our intended audiences for such presentation consist of those who have experienced various systems of logical arithmetic/algebra "chaotically" [cf. Marx], or in <u>un</u>systematic <u>dis</u>order, but who wish to "comprehend"' their experience thereof via a "'comprehensive''' exposition, one whose "taxonomic''' classification and ordering of these categories/systems of logical arithmetic and of logical algebra applies the dialectical «aufheben» principle of 'ideo-meta-monadology' to the 'ideo-[meta-]«monads»', or "'logical-numbers''' as "'idea-objects''', of each successive/progressive «arithmos» of logic.

(2.1) <u>Step α </u>. Assign the rules-system for the ideo-«arithmos» of the Boolean "Logical Numbers" to $\hat{\mathbf{g}}_1$.

Suppose that we take George Boole's arithmetic and algebra of formal, deductive logic, upon which Boole published in 1847 and again in 1854 [with a likeness to one of Leibniz' 1686-drafted arithmetico-algebraic logics, all of which were unpublished during Leibniz' lifetime [see W. Lenzen, Leibniz's Logic, in Handbook of the History of Logic, vol. 3, The Rise of Modern Logic: From Leibniz to Frege, Elsevier [NY: 2004], pp. 9; 16.]. Leibniz's publications on ideographical logic, «characteristica universalis», and on his vision of an "alphabet of ideas'" began in 1666, the same «annus mirabilis» which saw Newton's discovery of his "method of fluxions'" [differential calculus]], i.e., the original 'Boolean arithmetic' and "Boolean algebra'", to be the 'meta-system-atic' «arché» of the systems [of the 'meta-system'] of the possible arithmetics and algebras of logics [as well as their historic «arché»]. If we do so, then we have, therefore, representing the rules-system of Boolean arithmetico-algebraic logic, the 'phono-mnemonic abbreviation' **E**, standing for that arithmetic/algebra of what Boole called the "mental operation" or "mental act" of "Election" [see H. de Nemores, Supplement A to the F.E.D. Introductory Letter, pp. 36-42.].

First, let's "interpret" $\hat{\mathbf{q}}_1$ by, or "assign" $\hat{\mathbf{q}}_1$ to, our \mathbf{E} : $\underline{\alpha} = \mathbf{E}$ -- write: $\hat{\mathbf{q}}_1 \leftrightarrow \mathbf{E}$

= «arché» = thesis1 = ideo-onto1 = ideo-system1 = first logic-arithmetic = Boolean arithmetic.

Let us then recall the principle characteristics of the rules-system of [later] **B**oolean logical arithmetic -- of the **B**oolean ideography for *«dianoia»* -- including that, for every **x** in **E** = {**0**_B, **1**_B}, with **E** thus denoting the set or <u>space</u> of 'Boolean numbers' or '[formal-]logical numbers', we have the "dual" rules:

x + x = x [the rule of "additive idempotency"], e.g., $0_B + 0_B = 0_B$ and $1_B + 1_B = 1_B$ [$\neq 2$; hence $1_B \neq 1$];

 $x \times x = x$ [the rule of "multiplicative idempotency"], or $x^2 = x$, e.g., $0_B \times 0_B = 0_B$ and $1_B \times 1_B = 1_B$.

(2.2) <u>Step β </u>. Insert the symbol denoting the rules-system of the Boolean "Arithmetic of Logic" into the \underline{Q}_{t} formula.

Second, let's place our mnemonic ideogram denoting the '*ideo-onto*', i.e., the category of '*«ideo»-ontology*', i.e., the '*ideo-ontological category*' of the Boolean category/rules-system of 'logic-arithmetic', into the Q_x 'self-iterator'. Write:

$\mathbf{E} \underline{\mathbf{Q}}_{\tau} = \left(\mathbf{E}\right)^{2^{\tau}} = \left(\underline{\text{logic-arithmetic thesis}}_{1}\right)^{2^{\tau}} = \left(\underline{\text{logic-arithmetic ideo-onto}}_{1}\right)^{2^{\tau}} \Leftrightarrow \mathbf{I} \hat{\mathbf{Q}}_{1} \mathbf{I}^{2^{\tau}}.$

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(2.3) <u>Step γ</u> . 'Self-iterate' the symbol denoting the rules-s	system of the Boolean "Logic-Arithmetic" for $\tau = 1$.
Third, let's 'self-apply' E , to see what the self-«aufheben» self-con	frontation/self-critique of E logic looks like, syntactically.
Write: $\tau = 1 \implies [\underline{Q}_{\tau} = [\underline{Q}_{1} = ([\underline{E}])^{2^{1}} =$	$(\underline{E})^2 - \underline{E}(\underline{E}) - c^2(\underline{E}) = -$
<u>E</u> <u>∆E</u> =	$\mathbf{E} \xrightarrow{\mathbf{e}} \overset{\mathbf{e}}{\mathbf{q}}_{\underline{\mathbf{e}}\underline{\mathbf{e}}} = \overset{\mathbf{e}}{\mathbf{q}}_{\underline{\mathbf{e}}} \xrightarrow{\mathbf{e}} \overset{\mathbf{e}}{\mathbf{q}}_{\underline{\mathbf{e}}\underline{\mathbf{e}}} =$
$\left(\underline{\text{logic-arithmetic}}_{1} \right)^{2^{1}} = \left(\underline{\text{logic-arithmetic}}_{1} \right)^{2} =$	logic-arithmetic ₁ (logic-arithmetic ₁) =
ه•(<u>logic-arithmetic</u> 1) = <u>logic-arithmetic</u> 1 →	<u>∆logic-arithmetic</u> 1 =
logic-arithmetic ₁ - meta[logic-arithmetic]1 =	Boolean logic meta-Boolean logic -
Boolean logic contra-Boolean logic =	logic-thesis ₁ logic contra-thesis ₁ =
$\Leftrightarrow \tau = 1 \Rightarrow \underline{\mathbf{Q}}_{\tau} = \underline{\mathbf{Q}}_{1} = \mathbf{I} \stackrel{\mathbf{A}}{\mathbf{Q}}_{1} \mathbf{I}^{2^{1}}$	$= \mathbf{I} \hat{\mathbf{g}}_1 \mathbf{J}^2 = \hat{\mathbf{g}}_1 \mathbf{I} \hat{\mathbf{g}}_1 \mathbf{J} = \mathbf{c}^2 \mathbf{I} \hat{\mathbf{g}}_1 \mathbf{J} = \hat{\mathbf{g}}_1 \ast \hat{\mathbf{g}}_1$
$= \hat{g}_1 \equiv \Box \hat{g}_1 = \hat{g}_1 \equiv \hat{g}_{1+1}$	$= \hat{\mathbf{q}}_1 \equiv \hat{\mathbf{q}}_2.$

(2.4) Step δ . Consider the possible meanings of the resulting new term, assigned to \mathbf{g}_2 .

Fourth, let us consider the possible meaning(s) of $\Delta \mathbf{E}$ and of $\mathbf{q}_{\mathbf{EE}}$, the qualitative, 'ideo-ontological' connotation(s), per your mental perception, that might "satisfy" the ideographic equation $\mathbf{E}(\mathbf{E}) \circ \mathbf{E} = \Delta \mathbf{E}$, or PE OE = X; the connotations of the self-critique, or immanent critique -- of the self-opposition, and «aufheben» self-negation -- of the Boolean thesis of logic; of the Boolean rules of conceptual followership or succession; of the Boolean arithmetic/algebra and of the logic which it models.

We propose the following construction of the connotations of **ΔE**: (1) that the *additive idempotency rule* for 'Boolean numbers' be conserved in the rules-system of the 'contra-Boolean numbers' of **ΔE**. We so propose because we hold that 'contra-Boolean logic' should mean and arithmetic and algebra of 'contra-formal logic' grasped as an arithmetic and algebra of "dialectical logic", such as that of the «arithmos eidetikos» of Plato, the Platonic-dialectical "arithmetic of ideas". If the 'contra-Boolean numbers' of this 'contra-Boolean arithmetic' are to be used to represent dialectical concepts, or categorial [ev]entities, then the idempotent addition rule captures the logic of uniqueness of concepts and categories, e.g., there need be but one concept or category for the «genos» 'apples', though there may be many different species of apple, and, moreover, many different individual apples, embraced by that unique and singleton intensional categorial [ev]entity: "...it is impossible that any kinds of number corresponding to those of the dianoetic realm [the realm of 'dianoia', i.e., of 'pre-/sub-dialectical' thinking - F.E.D.] should exist here, since each <u>eidetic number</u> is, by virtue of its <u>eidetic character</u> [«eide»-character or ulca-nature - F.E.D.], <u>unique</u> in kind [i.e., qualitatively unique/distinct/<u>heterogeneous</u> and without replicas or 'replicability'- F.E.D.], just as each of its "monads" has not only unity but also <u>uniqueness</u>. For each idea is characterized by being always the same and simply <u>singular</u> in contrast to the unlimitedly many <u>homogeneous</u> monads of the realm of mathematical number, which can be rearranged as often as desired into definite numbers. ...each eidos is, by contrast, unreproducible and truly one (Metaphysics A 6, 987 b 15 ff .: " ... an eidos is each by itself one only" ...)." [Excerpted from J. Klein, Greek Mathematical Thought and the Origin of Algebra, [NY: Dover, 1992], pp. 90-91, bold italic emphasis added by F.E.D.]; (2) that the multiplicative idempotency rule for 'Boolean logic-numbers' be negated, i.e., that the rule $[\forall x \in E][x^2 = x]$ become the rule $\neg [\forall \hat{x} \in \Delta E][\hat{x}^2 = \hat{x}]$, but <u>not</u> in the sense, shared by ordinary, e.g., "rational" numbers, with exceptions 0 & 1, that $[\forall x \in \Delta E][x^2 \neq x]$, meaning $[\forall x \in \Delta E][x^2 \ x]$, but, instead, and on the contrary, per the NQ 'dialectical meta-numbers', that $[\forall \hat{X} \in \Delta E][\hat{X}^2 \neq \hat{X}]$, meaning $[\forall \hat{X} \in \Delta E][\hat{X}^2 \nmid \hat{X}]$. That is, for all 'logic-numbers' contained in ΔE [denoting the set or space of the 'contra-Boolean logic-numbers', whose rules-system is denoted by **DE**], the proposed rule is that such a number "squared", or self-applied, is non-quantitatively different from, or qualitatively different from, that number itself, 'unsquared'. 13

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Thus, the underscored 'curviform delta' symbol, Δ , connotes a <u>qualitative</u> incrementation operator/operation, i.e., an <u>ontological</u> incrementation operator/operation, one that symbolizes a change in <u>kind</u>, rather than a change in <u>quantity</u>.

[<u>Technical Note</u>: Because $\underline{\mathbb{E}}$ involves $\mathbf{0}_{\mathsf{B}}$, and is thus related to \mathbf{W} , not just to \mathbf{N} , so that $\underline{\Delta \mathbb{E}}$ is satisfied, we hold, by $\underline{\mathbf{w}}\underline{\mathbf{Q}}$, but not fully by $\underline{\mathbf{N}}\underline{\mathbf{Q}}$, the rule $[\forall \hat{\mathbf{X}} \in \Delta \mathbb{E}][\hat{\mathbf{X}}^2 \stackrel{3}{\neq} \hat{\mathbf{X}}]$, stated more adequately, and more accurately, becomes $[\forall \hat{\mathbf{X}} \in \Delta \mathbb{E} \otimes \{\mathbf{q}_{\mathsf{N}}\}][\hat{\mathbf{X}}^2 \stackrel{3}{\neq} \hat{\mathbf{X}}]]$.

Lest these two proposals appear arbitrary, let us further explore their rationale. Boole wrote: "...the factor 1 + x ... is not interpretable [within the rules-system of Boolean algebra -- F.<u>E.D</u>.], because we cannot conceive of the addition of any class x to the universe 1..." [G. Boole, <u>An Investigation of the Laws Of Thought on Which are Founded the Mathematical Theories of Logic and Probabilities</u>, [New York: Dover, 1958], pp. 50m.; originally published in 1854; bold italics <u>emphasis</u> added by F.<u>E.D</u>.].

Boole did not mean, we hold, by this assertion, what it literally seems to state, if not interpreted as a technical comment arising from Boole's requirement that "logical addition" be defined only for entities which have no content in common. Nonetheless, it does, even when interpreted per that technicality, still point to the otherwise implicit '*Parmenidean assumption*' of an *ontologically statical* "Universe" [of discourse] -- i.e., of an '*ideo-onto-stasis*' -- in the Boolean arithmetical/algebraical modeling of formal logic: there can be no "class", '**X**', which is not *always already* part of the "<u>U</u>niverse", **1**, so no **x** can ever be '*Boolean-added*' to that **U**.

There are never any <u>new</u> xs arising in, or added to, a Boolean "Universe".

Thus, \mathbf{E} or $\mathbf{\hat{g}}_{\mathbf{E}}$ denotes the rules-system of an ideography of/for logic, which is confined to the '<u>onto-statical</u>' aspects of universes of discourse in general. We propose that $\Delta \mathbf{E}$ or $\mathbf{\hat{g}}_{\mathbf{EE}}$, denoting the rules-system of a <u>contra</u>-Boolean logic -- of a '<u>contra-thesis</u>' to the "<u>thesis</u>" of Boolean logic -- should therefore connote the contrary: a rules-system of an ideography of/for a logic which embraces the '<u>onto-dynamical</u>' -- including the **ontologically self-expanding** -- aspects of universes of discourse in general. That is, we propose that $\mathbf{\hat{g}}_{\mathbf{EE}}$, as equal to $\mathbf{e}^{-\mathbf{\hat{g}}}_{\mathbf{B}} \otimes \mathbf{\hat{g}}_{\mathbf{E}}$, should include (a) rule(s) to model/describe universes [of discourse] which continually, and spontaneously, "auto-kinetically", generate internally, and add to themselves, new kinds of [idea-]being, new '[ideo-]ontos', new [ideo-]ontology. The rule $\mathbf{\hat{x}} \rightarrow \mathbf{\hat{x}}^2 \neq \mathbf{\hat{x}}$, a negation of the rule $\mathbf{\hat{x}}^2 \neq \mathbf{\hat{x}}$ and such that $\mathbf{\hat{x}}^2 = \mathbf{\hat{x}} \equiv \Delta \mathbf{\hat{x}}$, together implying $\mathbf{\hat{x}} \neq \Delta \mathbf{\hat{x}}$, captures a capability to model '<u>onto-dynamics</u>', as contrary to 'onto-stasis'. The rule $\mathbf{\hat{x}}^2 \neq \mathbf{\hat{x}}$ is a contrary of the rule $\mathbf{x}^2 = \mathbf{x}$ that conduces to modeling 'ontological dynamics' better than does the alternative contra-rule, $\mathbf{x}^2 \neq \mathbf{x}$.

Let us therefore, in summary, consider the following <u>hypothesis</u> as to the *rules of behavior* requisite to the *'contra-Boolean logic-numbers*', or '*dialectical-logical meta-numbers*', which constitute and characterize the expected $\mathbf{g}_{\mathbf{re}}$ space of the $\mathbf{g}_{\mathbf{re}}$ rules-system.

Let us denote some examples of these 'logical meta-numbers' by $\hat{\mathbf{x}}, \hat{\mathbf{y}}$, and $\hat{\mathbf{z}}$, such that all three are inside $\hat{\mathbf{q}}_{\text{meta}}$.

We then assume that the $\mathbf{\hat{q}}_{\mathbf{EE}}$ «aufheben»-conserve and continue the <u>additive</u> idempotency rule of the $\mathbf{\hat{q}}_{\mathbf{E}}$, i.e., such that, for every $\mathbf{\hat{x}}$ in $\mathbf{\hat{q}}_{\mathbf{EE}}$, $\mathbf{\hat{x}} \equiv \mathbf{\hat{x}} = \mathbf{\hat{x}}$. We also assume that the $\mathbf{\hat{q}}_{\mathbf{EE}}$ «aufheben»-negate and transform the <u>multiplicative</u> idempotency rule of the $\mathbf{\hat{q}}_{\mathbf{E}}$, positing the strongest contrary we can presently conceive to the Boolean rule which Boole termed "the fundamental law of thought", $\mathbf{x} \times \mathbf{x} = \mathbf{x}$, i.e., such that, for every $\mathbf{\hat{x}}$ in $\mathbf{\hat{q}}_{\mathbf{EE}}$, $\mathbf{\hat{x}} \boxtimes \mathbf{\hat{x}} = \mathbf{\hat{x}} \boxplus \Box \mathbf{\hat{x}} \stackrel{?}{\neq} \mathbf{\hat{x}}$, thus replacing the Boolean <u>multiplicative</u> idempotency rule with what might be termed the 'contra-Boolean' rule of '<u>multiplicative</u> super-potency', of '<u>multiplicative</u> hyper-potency', or of '<u>multiplicative</u> meta-potency'.

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We assume further that, for $\hat{\mathbf{g}}_{\mathbf{EE}}$, $\hat{\mathbf{X}}$ and $\hat{\mathbf{Y}}$ in $\hat{\mathbf{g}}_{\mathbf{EE}}$ such that $\hat{\mathbf{X}} \neq \hat{\mathbf{Y}}$ implies that $\hat{\mathbf{X}} \neq \hat{\mathbf{Y}}$, and, moreover, that there is no $\hat{\mathbf{Z}}$ in $\hat{\mathbf{G}}_{\mathbf{EE}}$ such that $\hat{\mathbf{X}} \equiv \hat{\mathbf{Y}} = \hat{\mathbf{Z}}$, other than $\hat{\mathbf{X}} \equiv \hat{\mathbf{Y}}$ itself, i.e., that "heterogeneous sums", or "inhomogeneous sums", such as $\hat{\mathbf{X}} \equiv \hat{\mathbf{Y}}$ remain "non-amalgamative" or "irreducible".

Then, given the definition that the *rules-system* of the ""Whole Numbers" arithmetic, which we denote by W, has, for its 'number-space', the space $W = \{0, 1, 2, 3, ...\}$, $= \mathbb{N} \cup \{0\}$, we have that the arithmetic/algebra of logic, described above, is an arithmetic/algebra of '<u>contra-Boolean</u>' <u>logic</u>, in the form of a *rules-system* for a "<u>dialectical logic</u>", noneother than the <u>wQ</u> *rules-system*, a *«species»* of the *«genos»* of the *rules-system* of the <u>Q dialectical ideography</u> --

 $\mathbf{E}^2 \otimes \mathbf{E} = \Delta \mathbf{E} = \mathbf{G}_{\mathbf{E}\mathbf{E}} = \mathbf{X} = \mathbf{wQ}$

-- with the following basic rules of the wQ rules-system:

(1) $[\forall w, v \in W] [\forall \hat{q}_w, \hat{q}_v \in \underline{wQ}] [[w \neq v] \Rightarrow [\hat{q}_w \ddagger \hat{q}_v]], 'rule of heterogeneity';$

 $(2) [\forall w, v \in \mathbf{W} = \{0\}] [\forall \hat{\mathbf{g}}_{w}, \hat{\mathbf{g}}_{v} \in \underline{wQ} = \{q_{v}\}] [[w \neq v] \Rightarrow \nexists \hat{\mathbf{g}}_{w} \in \underline{wQ} | [\hat{\mathbf{g}}_{w} \equiv \hat{\mathbf{g}}_{v} = \hat{\mathbf{g}}_{w}]],$

'rule of irreducibility';

(3) $[\forall w \in W] [\forall \hat{g}_w \in \underline{wQ}] [[w = w] \Rightarrow \hat{g}_w \equiv \hat{g}_w = \hat{g}_w]$, 'rule of additive idempotency';

(4) $[\forall w \in W = \{0\}] [\forall \hat{g}_w \in \underline{wQ} = \{q_0\}] [\hat{g}_w^2 \ddagger \hat{g}_w]$, 'rule of multiplicative meta-potency'.

So we have --

 $\mathbf{E} \rightarrow \mathbf{e}^{\mathbf{E}} = \mathbf{E} \otimes \mathbf{E} = \mathbf{E}^{2} - \mathbf{E}(\mathbf{E}) = \mathbf{E} \rightarrow \Delta \mathbf{E} = \mathbf{E} \rightarrow \mathbf{A}^{2} \mathbf{a}_{\mathbf{E}} = \mathbf{A}^{2$

Boolean ideography² = Boolean ideography(Boolean ideography)

Boolean ideography of Boolean ideography

Boolean ideography ----

Boolean ideography

Boolean ideography ---- contra-Boolean ideography

Boolean ideography for formal/deductive logic ---- dialectical ideography for dialectical logic.

The principle of '<u>Meta-Monadology</u>' -- of «aufheben» '<u>meta-monadization</u>' -- is also instantiated in this example of '<u>metasystematic dialectic</u>', as it was in the preceding example, of <u>historical dialectic</u> [Please reference H. de Nemores, <u>Supplement A</u>. to the F.<u>E.D</u>. Introductory Letter, page 40, for an exposition of the sense(s) in which each wQ space is a 'meta-**E** space', made up out of a heterogeneous multiplicity of **E** spaces. Briefly, the wQ space is 'constitutable' as a potentially-infinite multitude of **E** spaces, arranged in mutual perpendicularity, with all sharing only, and bridged together by, the "point" **a**, interpretable, variously, as denoting "'Nothing'', existential/ontological "'Absence''', propositional falsity, etc., so that wQ is, indeed, a self-«aufheben» of **E**, and wQ a <u>meta-</u>«monad» of **E** as «monad».].

(2.5) Step ε . 'Re-self-iterate' the result of the previous 'self-iteration', for $\tau = 2$. Fifth, self-iterate the (E . wQ) result of our first self-iteration; apply the additive commutation rule twice* --Write: $\tau = 2 \implies {}^{E}Q_{r} = {}^{E}Q_{r} = (E)^{2^{T}} = (E)^{2^{2}} = (E)^{4} = (E^{2})^{2} = (E \oplus Q)^{2}$ $(E \oplus wQ) \otimes (E \oplus wQ) = (E \oplus wQ) (E \oplus wQ) = c^{2}(E \oplus wQ) = ((E \oplus wQ) \oplus \Delta(E \oplus wQ))$ $((\underline{E} \oplus \underline{wQ}) \oplus (\underline{wQ}(\underline{E}) \oplus \underline{wQ}(\underline{wQ}))) = ((\underline{E} \oplus \underline{wQ}) \oplus ((\underline{E} \oplus \underline{\widehat{q}}_{QE}) \oplus (\underline{wQ} \oplus \underline{\Delta}(\underline{wQ})))$ *($\mathbf{E} \oplus \mathbf{w} \mathbf{Q} \oplus \mathbf{E} \oplus \overset{\mathbf{E}}{\mathbf{q}_{\text{OE}}} \oplus \mathbf{w} \mathbf{Q} \oplus \overset{\mathbf{E}}{\mathbf{q}_{\text{OO}}}$) = ($\mathbf{E} \oplus \mathbf{E} \oplus \mathbf{w} \mathbf{Q} \oplus \mathbf{w} \mathbf{Q} \oplus \overset{\mathbf{E}}{\mathbf{q}_{\text{OE}}} \oplus \overset{\mathbf{E}}{\mathbf{q}_{\text{OO}}}$) $(\mathbf{E} \oplus \mathbf{w} \mathbf{Q} \oplus \mathbf{g}_{\mathsf{QE}} \oplus \mathbf{g}_{\mathsf{QQ}}) = (\mathbf{E} \oplus \mathbf{g}_{\mathsf{Q}} \oplus \mathbf{g}_{\mathsf{QE}} \oplus \mathbf{g}_{\mathsf{QE}} \oplus \mathbf{g}_{\mathsf{QQ}}) = (\mathbf{g}_{\mathsf{E}} \oplus \mathbf{g}_{\mathsf{EE}} \oplus \mathbf{g}_{\mathsf{EEE}} \oplus \mathbf{g}_{\mathsf$ $\left(\frac{\text{logic-thesis}_1}{2} \right)^{2^*} = \left(\frac{\text{logic-thesis}_1}{2} \right)^{2^*} = \left(\frac{\text{logic-thesis}_1}{2} \right)^4 = \left(\frac{\text{logic-thesis}_1}{2} \right)^2$ (logic-thesis₁ ⊕ logic contra-thesis₁)² (logic-thesis₁ ⊕ logic contra-thesis₁)⊗(logic-thesis₁ ⊕ logic contra-thesis₁) (logic-thesis1 ⊕ logic contra-thesis1)(logic-thesis1 ⊕ logic contra-thesis1) c²(logic-thesis₁ ⊕ logic contra-thesis₁) ((logic-thesis₁ ⊕ logic contra-thesis₁) ⊕ ∆(logic-thesis₁ ⊕ logic contra-thesis₁)) (logic-thesis, ⊕ logic contra-thesis,) ⊕ (logic contra-thesis, ⊗ (logic-thesis,) ⊕ logic contra-thesis, ⊗ (logic contra-thesis,))) = (logic-thesis + @ logic contra-thesis +) @ (logic-thesis + @ giogic contra-thesis + logic contra-thesis +) @ (logic contra-thesis + logic + l * (logic-thesis + @ logic contra-thesis + @ logic contra-thesis + (logic-thesis, Degic-thesis, Degic contra-thesis, Degic contra-thesis, Degic contra-thesis, logic contra-thesis, Degic contra-thesis, (logic-thesis + logic contra-thesis + Quogic contra-thesis +, logic-thesis + Quogic contra-thesis +, logic contra-thesis +)= Iogic1
 contra-logic1
 contra-contra-logic1
 contra-logic2) (logic1 ⊕ contra-logic1 ⊕ hybrid[contra-logic1; logic1] ⊕ contra-logic2) (logic₁ ⊕ contra-logic₁ ⊕ hybrid-logic₁ ⊕ contra-logic₂) (logic1 ⊕ contra-logic1 ⊕ uni-logic1 ⊕ contra-logic2) $\tau = 2 \implies \underline{Q}_{\tau} = \underline{Q}_{2} = [[\hat{\underline{q}}_{1}]]^{2^{\tau}} = [[\hat{\underline{q}}_{1}]]^{2^{2}} = [[\hat{\underline{q}}_{1}]]^{4} = [[\hat{\underline{q}}_{1}]^{2} = [[\hat{\underline{q}}_{1}]]^{2} = [[\hat{\underline{q}}_{1}]]^{2} = [[\hat{\underline{q}}_{1}]]^{2}$ $\llbracket \hat{\mathbf{g}}_1 \equiv \hat{\mathbf{g}}_2 \rrbracket \boxtimes \llbracket \hat{\mathbf{g}}_1 \equiv \hat{\mathbf{g}}_2 \rrbracket = \llbracket \hat{\mathbf{g}}_1 \equiv \hat{\mathbf{g}}_2 \rrbracket \llbracket \hat{\mathbf{g}}_1 \equiv \hat{\mathbf{g}}_2 \rrbracket = \llbracket \hat{\mathbf{g}}_1 \equiv \hat{\mathbf{g}}_2 \rrbracket = \llbracket \hat{\mathbf{g}}_1 \equiv \hat{\mathbf{g}}_2 \rrbracket = \llbracket \hat{\mathbf{g}}_1 \equiv \hat{\mathbf{g}}_2 \rrbracket \equiv \llbracket \llbracket \hat{\mathbf{g}}_1 \equiv \hat{\mathbf{g}}_2 \rrbracket$ = $\llbracket \llbracket \hat{\mathbf{q}}_1 \equiv \hat{\mathbf{q}}_2 \rrbracket \equiv \llbracket \hat{\mathbf{q}}_2 \llbracket \hat{\mathbf{q}}_1 \rrbracket \equiv \hat{\mathbf{q}}_2 \llbracket \hat{\mathbf{q}}_2 \rrbracket \rrbracket \rrbracket \rrbracket = \llbracket \llbracket \hat{\mathbf{q}}_1 \equiv \hat{\mathbf{q}}_2 \rrbracket \equiv \hat{\mathbf{q}}_{2+1} \rrbracket \equiv \llbracket \hat{\mathbf{q}}_2 \equiv \hat{\mathbf{q}}_{2+2} \rrbracket \rrbracket$ * $\llbracket \hat{q}_1 \equiv \hat{q}_2 \equiv \hat{q}_1 \equiv \hat{q}_3 \equiv \hat{q}_2 \equiv \hat{q}_4 \rrbracket = \llbracket \hat{q}_1 \equiv \hat{q}_1 \equiv \hat{q}_2 \equiv \hat{q}_2 \equiv \hat{q}_3 \equiv \hat{q}_4 \rrbracket = \llbracket \hat{q}_1 \equiv \hat{q}_2 \equiv \hat{q}_3 \equiv \hat{q}_4 \rrbracket$ E.D. Briefs. The Q Dialectical Algebra: How To Use. [v.1.0] 16 Distributed «Samizdat» by Foundation Encyclopedia Dialectica

(2.6) <u>Step ζ </u>. Consider the possible meanings of the resulting new term, assigned to $\hat{\mathbf{g}}_3$.

Sixth, let us carry through the 'connotative calculation' symbolized ideographically by --

$\underline{wQ(E)} = \underline{f}_{\underline{Q}}(\underline{f}_{\underline{E}}) = \underline{f}_{\underline{Q}} \otimes \underline{f}_{\underline{E}} = \underline{f}_{\underline{Q}} \oplus \underline{f}_{\underline{Q}\underline{E}} = \underline{E} \oplus \underline{f}_{\underline{Q}\underline{E}} \iff \underline{f}_{\underline{Q}\underline{E}} \underline{f}_{\underline{Q}} \underline{f}_{\underline{Q}} \underline{f}_{\underline{Q}} = \underline{f}_{\underline{Q}} \oplus \underline{f}_{\underline{Q}} \underline{f}_{\underline{Q}} \underline{f}_{\underline{Q}} = \underline{f}_{\underline{Q}} \oplus \underline{f}_{\underline{Q}} \underline$

-- which connotes the "subsumption" of **E** by **Q**, which process is also, equivalently, symbolized by --

 $\underline{wQ}(\underline{E}) = \underline{E} \oplus \underline{X}$

-- where it is our goal to "solve for" the [qualitative] meaning of $X = \hat{q}_{QE}$.

Thus, \underline{X} , or $[\underline{g}_{QE}]$, connotes something -- a system of rules of a new kind of arithmetic and algebra of logic; of a new "space" of 'meta-numbers' of/for modeling [a new kind of] logic -- that somehow combines \underline{wQ} and \underline{E} . That is, \underline{X} connotes something which constitutes, indeed, a category of the "complex unity", or of the 'unifying complex', of the erstwhile opponents within the category of 'logical ideographies', one sub-category denoted \underline{E} , and the other, qualitatively opposing that first sub-category, denoted \underline{wQ} . The new sub-category, denoted \underline{mQ} . But thus connote the rules-system of an ideography of logic that exhibits characteristics of both \underline{E} and \underline{wQ} . But the referent of $[\underline{g}_{QE}]$ must also differ qualitatively from -- must differ 'ideo-ontologically' from -- and in that sense, at least, oppose, each -- both -- of its 'ideo-ontological' predecessors; 'contrarizing' [to] both of its predecessor 'ideo-ontologies' of the ideographies of logic.

Let us try out the hypothesis that \mathbf{fige} should connote the rules-system for an *«arithmos»* of 'meta-number' unit[ie]s, or *«monads»*, each of which consists of, and combines, a 'Boolean [co-]factor' with a 'contra-Boolean [co-]factor', forming a new whole unit, or 'module', which is a product of these two 'co-factors'. This hypothesis holds, further, that the 'Boolean co-factor', which partially "*quantifies*" the contra-Boolean 'qualifier' co-factor, can take on <u>only</u> [either of] the two Boolean values, **0**_B or **1**_B, i.e., the "quantification" of the 'qualifier' is either all [\forall , or ' \mathbf{F} ', signifying full manifestation/'extantcy', or full existential <u>assertion</u>], or *none* [\nexists , signifying complete 'non-existence' as full 'unmanifestation' / 'undetectability' / 'unobservability'].

<u>Conjecture</u>. The following '<u>ideo-construct</u>[ion] might "fill the bill": A rules system for an ideography of logic combining, in itself, in 'generalized-multiplicative', or 'generalized-product', fashion, for each of its possible 'meta-number unities, or 'meta-number «monads»', a 'Boolean-quantity'-valued [.: <u>partial</u>] <u>quantifier</u> and/with a 'contra-Boolean', 'quasi-quantifiable', or 'partially-quantifiable', '<u>ontological qualifier</u>' --

$\forall w \in W: \ b_w(\tau) \boxtimes \underline{b}_w, \text{ or, simply, } b_w(\tau)\underline{b}_w, \text{ or } q_w(\tau) \boxtimes \underline{q}_w, \text{ or, simply } q_w(\tau)\underline{q}_w$

-- where the value of $\mathbf{b}_{w}(\tau)$, or of $\mathbf{q}_{w}(\tau)$, is always "Boolean" -- always in the set $\{\mathbf{0}_{\mathsf{B}}, \mathbf{1}_{\mathsf{B}}\}$. Thereby, for any τ in \mathbf{W} , call it $\tau *$, using the assertion sign, \mathbf{F} , either, if $\mathbf{b}_{w}(\tau *) = \mathbf{q}_{w}(\tau *) = \mathbf{1}_{\mathsf{B}}$ --

$\mathbf{b}_{w}(\tau *)\mathbf{\underline{b}}_{w} = \mathbf{1}_{B} \boxtimes \mathbf{\underline{b}}_{w} = \mathbf{F}\mathbf{\underline{b}}_{w} = \mathbf{\underline{b}}_{w}, \text{ or } \mathbf{q}_{w}(\tau *)\mathbf{\underline{q}}_{w} = \mathbf{1}_{B} \boxtimes \mathbf{\underline{q}}_{w} = \mathbf{F}\mathbf{\underline{q}}_{w} = \mathbf{\underline{q}}_{w}$

-- so that $\mathbf{F} \mathbf{b}_{w}$, or just \mathbf{b}_{w} , or $\mathbf{F} \mathbf{q}_{w}$, or just \mathbf{q}_{w} , signify the full manifestation/'extantcy' of the system, or ontological category, denoted by \mathbf{b}_{w} , or \mathbf{q}_{w} , during epoch number $\tau *$, <u>or</u>, if $\mathbf{b}_{w}(\tau *) = \mathbf{q}_{w}(\tau *) = \mathbf{0}_{B}$ --

$b_w(\tau^*)\underline{b}_w = 0_B \boxtimes \underline{b}_w = F \nexists \underline{b}_w = b_0$, or $q_w(\tau^*)\underline{q}_w = 0_B \boxtimes \underline{q}_w = F \nexists \underline{q}_w = q_0$

-- so that $\mathbf{F} \mathbf{b}_0$, or just \mathbf{b}_0 , or $\mathbf{F} \mathbf{q}_0$, or just \mathbf{q}_0 , signify the full '<u>un</u>-manifestation'/'<u>in</u>-extantcy', '<u>un</u>-detectability', or '<u>un</u>-observability', of the system, or the 'ontic category', denoted by $\underline{\mathbf{b}}_w$, or $\underline{\mathbf{q}}_w$, during epoch number $\tau *$:

F ∄b_w, or, F ∄g_w.

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We should expect that the language-system denoted $\mathbf{\hat{g}}_{QE}$ should have some descriptive capability advantages over both of its predecessor language-systems -- over both the language denoted $\mathbf{\hat{g}}_{E}$ and the language-system denoted $\mathbf{\hat{g}}_{Q}$. We should, because $\mathbf{\hat{g}}_{QE}$ partakes in the descriptive facilities of both $\mathbf{\hat{g}}_{E}$ and $\mathbf{\hat{g}}_{Q}$. The "hybridization", "synthesis", or "uni[t-]ification" of the latter two into $\mathbf{\hat{g}}_{QE}$ should yield a language-system with greater expressive power, capable of rendering a richer range of determinations, than either $\mathbf{\hat{g}}_{E}$ or $\mathbf{\hat{g}}_{Q}$ alone.

Thus, for instance, consider how you might apply the $\mathbf{\hat{g}}_{\underline{OE}}$ language to our <u>Example 1</u>. model, of *Historical Dialectic* -- of the "*Dialectic of Nature*" -- above, which we formulated in the $\mathbf{\hat{g}}_{\underline{O}}$ -related or $\mathbf{w}\underline{O}$ -related language "sister' language of $\mathbf{N}\underline{O}$. Suppose that you were to conclude that scientific experience to-date, in the project of reconstructing the [meta-]evolutionary history of our cosmos, finds no evidence of any pre-stellar, pre-galactic formations that sustainedly convert pre-<u>n</u>uclear "particles", <u>n</u>, into <u>s</u>ub-atomic "particles", <u>n</u>. Such formations are those whose «*arithmos*» is intended, per our interpretation, by the term $\mathbf{\hat{q}}_{sn} \leftrightarrow \mathbf{\hat{q}}_{3}$. You

could then reformulate/translate that \underline{NQ} model in the $\underline{\mathbf{g}}_{\underline{OE}}$ language, such that $\mathbf{b}_{sn}(\tau) = \mathbf{0}_{B} = \mathbf{q}_{sn}(\tau)$ for all [past] values of τ , for every [past] epoch of cosmological [meta-]evolution, τ . Then your new model would assert the continuing <u>non-existence/non-manifestation</u> of that <u>possibility</u> or possible existence/possible kind of being denoted by $\underline{\mathbf{b}}_{sn}$ or $\underline{\mathbf{q}}_{sn}$:

$$b_{sn}(\tau)\underline{b}_{sn} = 0_B \boxtimes \underline{b}_{sn} = b_0 = q_0 = 0\underline{q}_{sn} = q_{sn}(\tau)\underline{q}_{sn}$$

(2.7) <u>Step n</u>. Consider the possible meanings of the resulting new term, assigned to $\hat{\mathbf{g}}_4$. Seventh, try to carry through the component 'connotative calculation' connoted by --

 $\underline{wQ(wQ)} = \begin{bmatrix} \widehat{q}_{Q}(\begin{bmatrix} \widehat{q}_{Q} \\ 0 \end{bmatrix}) = (\underline{wQ} \xrightarrow{\oplus} \begin{bmatrix} \widehat{q}_{QQ} \\ 0 \end{bmatrix}) = (\begin{bmatrix} \widehat{q}_{Q} \xrightarrow{\oplus} \begin{bmatrix} \widehat{q}_{Q} \\ 0 \end{bmatrix}) = (\begin{bmatrix} \widehat{q}_{Q} \xrightarrow{\oplus} \underbrace{Y} \\ 0 \end{bmatrix}) = e^{2}(\begin{bmatrix} \widehat{q}_{Q} \\ 0 \end{bmatrix}) = e^{2}(\begin{bmatrix} \widehat{q}_{Q} \\ 0 \end{bmatrix})$

-- so as to determine the semantic value, meaning-value, or connotations-complex/intension that would "solve for \underline{Y} ", or, in other words, "satisfy" the 'synonymic' heuristic symbols $\Delta(\underline{wQ})$, $\Delta(\underline{eq})$, and \underline{eq}_{20} , all $\Leftrightarrow \underline{q}_{4}$, in the 'pure-qualitative equation' above.

What is the best choice, pedagogically, and/or the truest choice, historically, for the next '<u>contra-thesis</u>' -- the '<u>second contra-thesis</u>' -- in this 'ideo-ontological' categorial progression / language-systems-progression of rules-systems of arithmetics/algebras of logic?

The $\mathbf{\hat{g}}_{\underline{OO}}$ language would, per the heuristic indications of this interpretation, in some sense oppose *all/each* of its predecessors, $\mathbf{\hat{g}}_{\underline{e}}$, $\mathbf{\hat{g}}_{\underline{O}}$, and $\mathbf{\hat{g}}_{\underline{OE}}$, and also exceed each one of them in some aspect of descriptive power that all of them lack, or carry only implicitly. Perhaps it would also continue, or continue to *«aufheben»-* conserve, the *"unit-interval confinement*" characteristic -- of abstracting from "full multiplicity quantification" -- which has so far characterized them all.

What then, should a logic language-system, 'symbolizable' by \hat{g}_{QQ} , by $\Delta(\underline{wQ})$, or by $(e^2 Q \otimes Q)$, look like?

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For some clues as to a possible solution, we refer the reader to the following sources --

- G. Boole, <u>An Investigation of the Laws of Thought on which are Founded the Mathematical Theories of Logic and Probabilities</u>, Dover [NY: 1958], pp. 243-376.
- E. T. Jaynes, Probability Theory: The Logic of Science, Cambridge University Press [NY: 2003], pp. xix-xxix.

[<u>Note</u>: The two works cited above, whose authors do not recognize the possibility of dialectical logic as such, let alone in the form of $\mathbf{\hat{g}}_{\underline{0}}$ or $\mathbf{w}_{\underline{0}}$ as described above, <u>skip</u> -- from our point of view -- directly from what, in the exposition above, corresponds to $\mathbf{\hat{g}}_1$, to what, in the exposition above, corresponds to $\mathbf{\hat{g}}_4$, disregarding the possibilities assigned, in the model 'exposited' above, to $\mathbf{\hat{g}}_2$ and to $\mathbf{\hat{g}}_3$].

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(3) Example 3.: Meta-System-atic Dialectic -- The Dialectic of the Rules-Systems of Dialectical Ideography Itself.

Lastly, for the purposes of this <u>Brief</u>, let us apply the \underline{Q} dialectical ideography to the discovery, and to the modeling, of that self-progression -- of that dialectic -- of the 'ideo-ontological' categories/systems of dialectical ideography itself, in which self-progression the \underline{Q} dialectical ideography also constitutes one of the 'ideo-ontological' categories/systems.

(3.1) <u>Step i</u>. Assign the "first-order" rules-system for the 'ideo-«arithmos»' of the "<u>N</u>atural Numbers'" to **g**₁.

First, let us take the "first order" axiomatic rules-system of the "Natural" numbers, which we denote by the symbol \underline{N} -- a <u>double-underscored</u> phonogram converted, for this modeling purpose, into an ideogram -- as our «arché» thesis' as our initial category/system, and "interpret" it by, or "assign" it to, $\underline{\hat{q}}_1$: $\underline{\alpha} = \underline{N}$ -- write: $\underline{\hat{q}}_1 \leftrightarrow \underline{N} = (\underline{arche}) = \underline{thesis}_1 = \underline{ideo-onto}_1 = \underline{ideo-system}_1 = \underline{first}, 'pre-vestigially' dialectical, arithmetic.$

[for an exposition of the 'vestigial dialecticality' of even the $\underline{\mathbb{N}}$ arithmetic, see H. de Nemores, Supplements to the F.<u>E.D</u>. Introductory Letter, Supplement A, p. A-35.].

(3.2) Step ii. Insert the symbol denoting the "first-order" rules-system of the "Natural Numbers" into the Q, formula.

Second, let's plug N into the generic Q 'self-reflexive function' or 'self-iteration' formula. Write:

$$\underline{^{\mathbf{N}}}\mathbf{Q}_{\tau} = (\underline{\mathbf{N}})^{2^{\tau}} = (\underline{arithmetic-system}_{1})^{2^{\tau}} = (\underline{ideo-ontology}_{1})^{2^{\tau}} = (\underline{thesis}_{1})^{2^{\tau}} \Leftrightarrow [\underline{\mathbf{n}}_{1}^{\mathbf{A}}]^{2^{\tau}}$$

(3.3) <u>Step iii</u>. 'Self-iterate' the symbol denoting the "first-order" rules-system of the "<u>M</u>atural Numbers" for $\tau = 1$. Third, let's 'self-iterate' <u>MQ</u>, for $\tau = 1$.

Write:
$$\tau = 1 \implies \underline{}^{\underline{N}}\underline{Q}_{\tau} = \underline{}^{\underline{N}}\underline{Q}_{1} = (\underline{N})^{2^{1}} = (\underline{N})^{2} = \underline{N}(\underline{N}) = \underline{}^{\underline{P}}(\underline{N}) = \underline{N}\otimes\underline{N} = \underline{N}\boxtimes\underline{N} = \underline{N}\boxtimes\underline{N} = \underline{N}\boxtimes\underline{N} = \underline{N}\boxtimes\underline{N} = \underline{N}\underline{N} = \underline{N}\underline{N} = \underline{N}\boxtimes\underline{N} = \underline{N}\underline{N} = \underline{N}\underline$$

 $\left(\frac{\text{ideography}}{2} \right)^{2} = \left(\frac{\text{arithmetic-system}}{2} \right)^{2} = \frac{\text{arithmetic-system}}{2} \left(\frac{\text{arithmetic-system}}{2} \right)^{2} = \frac{1}{2} \left(\frac{1}{2} \frac{1}{2} \right)^{2}$

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(3.4) Step iv. Consider the possible meanings of the resulting new term, assigned to g.

Fourth, let us consider the possible meaning(s), the possible definitions of '<u>ideo-ontological</u>' categories/axiomatic rules-systems of arithmetic, including the <u>kinds</u> of arithmetical 'idea-objects', the <u>kinds</u> of <u>numbers</u> as '<u>idea-ontology</u>', the <u>kind</u> of number "arithmoi" that would 'qualitatively satisfy' the 'qualitative unknown' or 'idea-ontology unknown', χ , in the 'pure-qualitative', purely 'ideo-ontological' algebraic equation $\left(\underbrace{\mathbf{N}}\right)^2 = \underbrace{\mathbf{N}}(\underbrace{\mathbf{N}}) = \underline{c}^2(\underbrace{\mathbf{N}}) = \underbrace{\mathbf{N}}_{-\oplus} - \underbrace{\Delta \mathbf{N}}_{-\oplus} = \underbrace{\mathbf{N}}_{-\oplus} - \underbrace{\mathbf{N}}_{-\oplus} - \underbrace{\mathbf{X}}_{-\oplus}$, the contra- $\underbrace{\mathbf{N}}_{-axiomatic}$ rules-system of arithmetic that would fulfill, per your mental perception, the ideographical equation $\underbrace{\mathbf{N}}(\underbrace{\mathbf{N}}) \otimes \underbrace{\mathbf{N}}_{-} = \chi$, or $\underline{c}^2 \underbrace{\mathbf{N}}_{-} \otimes \underbrace{\mathbf{N}}_{-} = \underbrace{\chi}_{-}$. Note that the connotations of the unknown, χ , here, are those of the <u>fruits</u> of a <u>self</u>-confrontation, <u>self</u>-critique, or immanent critique -- of an internal, immanent 'self-<u>opposition</u>', and of a 'self-reflexive function' self-*aufheben* self-<u>negation</u> -- of the standard " $\underbrace{\mathbf{N}}_{-}$ atrual" system of arithmetic; of the " $\underbrace{\mathbf{N}}_{-}$ atrual $\underbrace{\mathbf{N}}_{-}$ umbers" rules of reckoning/computation. I.e., the $\underbrace{\mathbf{N}}_{-}$ syntactical 'self-juxtaposition', and semantical 'self-<u>opposition</u>', of $\underbrace{\mathbf{N}}_{-}$ the $\underline{c}^2(\underbrace{\mathbf{N}}_{-})$ self-"*aufheben*" self-<u>negation</u> of $\underbrace{\mathbf{N}}_{-}$ already connotes the 'self-elicitation' and 'self-externalization'/divulgence, the self-[s]election/self-evocation and self-outering, of a 'precedingly' *implicit, occult inherent otherness of* $\underbrace{\mathbf{N}}_{-}$ hitherto harbored hidden and unheeded inside $\underbrace{\mathbf{N}}_{-}$.

Since we assume at least "chaotic", <u>un</u>-systematic experience, and familiarity, with the totality/universe of discourse of \mathbf{N} -- with the $\mathbf{N} = \{1, 2, 3, ...\}$ number-«*arithmos*», and its rules of operation -- we can characterize \mathbf{N} as follows:

So, we have it that $\underline{\mathbf{N}}$, or $\underline{\mathbf{N}}_{\underline{\mathbf{N}}}$, denotes the rules-system of a kind of number-idea, or 'ideo-ontology', and of an arithmetical ideography, or system of numerals, $\{1, 2, 3, \ldots\}$, which can be characterized as -- i.e., ""<u>qualified</u>" as -- an *«arithmos»* of '<u>pure</u>, <u>unqualified quantifiers</u>'.

Given that 'character-ization' of \mathbf{N} , or of $\mathbf{N}_{\mathbf{N}}^{\mathbf{n}}$, then perhaps the connotations "intended" by $\Delta \mathbf{N}$, or by $\mathbf{N}_{\mathbf{N}}^{\mathbf{n}}$, or by $\mathbf{N}(\mathbf{N}) \otimes \mathbf{N}$, or by $\mathbf{c}^{2}\mathbf{N} \otimes \mathbf{N}$, should be those of the '*ideo*-ontological' *opposite* of \mathbf{N} , or of $\mathbf{N}_{\mathbf{N}}^{\mathbf{n}}$ -- of the complete, relative contrary, or *negation*, of its descriptors, the result of the determinate negation with respect to the entire effect of the combination of the two determinations, namely '*unqualified*' and '*quantifiers*', of that description -- thus, that of an arithmetic of '*pure*, *unquantified qualifiers*'. Moreover, to be conceived as the outering of the "*self-other*", the "*immanent other*", the '*self-dual*', '*inner dual*', or '*intra-dual*' of \mathbf{N} , this "other", "alternative" system of arithmetic, $\Delta \mathbf{N}$, must still have something 'self-essence-ial' in common with \mathbf{N} . We hold that $\Delta \mathbf{N}$ must be, like \mathbf{N} , '*Peanic*' -- compliant with the "first order" sub-system of the Peano Postulates, the axioms for "'Natural''' arithmetic that were devised by Giuseppe Peano, circa 1889 C.E., so as to make \mathbf{N} , denoting the <u>higher</u>-than-first-order "'Natural''' arithmetic-system, deductively derivable from them. We hold, in particular, that the $\Delta \mathbf{N}$, "'space''' [or "'set'''] of 'meta-numerals' component of $\Delta \mathbf{N}$ must be a succession/progression of '*pure*, *unqualified qualifiers*', and one which is '*Qualo-Peanic*', just as the \mathbf{N} , a succession/progression of '*pure*, *unqualified qualifiers*', is '*Quanto-Peanic*' [for more on the '*Qualo-Peanict*' of the 'meta-numerals' of the **A** arithmetic, see H. de Nemores, *Supplements to the F.E.D. Introductory Letter*, Supplement A, p. A-34.].

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The 'Peano-compliance' of the AN together with the 'ideo-ontological' difference, or "qualitative inequality", between N and AN -- N } AN -- renders AN a "Non-Standard Model of the Natural Numbers", N. One category/system of arithmetic that fulfils all of the above-noted criteria is none other than Q itself.

We therefore arrive at the hypothesis that: $\underline{\mathbb{N}}\underline{\mathbb{Q}}_1 = \underline{\mathbb{N}}^2 = \underline{\mathbb{N}} - \underline{\mathbb{O}} - \underline{\mathbb{O}} = \underline{\mathbb{N}} - \underline{\mathbb{O}} - \underline{\mathbb{O}}$

(3.5) Step v. 'Re-self-iterate' the result of the previous 'self-iteration', for $\tau = 2$.

Next, for our fifth step, let us <u>re</u>-iterate the $\frac{\mathbf{N}\mathbf{Q}}{\mathbf{Q}} = (\mathbf{N})^2 = \mathbf{N} \otimes \mathbf{N} = \mathbf{c}^2 \otimes \mathbf{N} = (\mathbf{N} \otimes \mathbf{Q})$ result of our first [self-literation, thus for $\tau = 2$, to $(\mathbf{N} \oplus \mathbf{Q})^2 = (\mathbf{N} \oplus \mathbf{Q}) \otimes (\mathbf{N} \oplus \mathbf{Q}) = c^2 \otimes (\mathbf{N} \oplus \mathbf{Q}) = c^2 \otimes (\mathbf{N} \oplus \mathbf{Q})$ $(\mathbb{N} \oplus \mathbb{Q}) \rightarrow \Delta (\mathbb{N} \oplus \mathbb{Q})$, applying the commutation rule of \mathbb{Q} addition twice* --Write: $\tau = 2 \Rightarrow \underline{NQ}_{r} = \underline{NQ}_{r} = (\underline{N})^{2^{2}} - (\underline{N})^{4} = (\underline{N}^{2})^{2} - (\underline{N} \oplus \underline{Q})^{2}$ $(\underline{\mathbf{N}} \oplus \underline{\mathbf{Q}}) \otimes (\underline{\mathbf{N}} \oplus \underline{\mathbf{Q}}) = (\underline{\mathbf{N}} \oplus \underline{\mathbf{Q}}) (\underline{\mathbf{N}} \oplus \underline{\mathbf{Q}}) = c^{2}(\underline{\mathbf{N}} \oplus \underline{\mathbf{Q}}) = ((\underline{\mathbf{N}} \oplus \underline{\mathbf{Q}}) \oplus \underline{\mathbf{\Delta}} (\underline{\mathbf{N}} \oplus \underline{\mathbf{Q}}))$ $((\underline{\mathbf{N}} \oplus \underline{\mathbf{Q}}) \oplus (\underline{\mathbf{Q}}(\underline{\mathbf{N}}) \oplus \underline{\mathbf{Q}}(\underline{\mathbf{Q}}))) = ((\underline{\mathbf{N}} \oplus \underline{\mathbf{Q}}) \oplus ((\underline{\mathbf{N}} \oplus \underline{\mathbf{N}}_{\underline{\mathbf{Q}}\underline{\mathbf{N}}}) \oplus (\underline{\mathbf{Q}} \oplus \underline{\mathbf{\Delta}}(\underline{\mathbf{Q}})))$ * $(\mathbf{N} \oplus \mathbf{w} \mathbf{Q} \oplus \mathbf{N} \oplus \mathbf{N} \oplus \mathbf{w} \mathbf{Q} \oplus \mathbf{N} \oplus \mathbf{w} \mathbf{Q} \oplus \mathbf{N} \oplus \mathbf{M} \oplus \mathbf{w} \mathbf{Q} \oplus \mathbf{w} \mathbf{Q} \oplus \mathbf{w} \mathbf{Q} \oplus \mathbf{N} \oplus \mathbf{m} \oplus \mathbf{m$ $\left(\underline{\mathbf{N}} \oplus_{\mathbf{W}} \underline{\mathbf{Q}} \oplus_{\mathbf{M}} \oplus$ $(\text{first thesis})^{2^{4}} = (\text{first thesis})^{2^{2}} = ((\text{first thesis})^{4} = ((\text{first thesis}^{2})^{2})^{2}$ (first thesis e first contra-thesis)2 (first thesis ⊕ first contra-thesis)⊗(first thesis ⊕ first contra-thesis) (first thesis ⊕ first contra-thesis)(first thesis ⊕ first contra-thesis) first thesis ⊕ first contra-thesis
) ((arithmetic-thesis ⊕ arithmetic contra-thesis) ⊕ △ (arithmetic-thesis ⊕ arithmetic contra-thesis)) (arithmetic, ⊕ contra-arithmetic,) ⊕ (contra-arithmetic, ⊗ (arithmetic,) ⊕ contra-arithmetic, ⊗ (contra-arithmetic,))) (arithmetic, + contra-arithmetic,) + (arithmetic, + goontra-arithmetic, arithmetic, arithmetic,) + (contra-arithmetic, + goontra-arithmetic, contra-arithmetic, + contra-arithmet *(arithmetic₁ \oplus contra-arithmetic₁ \oplus arithmetic₁ \oplus $\mathbf{q}_{contra-arithmetic_1}^{\mathsf{A}} \oplus$ contra-arithmetic₁ \oplus $\mathbf{q}_{contra-arithmetic_1}^{\mathsf{A}}$ $\left(\begin{array}{c} arithmetic_{1} \oplus arithmetic_{2} \oplus contra-arithmetic_{1} \oplus contra-arithmetic_{2} \oplus g_{contra-arithmetic_{2}, arithmetic_{2}, arithmeti$ $(\underline{arithmetic}_1 \oplus \underline{contra}^1 - \underline{arithmetic}_1 \oplus \underline{\hat{q}}_{contra-arithmetic_1}, arithmetic_1 \oplus \underline{\hat{q}}_{contra-arithmetic_1}, contra-arithmetic_1)$ = (thesis1 @ contra-thesis1 @ hybrid[contra-thesis1; thesis1] @ contra-thesis2) (standard "natural" arithmetic 🕀 non-standard "natural" arithmetic 🕀 hybrid non-standard standard arithmetic 🕀 contra - arithmetic; Standard "Natural" Arithmetic Generic Quantifier Ideography - Ontological Qualifier Dialectical Ideography - O-? -

 $\begin{aligned} \tau &= 2 \implies Q_{\tau} = Q_{2} = \Pi \hat{q}_{1} \Pi^{2^{\tau}} = \Pi \hat{q}_{1} \Pi^{2^{2}} - \Pi \hat{q}_{1} \Pi^{4} - \Pi \hat{q}_{1}^{2} \Pi^{2} - \Pi \hat{q}_{1} \equiv \hat{q}_{2} \Pi^{2} = \Pi \hat{q}_{1} \equiv \hat{q}_{2} \Pi^{2} \\ \Pi \hat{q}_{1} \equiv \hat{q}_{2} \Pi \otimes \Pi \hat{q}_{1} \equiv \hat{q}_{2} \Pi = \Pi \hat{q}_{1} \equiv \hat{q}_{2} \equiv \hat{q}_{2} \equiv \hat{q}_{2} = \Pi \hat{q}_{1} \equiv \hat{q}_{2} \equiv \hat{q}_{2} \equiv \hat{q}_{3} \equiv \hat{q}_{4} \Pi = \Pi \hat{q}_{1} \equiv \hat{q}_{2} \equiv \hat{q}_{2} \equiv \hat{q}_{3} \equiv \hat{q}_{4} \Pi = \Pi \hat{q}_{1} \equiv \hat{q}_{2} \equiv \hat{q}_{3} \equiv \hat{q}_{4} \Pi. \end{aligned}$

(3.6) <u>Step vi</u>. Consider the possible meanings of the resulting new term, assigned to $\hat{\mathbf{g}}_3$.

We have thus already connotatively 'semantified' --

$\underline{\mathbf{N}}(\underline{\mathbf{N}}) \circ \underline{\mathbf{N}} = \underline{\mathbf{NN}} \circ \underline{\mathbf{N}} = \mathbf{e}^{\underline{\mathbf{N}}} \circ \underline{\mathbf{N}} = \underline{\Delta}\underline{\mathbf{N}} = \underline{\mathbf{N}}_{\underline{\mathbf{M}}}^{\underline{\mathbf{M}}} -$

as $\underline{\mathbf{Q}}$, and, more specifically, as $\mathbf{N}\underline{\mathbf{Q}}$, given the initial, connotative 'semantification' of --

${}^{\underline{N}}\underline{\hat{q}}_{\underline{N}} = \underline{N} \iff \underline{\hat{q}}_{1}$

-- that was supplied by our assigning $\hat{\mathbf{g}}_1$ to \mathbf{N} for the *«arché»* of our model of this dialectic of dialectical ideographies. Our next, sixth, task is to work out the *identity* of, i.e., to '*semantify*', what we notated above as ?, the result of the following '*connotative calculation*', '*ideo-ontological calculation*', '*semantic calculation*', or '*purely-qualitative calculation*', symbolized ideographically by --

 ${}^{\underline{\mathsf{N}}} \widehat{\mathfrak{q}}_{\underline{\mathsf{ON}}} = \underline{\mathsf{Q}}(\underline{\mathsf{N}}) \otimes \underline{\mathsf{N}} = {}^{\underline{\mathsf{N}}} \widehat{\mathfrak{q}}_{\underline{\mathsf{N}}} \otimes {}^{\underline{\mathsf{N}}} \widehat{\mathfrak{q}}_{\underline{\mathsf{N}}} = \widehat{\mathfrak{q}}_{\underline{\mathsf{N}}} \oplus \widehat{\mathfrak{q}}_{\underline{\mathsf{ON}}} \otimes \widehat{\mathfrak{q}}_{\underline{\mathsf{N}}} \Leftrightarrow \widehat{\mathfrak{q}}_{2} \llbracket \widehat{\mathfrak{q}}_{1} \rrbracket = \widehat{\mathfrak{q}}_{1} = \widehat{\mathfrak{q}}_{1} \boxplus \widehat{\mathfrak{q}}_{2^{+1}} = \widehat{\mathfrak{q}}_{1} =$

-- given, and on the basis of, the 'semantifications' already achieved for $\underline{M}_{\underline{q}_{NN}}^{A}$ as well as for $\underline{M}_{\underline{q}_{NN}}^{A}$

Note that, $\underline{M}_{\underline{Q}} \underline{Q}_{\underline{N}}$ connotes the "*subsumption*" of \underline{N} by \underline{Q} , which process is also, *equivalently*, symbolized by --

$\underline{Q}(\underline{N}) = \underline{N} \oplus \underline{X}$

-- a '<u>uni-thesis</u>' of thesis, ${}^{\mathbf{M}}\mathbf{\hat{g}}_{\mathbf{N}}$, & 'contra-thesis', ${}^{\mathbf{M}}\mathbf{\hat{g}}_{\mathbf{\Omega}}$, fit to "solve for" the [qualitative] meaning of $\mathbf{X} = {}^{\mathbf{M}}\mathbf{\hat{g}}_{\mathbf{\Omega}\mathbf{N}}$. Thus, \mathbf{X} , or ${}^{\mathbf{M}}\mathbf{\hat{g}}_{\mathbf{\Omega}\mathbf{N}}$, connotes something -- a <u>new system</u> of rules of a new kind of dialectical ideography, with a new 'ideo-<u>ontology</u>' of 'meta-numbers', with their own, new kind of 'meta-numerals' -- thus including a new "population"/«arithmos» of units/«monads», a new "space" of '<u>dialectors</u>' -- that somehow combines the 'meta-numbers' of $\mathbf{N}\mathbf{\Omega}$ with the "standard numbers" of \mathbf{N} , into a new species of 'meta-number'/'<u>dialector</u>'. Doing so, the $\mathbf{X} = {}^{\mathbf{M}}\mathbf{\hat{g}}_{\mathbf{\Omega}\mathbf{N}}$ 'uni-thesis' would constitute, indeed, a new category of dialectical arithmetic, involving a new quality of 'ideo-ontological' "idea-objects", which would -- if we hold to the idea that the higher units, or unities, of a 're-<u>uni-fication thesis'</u>, or '<u>uni-thesis'</u>, «arithmos» should represent a "complex unity" of the units of the "thesis" «arithmos» and of the 'contra-thesis' «arithmos» -- should represent a "complex unity" of the erstwhile <u>opposites</u>, \mathbf{N} and $\mathbf{\Omega}$, including of their typical numerals, $\mathbf{n} \in \mathbf{N}$, and $\mathbf{\hat{g}}_{\mathbf{n}} \in \mathbf{Q}$. While combining, into a new, "higher" unity, the opposite qualities of ${}^{\mathbf{M}}\mathbf{\hat{g}}_{\mathbf{N}} & {}^{\mathbf{M}}\mathbf{\hat{g}}_{\mathbf{Q}}$, we might also expect that the resulting <u>new</u> system of dialectical arithmetic, its 'meta-numbers' and its 'meta-numerals', would therefore also differ <u>qualitatively</u>, not merely quantitatively, from those of both the $\mathbf{N} = {}^{\mathbf{M}}\mathbf{\hat{g}}_{\mathbf{N}}$, and its components, to 'contrarize' -- to be <u>opposite</u> to -- each of its 'ideo-ontological' predecessor; both of its predecessor 'ideo-ontologies' of [[proto-]dialectical] arithmetical ideography / ideographies of arithmetic / ideographies of 'meta-numbers'.

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Let us therefore try out the following hypothesis to "fill this bill" of particulars. Suppose that Mgon should connote the "*real subsumption*" of **N** by **Q** in a way that the mere 'non-reductive sum', $(\mathbf{N} \oplus \mathbf{Q})$, cannot. We might view the "non-amalgamative sum", (N + Q), as constituting merely a "formal subsumption" of N by Q, by way of the mere presence of Q in that sum, as a supercession/ «aufheben» self-negation of N. The system $\underline{M}_{\underline{Q} ON}^{\underline{A}}$ should be a ""<u>real subsumption</u>" of \underline{N} by \underline{Q} in the form of a new rules-system, unprecedented in this self-progression of rules-systems before $\tau = 2$. It should rule the uses of an «arithmos» [of an assemblage/ensemble/multiplicity/population/space/set] of 'meta-number' unit[ie]s, or «monads», each of which, like the "Natural Numbers" of N, but unlike the 'meta-Natural Numbers' of Q, semantically contains explicit, 'full-multiplicity' significance, not confined to unit-interval, either 1 or 0, ALL or NOTHING connotations. Also, each \underline{M}_{QON} 'meta-number', <u>like</u> the '<u>meta-Natural Numbers</u>' of <u>Q</u>, but <u>un</u>like the "Natural Numbers" of N, should also contain explicit 'ontological qualification'. Pursuant to such a system of arithmetic, let us consider a "space" or «arithmos», of 'meta-number' units/symbols, each of which contains, and combines or unifies, both a 'quantifier [co-]factor' and an [ontological] 'qualifier [co-]factor', forming a new, 'complexed', or "compounded" 'ideo-entity', which is the "product" of these two, qualitatively different [co-]factors; a new whole, which is neither a 'pure qualifier', alone, like the 'meta-numbers' of Q, nor a "pure quantifier", alone, like the standard numbers of N. This new species of 'meta-number', native to Mgon, would constitute a category of 'quanto-qualitative', or, equally, of 'qualo-quantitative' arithmetical 'idea-entities', expressed ideographically.

<u>Conjecture</u>. Thus, the following 'ideo-construct[ion]' may "fill the bill". First, since we now expect $\underline{\mathbb{N}}_{\underline{\Omega}\underline{\Omega}\underline{N}}$ to denote, as the "first <u>uni-thesis</u>" system of the systems of dialectical ideography, a system of 'meta-numerals' arithmetic, that <u>unifies</u> $\underline{\mathbb{N}}$ -like "quantification" with $\underline{\mathbb{Q}}$ -like 'qualification', let us use the letter $\underline{\mathbb{U}}$ to designate the components of the generic 'meta-numerals' of this new dialectical-arithmetical system. Let us also designate this new system, as a whole, as a <u>unit</u>, by $\underline{\mathbb{U}}$: $\underline{\mathbb{N}}_{\underline{\Omega}\underline{\Omega}\underline{N}}^{\underline{\alpha}} = \underline{\mathbb{U}}$. This rules-system is denoted by a <u>doubly</u>-underscored symbol. We denote its 'meta-number' «arithmos», or "space", by a <u>singly</u>-underscored symbol, $\underline{\mathbb{U}}$.

Let us then endeavor to construct the generic 'meta-numeral' variable of this new rules-system for dialectical arithmetic, by combining, within itself, in "generalized multiplication" or "product", fashion, and for each of its possible 'meta-number' values, a full-multiplicity-valued -- in the first instance, here, an N-valued, N-like --

<u>quantifier</u>, generically denoted by $\mathbf{u}_{n}(\tau)$, with a $\underline{\mathbf{Q}}$ -like 'ontological <u>qualifier</u>', generically denoted by $\underline{\mathbf{u}}_{n}$:

For every **n** in **N** $[\forall n \in N]$, and for every τ in **N** $[\forall \tau \in N]$ such that $u_n(\tau)$ is also in **N** $[\forall u_n(\tau) \in N]$ --

$$u_n(\tau) \boxtimes \overset{\circ}{\underline{U}}_n$$
 is also in \underline{U} , or, $u_n(\tau) \boxtimes \overset{\circ}{\underline{U}}_n = u_n(\tau) \overset{\circ}{\underline{U}}_n \in \underline{U}$.

The 'omicron headdress', 'o', of the 'ontological <u>qualifier</u> co-factor', $\hat{\underline{U}}_{n}$, follows Diophantus of Alexandria's usage, circa 250 C.E., of $\hat{\underline{M}}$ as a syncopated abbreviation for the Greek word «<u>Monag</u>», for «<u>monad</u>», or "unit', to denote the <u>generic <u>qualitative</u> unit in his proto-ideographic arithmetical and algebraic treatise, the «Arithmetiké». This 'o' is our dialectical-ideographic "'diacritical mark''', used to indicate that the $\hat{\underline{U}}_{n}$, <u>un</u>like the $\hat{\underline{Q}}_{n}$, are 'quantifiable', i.e., that, contrary to the case with $\underline{\underline{O}}$, wherein $\hat{\underline{G}}_{n} \equiv \hat{\underline{G}}_{n} = \hat{\underline{G}}_{n'}$, with $\underline{\underline{U}}$, $\hat{\underline{U}}_{n} \equiv \hat{\underline{U}}_{n} = 2\hat{\underline{U}}_{n}$.</u>

The 'caret headdress', ' $^{\prime}$, of $\underline{\hat{u}}_{n}$, signifies, as it does also with $\underline{\hat{q}}_{n'}$ that $\underline{\hat{u}}_{n}$ is a '<u>unit-qualifier</u>', represented '"*analytical-geometrically*" by a unit-length directed line-segment in the <u>U</u> '*dialector space*'.

The underscore, '_', signifies, as also for $\hat{\mathbf{q}}_{n'}$ that $\hat{\mathbf{u}}_{n}$ is 'contra-Boolean' in 'self-multiplication': $\hat{\mathbf{u}}_{n}^{2} = \hat{\mathbf{u}}_{2n} \stackrel{2}{\neq} \hat{\mathbf{u}}_{n}$

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Analytical-geometrically, in the U 'dialector space', this translates to: $\hat{\mathbf{u}}_{n}^{2} \perp \hat{\mathbf{u}}_{n}^{2}$; asserting that $\hat{\mathbf{u}}_{n}$ *vervendicular to* $\hat{\hat{u}}_n^2 = \hat{\hat{u}}_{2n}$; that the "arrow-head" of the $\hat{\hat{u}}_{2n}$ "unit-length arrow" points/is directed in[to] a different dimension than is Un. Note here that the 'quantifiability', or 'addibility', of the Un 'ontological gualifiers', in contradistinction to the 'unquantifiability', or 'unaddibility, of the g, 'ontological qualifiers', works a subtle shift in the meaning of the units of 'ontological qualification' between these two systems of 'ontological qualifier' dialectical arithmetic.

Among the 'ontological <u>qualifier</u> units', or «monads», of the type $\hat{\mathbf{g}}_{\mathbf{k}}, \forall \mathbf{k} \in \mathbb{N}$, each value of the generic $\underline{\mathbf{Q}}$ 'meta-number', e.g., the value for $\mathbf{k} = 2$, namely, $\hat{\mathbf{q}}_2$, can denote the whole, entire ontological category assigned to $\hat{\mathbf{q}}_2$, as a [categorial] unit. Alternatively, e.g., $\hat{\mathbf{q}}_2$ can also denote, ambiguously, a generic, representative individual, a typical unit, or «monad», belonging to the «arithmos» of the ontological category assigned to, and connoted by, that value. Recalling our first example, in which $\hat{\mathbf{g}}_2$ was assigned to the ontological category of "sub-atomic particles", if we write $\hat{\mathbf{q}}_2 \leftrightarrow \hat{\mathbf{q}}_s = \underline{s}$, then $\hat{\mathbf{q}}_s$ might denote <u>either</u> the entire cosmo[-onto-]logical category of all 'sub-atomic «monads»', or just a single sub-atomic "particle", such as a single proton, representative of that category -- all depending upon the context of usage.

However, when we move on to using $\underline{\mathbf{u}}_2 \leftrightarrow \underline{\mathbf{u}}_s$, then the 'quantifiability' or 'addibility' of $\underline{\mathbf{u}}_s$ as a new symbol for the ontological category of 'sub-atomic «monads»" requires a conceptual/semantic adjustment. The symbol $\underline{\underline{u}}_{e}$ must now denote a single unit of the *ontological category* \underline{s} , a single \underline{s} ub-atomic "particle', and 20 must denote two units belonging within the category **s**, e.g., two protons, or two neutrons, or one neutron and one proton, and so on.

Each <u>uk</u> denotes, <u>not</u> the kth possible ontological category, system, or «arithmos» of the ontology of the universe of discourse being modeled using U, comprising the totality -- and collective unity, or whole -- of the

units or «monads» "populating" that category, system, or «arithmos». Rather, on the contrary, each uk denotes any single "logical individual" of the "population" of logical individuals "populating" that category. Thus, if our model holds that, during epoch τ_* of the historical dialectic of nature, there were an average of

550,000 photons moving through a certain liter volume of space, with $\hat{\underline{u}}_1 \leftrightarrow \hat{\underline{u}}_n =$ the 'cosmo-ontological' category' of pre-nuclear "particles", we could write $u_1(\tau_1)u_1 = (550,000)u_1$ to describe the pre-nuclear/photonic ontological contents of that liter volume of space during epoch τ_{\star} , asserting the average of 550,000 pre-nuclear "particle" units, in the form of photons, in that volume. We might still assign the first 'onto', as a whole, to $\hat{\mathbf{g}}_1$, and assert that such pre-<u>n</u>uclear "particles" were a <u>possible</u> 'existant' of epoch $\boldsymbol{\tau}_*$, by writing: $\hat{\mathbf{g}}_1 \Leftrightarrow \underline{\mathbf{n}} \sqsubset {}^{\mathbf{n}}\underline{\mathbf{Q}}_{\mathbf{n}}$, wherein ' \sqsubset ' denotes the phrase 'is contained in' in a generalized, 'trans-set-theoretical' sense.

The meaning of the individual 'unit-qualifier meta-numerals', constituent of the sets, or spaces, Q and U, in the transition from **N** vs. **Q** to **U**, thus revises itself. Each '*ontic <u>qualifier</u>*' symbol $\hat{\mathbf{g}}_{k}$ in **Q** denotes a <u>unique</u> ontic category as a whole. Multiplicity would be meaningless. Each 'ontic qualifier' symbol $\hat{\mathbf{u}}_{\mu}$ in U denotes one single, individual unit of the kth type of being, e.g., of category $\hat{\mathbf{g}}_{k}$. Thus, for $\underline{\mathbf{U}}$, for the $\hat{\mathbf{u}}_{k}$, full N-type multiplicity, or quantification beyond the unit-interval's 1 or 0, ALL or NOTHING kind, is meaningful.

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Thus, per our model of **Example 1**., $\hat{\mathbf{q}}_4 \leftrightarrow \mathbf{a} = \hat{\mathbf{q}}_a$ in ${}^{n}\mathbf{Q}_2$ stands for the entire 'ontological category' of $\mathbf{\underline{a}}$ toms, as a whole/unit, whereas $\hat{\mathbf{u}}_4 \leftrightarrow \hat{\mathbf{u}}_a$ in ${}^{n}\mathbf{U}_2$ stands for any individual $\mathbf{\underline{a}}$ tom, any individual unit, or «monad», of the 'ontological category'/ «arithmos» of $\mathbf{\underline{a}}$ toms, $\hat{\mathbf{q}}_a$.

Continuing to draw from Example 1. in contrasting the capabilities of the \underline{Q} and \underline{U} ideographical languages, let us first advance from the \underline{N} versions of \underline{Q} and \underline{U} [specifically denoted \underline{NQ} and \underline{NU}] to the \underline{W} versions of \underline{Q} and \underline{U} [specifically denoted \underline{NQ} and \underline{NU}], so that, in the latter, $\tau \in W$ and $u_w(\tau) \in W = \{0, 1, 2, 3, 4, ...\}$.

This advance introduces the possibility that $\mathbf{u}_{w}(\tau) = \mathbf{0}$, and, therefore, that $\mathbf{u}_{w}(\tau) \overset{\mathbf{0}}{\underline{\mathbf{u}}}_{w} = \mathbf{0} \overset{\mathbf{0}}{\underline{\mathbf{u}}}_{w} = \mathbf{u}_{0}$, wherein \mathbf{u}_{0} denotes the special "zero" -- the ontological/existential <u>absence symbol</u>, and the joint <u>additive-identity/-</u> multiplicative-identity element, of $\underline{\mathbf{w}} \overset{\mathbf{U}}{\underline{\mathbf{u}}}$, not available in $\underline{\mathbf{N}} \overset{\mathbf{U}}{\underline{\mathbf{u}}}$. Then, suppose that you come to the conviction that the existence of «monads» corresponding to the connotations, for you, of the ontological category denoted $\overset{\mathbf{0}}{\mathbf{q}}_{3} \leftrightarrow \overset{\mathbf{0}}{\mathbf{q}}_{sn}$ in $\overset{\mathbf{0}}{\mathbf{Q}}_{2}$ is not born out by the current observational and theoretical evidence of cosmology.

You could then model this conviction by moving from a \underline{NQ} model of the 'meta-evolution' of the cosmos -- of the historical dialectic of nature -- to a \underline{NU} model, as follows:

Raise the "thought-concreteness"/"determinateness" of your Nature-model, by ascending from the Q model --

$\underline{\mathbf{n}} \rightarrow \underline{\mathbf{n}} \oplus \underline{\mathbf{s}} \rightarrow \underline{\mathbf{n}} \oplus \underline{\mathbf{s}} \oplus \overset{\bullet}{\mathbf{g}}_{sn} \oplus \underline{\mathbf{a}} \rightarrow \dots$

-- which posits only the <u>possibility</u> of the existence/finite manifestation of actualities corresponding to your connotations for the symbol $\hat{\mathbf{g}}_{sn'}$ from epoch $\tau = 2$ on, to the "higher-in-determinateness" $\underline{\underline{U}}$ model --

$$n(0)\overset{\hat{0}}{\underline{u}}_{n} \rightarrow n(1)\overset{\hat{0}}{\underline{u}}_{n} \, \circledast \, s(1)\overset{\hat{0}}{\underline{u}}_{s} \rightarrow n(2)\overset{\hat{0}}{\underline{u}}_{n} \, \circledast \, s(2)\overset{\hat{0}}{\underline{u}}_{s} \, \circledast \, u_{sn}(2)\overset{\hat{0}}{\underline{u}}_{sn} \, \circledast \, a(2)\overset{\hat{0}}{\underline{u}}_{a} \rightarrow \ldots$$

-- with $\mathbf{n}(\mathbf{0})$, $\mathbf{n}(\mathbf{1})$, $\mathbf{s}(\mathbf{1})$, $\mathbf{n}(\mathbf{2})$, $\mathbf{s}(\mathbf{2})$, $\mathbf{u}_{sn}(\mathbf{2})$, and $\mathbf{a}(\mathbf{2})$, denoting the epoch-average *population-counts* of the *«monads»*/"particles" of the *'ontological categories*' denoted $\underline{\mathbf{n}}$ or $\mathbf{\hat{g}}_{n'}$ and $\underline{\mathbf{s}}$ or $\mathbf{\hat{g}}_{s'}$, and $\mathbf{\hat{g}}_{sn'}$ and $\underline{\mathbf{a}}$ or $\mathbf{\hat{g}}_{a'}$ respectively, and for the epochs $\tau = \mathbf{0}$, and $\tau = \mathbf{1}$, and $\tau = \mathbf{2}$, respectively, and with the further stipulation, for all $\tau \in \mathbf{W}$, and, especially, for all $\tau \geq \mathbf{2}$, that we have: $\mathbf{u}_{sn}(\tau)\mathbf{\hat{u}}_{sn} = \mathbf{0}\mathbf{\hat{u}}_{sn} = \mathbf{u}_{0}$.

Then, your model -- one that can be 'character-ized' as a 'population <u>state-space</u>' model for the ontological ""<u>state</u> of nature", and as '<u>meta-dynamical</u>', because 'state-space-ially', dimensionally [self-]<u>expanding</u>, and '<u>meta-system</u>-atic', because multi-system-ic, deployed as a sequence of epochs-as-systems in temporal succession/diachronic progression, with a growing number of state-variable <u>dimensions</u> as τ -- becomes:

$$n(0)\underline{\hat{u}}_{n} \rightarrow n(1)\underline{\hat{u}}_{n} \Leftrightarrow s(1)\underline{\hat{u}}_{s} \rightarrow n(2)\underline{\hat{u}}_{n} \Leftrightarrow s(2)\underline{\hat{u}}_{s} \Leftrightarrow 0\underline{\hat{u}}_{sn} \Leftrightarrow a(2)\underline{\hat{u}}_{a} \rightarrow \dots, \text{ such that}$$

$$n(2)\underline{\hat{u}}_{n} \Leftrightarrow s(2)\underline{\hat{u}}_{s} \Leftrightarrow 0\underline{\hat{u}}_{sn} \Leftrightarrow a(2)\underline{\hat{u}}_{a} = n(2)\underline{\hat{u}}_{n} \Leftrightarrow s(2)\underline{\hat{u}}_{s} \Leftrightarrow u_{0} \Leftrightarrow a(2)\underline{\hat{u}}_{a} = n(2)\underline{\hat{u}}_{n} \Leftrightarrow s(2)\underline{\hat{u}}_{s} \Leftrightarrow a(2)\underline{\hat{u}}_{a},$$
and also such that $n(2) > 0$, and $s(2) > 0$, and $a(2) > 0$, plus, indeed, for every epoch τ in W , that $n(\tau) > 0$,
and, for every epoch $\tau > 0$, that $s(\tau) > 0$, and for every epoch $\tau > 1$, that $a(\tau) > 0$, but, for every epoch τ in W ,

that
$$u_{sn}(\tau) = 0$$
, $\Rightarrow \nexists \hat{\underline{u}}_{sn} \& \nexists \hat{\underline{q}}_{sn}$

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Indeed, what we have in this U formulation of the dialectic of nature can be visualized as 'a progressive march of the hitherto unmanifest into manifestation', and, obversely, as 'a progressive accumulation of diverse ontology'. That is, if you accept, provisionally, as empirically apt, the "lockstep" order of manifestation, and of 'cohortization', or "companionship", of manifestation, of the 'ontos', per the Q model, into your U model, we have, with m or gm, & gm, all referring to the 'onto' of molecules, i.e., of 'meta-atoms' made up out of atoms - $n(\tau)\dot{\underline{u}}_{n} \Leftrightarrow s(\tau)\dot{\underline{u}}_{s} \Leftrightarrow u_{sn}(\tau)\dot{\underline{u}}_{sn} \Leftrightarrow a(\tau)\dot{\underline{u}}_{a} \Leftrightarrow u_{an}(\tau)\dot{\underline{u}}_{an} \Leftrightarrow u_{as}(\tau)\dot{\underline{u}}_{as} \Leftrightarrow u_{asn}(\tau)\dot{\underline{u}}_{asn} \Leftrightarrow m(\tau)\dot{\underline{u}}_{m} \Leftrightarrow \ldots \Leftrightarrow$ $u_1(\tau) \overset{\circ}{\underline{U}}_1 \equiv u_2(\tau) \overset{\circ}{\underline{U}}_2 \equiv u_3(\tau) \overset{\circ}{\underline{U}}_3 \equiv u_4(\tau) \overset{\circ}{\underline{U}}_4 \equiv u_5(\tau) \overset{\circ}{\underline{U}}_5 \equiv u_6(\tau) \overset{\circ}{\underline{U}}_6 \equiv u_7(\tau) \overset{\circ}{\underline{U}}_7 \equiv u_8(\tau) \overset{\circ}{\underline{U}}_8 \equiv \dots$ -- which, for the first, $\tau = 0$ epoch, would then become - $n(0)\overset{\circ}{\underline{u}}_{n} \Leftrightarrow s(0)\overset{\circ}{\underline{u}}_{s} \Leftrightarrow u_{sn}(0)\overset{\circ}{\underline{u}}_{sn} \Leftrightarrow a(0)\overset{\circ}{\underline{u}}_{a} \Rightarrow u_{an}(0)\overset{\circ}{\underline{u}}_{an} \Leftrightarrow u_{as}(0)\overset{\circ}{\underline{u}}_{as} \Leftrightarrow u_{asn}(0)\overset{\circ}{\underline{u}}_{asn} \Leftrightarrow m(0)\overset{\circ}{\underline{u}}_{m} \Leftrightarrow \ldots =$ 0û... + 00ua ♦ 00uan ♦ 00. + 0⁰/_m + n(0) 🗓 🗢 🕺 002 n(0)û, ♦ Un + U٥ U₀ un ⊕ n(0)û. -- and which, for the second, $\tau = 1$ epoch, would then become - $n(1)\overset{\hat{0}}{\underline{u}_{n}} \oplus s(1)\overset{\hat{0}}{\underline{u}_{s}} \oplus u_{sn}(1)\overset{\hat{0}}{\underline{u}_{sn}} \oplus a(1)\overset{\hat{0}}{\underline{u}_{a}} \oplus u_{an}(1)\overset{\hat{0}}{\underline{u}_{an}} \oplus u_{as}(1)\overset{\hat{0}}{\underline{u}_{as}} \oplus u_{asn}(1)\overset{\hat{0}}{\underline{u}_{asn}} \oplus m(1)\overset{\hat{0}}{\underline{u}_{m}} \oplus \ldots =$

 $n(1)\hat{\underline{U}}_{n} \Rightarrow s(1)\hat{\underline{U}}_{s} \Rightarrow 0\hat{\underline{U}}_{sn} \Rightarrow 0\hat{\underline{U}}_{a} \Rightarrow 0\hat{\underline{U}}_{an} \Rightarrow 0\hat{\underline{U}}_{as} \Rightarrow 0\hat{\underline{U}}_{asn} \Rightarrow 0\hat{\underline{U}}_{m} \Rightarrow \dots =$ $n(1)\hat{\underline{U}}_{n} \Rightarrow s(1)\hat{\underline{U}}_{s} \Rightarrow u_{0} \Rightarrow \dots =$ $n(1)\hat{\underline{U}}_{n} \Rightarrow s(1)\hat{\underline{U}}_{s}$

-- and which, for $\tau = 2$, 'states' the ontological content of the third epoch of this 'meta-monadology', this advancing 'cumulum' of systems of '[meta-]ontos' made up out of [meta-]«monads», as --

 $n(2)\hat{\underline{U}}_{n} \Leftrightarrow s(2)\hat{\underline{U}}_{s} \Leftrightarrow u_{sn}(2)\hat{\underline{U}}_{sn} \Leftrightarrow a(2)\hat{\underline{U}}_{a} \Leftrightarrow u_{an}(2)\hat{\underline{U}}_{an} \Leftrightarrow u_{as}(2)\hat{\underline{U}}_{as} \Leftrightarrow u_{asn}(2)\hat{\underline{U}}_{asn} \Leftrightarrow m(2)\hat{\underline{U}}_{m} \Leftrightarrow \dots =$ $n(2)\hat{\underline{U}}_{n} \Leftrightarrow s(2)\hat{\underline{U}}_{s} \Leftrightarrow u_{sn}(2)\hat{\underline{U}}_{sn} \Rightarrow a(2)\hat{\underline{U}}_{a} \Leftrightarrow 0\hat{\underline{U}}_{an} \Leftrightarrow 0\hat{\underline{U}}_{as} \Rightarrow 0\hat{\underline{U}}_{asn} \Rightarrow 0\hat{\underline{U}}_{m} \Leftrightarrow \dots =$ $n(2)\hat{\underline{U}}_{n} \Leftrightarrow s(2)\hat{\underline{U}}_{s} \Leftrightarrow u_{sn}(2)\hat{\underline{U}}_{sn} \Rightarrow a(2)\hat{\underline{U}}_{a} \Rightarrow u_{0} \Rightarrow u_{0} \Rightarrow u_{0} \Rightarrow u_{0} \Rightarrow u_{0} \Rightarrow \dots =$ $n(2)\hat{\underline{U}}_{n} \Rightarrow s(2)\hat{\underline{U}}_{s} \Leftrightarrow u_{sn}(2)\hat{\underline{U}}_{sn} \Rightarrow a(2)\hat{\underline{U}}_{a} \Rightarrow u_{0} \Rightarrow u_{0} \Rightarrow u_{0} \Rightarrow u_{0} \Rightarrow \dots =$ $n(2)\hat{\underline{U}}_{n} \Rightarrow s(2)\hat{\underline{U}}_{s} \Leftrightarrow u_{sn}(2)\hat{\underline{U}}_{sn} \Rightarrow a(2)\hat{\underline{U}}_{a}$ But the $\underline{\underline{U}}$ language transcends this "lockstep" limitation of the $\underline{\underline{Q}}$ language. The $\underline{\underline{U}}$ language is not limited to either "*pure quantification*", as is the $\underline{\underline{N}}$ language, or to *pure quantification'*, as is the $\underline{\underline{Q}}$ language, but rather combines *'ontological qualification'* with *'ontological quantification'*, with *'ontological quantification'*, so that, by a suitable [re-]deployment of the *zeros* of the $\underline{u_k(\tau)}$ quantifier-functions, or epochal

population-functions, <u>any</u> epochal order of appearance/order of manifestation of the 'ontological categories', <u><u>u</u>_k, of this "'dialectic of nature"' model can be encoded so that the actual, empirical order is always expressible.</u>

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(3.7) Step vii. Consider the possible meanings of the resulting new term, assigned to q.

We have thus already connotatively 'semantified' --

$\underline{\mathbf{N}}^2 \oplus \underline{\mathbf{N}} = \underline{\mathbf{N}}(\underline{\mathbf{N}}) \oplus \underline{\mathbf{N}} = \underline{\mathbf{NN}} \oplus \underline{\mathbf{N}} = \mathbf{c}^{2}\underline{\mathbf{N}} \oplus \underline{\mathbf{N}} = \underline{\Delta}\underline{\mathbf{N}} = \underline{\underline{\mathbf{N}}}_{\underline{\mathbf{N}}}^{\underline{\mathbf{A}}} - \mathbf{c}^{2}\underline{\mathbf{N}} \oplus \underline{\mathbf{N}} = \underline{\Delta}\underline{\mathbf{N}} = \underline{\underline{\mathbf{N}}}_{\underline{\mathbf{N}}}^{\underline{\mathbf{A}}} - \mathbf{c}^{2}\underline{\mathbf{N}} \oplus \underline{\mathbf{N}} = \underline{\Delta}\underline{\mathbf{N}} = \underline{\underline{\mathbf{N}}}_{\underline{\mathbf{N}}}^{\underline{\mathbf{A}}} - \mathbf{c}^{2}\underline{\mathbf{N}} \oplus \underline{\mathbf{N}} = \mathbf{c}^{2}\underline{\mathbf{N}} \oplus \underline{\mathbf{N}} \oplus \underline{\mathbf{N}} = \mathbf{c}^{2}\underline{\mathbf{N}} \oplus \underline{\mathbf{N}} \oplus \underline{\mathbf{N}} = \mathbf{c}^{2}\underline{\mathbf{N}} \oplus \underline{\mathbf{N}} \oplus \underline{\mathbf{N}} \oplus \underline{\mathbf{N}} \oplus \underline{\mathbf{N}} = \mathbf{c}^{2}\underline{\mathbf{N}} \oplus \underline{\mathbf{N}} \oplus \underline{\mathbf{N$

as $\underline{\mathbf{Q}}$, and, more specifically, as $\underline{\mathbf{N}}\underline{\mathbf{Q}}$, given the initial connotative 'semantification' of $\underline{\mathbf{N}}\underline{\hat{\mathbf{q}}}_{\underline{\mathbf{N}}} = \underline{\mathbf{N}} \iff \hat{\underline{\mathbf{q}}}_{1}$

that was supplied by our assigning $\hat{\mathbf{g}}_1$ to \mathbf{N} as the *«arché»* of our model of this dialectic of dialectical ideographies. Our next, seventh, and, for this exposition, final, task is to *'semantify'* --

$\underline{\mathbf{Q}}^2 \otimes \underline{\mathbf{Q}} = \underline{\mathbf{Q}}(\underline{\mathbf{Q}}) \otimes \underline{\mathbf{Q}} = \underline{\mathbf{QQ}} \otimes \underline{\mathbf{Q}} = \mathbf{e}^{\underline{\mathbf{Q}}} \otimes \underline{\mathbf{Q}} = \underline{\mathbf{\Delta}} \underline{\mathbf{Q}} = \underline{\underline{\mathbf{M}}}_{\underline{\mathbf{q}}_{\underline{\mathbf{QQ}}}}^{\underline{\mathbf{Q}}}$

-- given, and on the basis of, the 'semantifications' already decided for \underline{M}_{NN}^{A} , & for \underline{M}_{ON}^{A} , as well as for \underline{M}_{N}^{A} .

That is, having become convinced, under the assumption that ${}^{\underline{N}}\underline{\hat{q}}_{\underline{N}} = \underline{N} \leftrightarrow \underline{\hat{q}}_1$, that ${}^{\underline{N}}\underline{\hat{q}}_{\underline{NN}} \leftrightarrow \underline{\hat{q}}_2$ is best attributed to \underline{Q} , and that ${}^{\underline{N}}\underline{\hat{q}}_{\underline{QN}} \leftrightarrow \underline{\hat{q}}_3$ is best attributed to \underline{U} , we need to determine an *intuitively* -- connotatively and denotatively -- satisfying, and therefore also 'expositionally'/pedagogically advantageous 'semantic value', 'meaning-value', or "intension" for the 'synonymic' symbols ??, $\Delta(\underline{N}\underline{\hat{q}}_{\underline{Q}}), \underline{N}\underline{\hat{q}}_{\underline{QQ}}$, and $\Delta \underline{Q}$, arising from the -- 'contra-Boolean' -- 'categorial computation':

$\frac{\mathbb{N}}{\mathbb{Q}}_{\mathbb{Q}}(\mathbb{N},\mathbb{Q}) = \underline{\mathbb{Q}} \otimes \underline{\mathbb{Q}} = \underline{\mathbb{Q}} = \underline{\mathbb{Q}}^2 = \underline{\mathbb{Q}} - \underline{\oplus} - \underline{\mathbb{Q}} = \underline{\mathbb{N}}_{\mathbb{Q}}^2 - \underline{\oplus} - \underline{\mathbb{Q}}_{\mathbb{Q}}^{\mathbb{N}} = \underline{\mathbb{N}}_{\mathbb{Q}}^2 - \underline{\oplus} - \underline{\mathbb{N}}_{\mathbb{Q}}^2 - \underline{\mathbb{N}}_{\mathbb{Q}^2 - \underline{\mathbb{N}}_{\mathbb{Q}}^2 - \underline{\mathbb{N}}_{\mathbb{Q}}^2 - \underline{\mathbb{N}}_{\mathbb$

solve for \underline{Y} in the 'pure-qualitative', 'pure-ontological', 'contra-Boolean' algebraic equation $\underline{\mathbb{M}}_{\underline{\Omega}}^{2} \otimes \underline{\mathbb{M}}_{\underline{\Omega}}^{2} = \underline{Y}$.

Suppose we have noted a pattern, instantiated so far in our "expansion" of $(\underline{\mathbf{N}})^{2^{\tau}}$ part-way, through $\tau = 2$.

Suppose further that one part of this pattern is contained in this observation: a value $\stackrel{\mathbb{N}}{\mathfrak{g}_{\mathbb{Z}}}$ whose 'postsubscript' value, $\underline{\mathbb{Z}}$, involves an <u>even</u> number of repetitions of the *«arché»*, $\underline{\mathbb{N}}$, connotes an arithmetic/algebra of '<u>unquantifiable pure qualifiers</u>', as does, in the second, $\tau = 2$, epoch, the case of $\hat{\mathfrak{g}}_2 \Leftrightarrow \stackrel{\mathbb{N}}{\mathfrak{g}_{\mathbb{N}\mathbb{N}}} = \stackrel{\mathbb{N}}{\mathfrak{g}_{\mathbb{Q}}} = \underline{\mathbb{Q}}$.

Suppose that the other part of this pattern is contained in the observation that a value $\stackrel{\mathbb{N}}{\underline{q}_{\mathbb{Z}}}$ whose 'postsubscript' value, \underline{Z} , involves an <u>odd</u> number of repetitions of the *«arché»*, $\underline{\mathbb{N}}$, connotes <u>either</u> (1) an arithmetic/algebra of, <u>either</u> '<u>pure</u>, <u>unqualified quantifiers</u>', as does, in the very first, $\tau = 0$, epoch, the case of $\hat{\underline{q}}_1 \leftrightarrow \stackrel{\mathbb{N}}{\underline{q}}_{\underline{\mathbb{N}}} = \underline{\mathbb{N}}$, for the '*«arché»*' odd number 1, <u>or</u> (2) an arithmetic/algebra of 'qualifiable quantifiers', and, equally, of 'quantifiable qualifiers', as does, in the third, $\tau = 2$ epoch, the case of $\hat{\underline{q}}_3 \leftrightarrow \stackrel{\mathbb{N}}{\underline{q}}_{\underline{\mathbb{N}}\underline{\mathbb{N}}} = \stackrel{\mathbb{N}}{\underline{q}}_{\underline{O}\underline{\mathbb{N}}} = \underline{\mathbb{U}}$, for the next/second odd number, 3.

This pattern might lead us to the conjecture that the $\hat{\mathbf{g}}_4 \leftrightarrow \mathbf{M}_{\mathbf{NNNN}}^{\mathbf{A}} = \mathbf{M}_{\mathbf{Q}_{\mathbf{Q}_{\mathbf{Q}}}}^{\mathbf{A}} = \underline{\mathbf{X}}$ arithmetic/algebra should connote yet another, new kind of '<u>unquantifiable</u>', or 'pure-qualifier', dialectical ideography. The $\mathbf{M}_{\mathbf{Q}_{\mathbf{NNN}}}^{\mathbf{A}} = \mathbf{M}_{\mathbf{Q}_{\mathbf{Q}}}^{\mathbf{A}} = \underline{\mathbf{Q}}$ arithmetic/algebra has already been interpreted as one of '<u>ontological</u> qualifiers', or for '<u>ontological</u> qualification'. What other kinds/species of 'qualifiers' and of 'qualification' are there, in our experience of this "'universe of discourse''', or "'totality''', of 'quanto-qualifying', or 'qualo-quantifying', language? What other "'types''' of 'numeralic' "'qualitative units''' or qualitative «monads» must we evoke --- ideographically and arithmetically/algebraically --- in order to progressively construct ever more fully/richly quanto-qualitative, ideographical languages, able to express the thought-concreteness of the experienced totalities --- including of the experienced totality of the extant applied mathematics --- that we may so far know "chaotically" [cf. Marx], but not yet "'<u>system-atically</u>''' [or '<u>meta-system</u>-atically]?

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The following list of 'ideo-ontological' categories of [potential] qualifier unit[ie]s, or «monads», comes to mind:

[1. ontological qualifiers];

metrical qualifiers;

3.a. state-variable 'identity-tag' qualifiers;

3.b. control-parameter 'identity-tag' qualifiers;

system & «genos» 'identity-tag' qualifiers [alternatively: <u>sub-system</u> & species identification qualifiers];

<u>super-system/super-«genos»</u> qualifiers [or <u>system-w/-explicit-sub</u>systems/ «genos»-w/-explicit-<u>species</u> qualifiers];

We hold that the *next-more-*"'*concrete*"'*next-more-*"'*complex*"' form of '*qualification*', after '*kind-qualification*', or '*ontological qualification*', is '*metrical qualification*'. We hold that next higher category of "'*qualifiers*" -- next higher in thought-complexity/thought-concreteness/determinateness -- after that of the '*ontological qualifiers*'' of $\underline{\mathbf{Q}}$, is that species of the *«genos»* of "*qualifiers*"' known herein as "'*metrical qualifiers*".

Thus, for example, a standard «*monad*», or unit, for the measurement of physical-spatial extent, or "Length", denoted L, is the "centimeter", denoted/abbreviated/syncopated by "**cm**.". Likewise, a standard «*monad*» for the measurement of weight, "Mass", denoted M, is the "gram", abbreviated "**gm**.". Finally, a standard metrical «*monad*» for the measurement of <u>T</u>ime, denoted T, is the "<u>sec</u>ond", denoted "**sec**.".

Note that all of these '<u>metrical</u> qualifier «monads»' are 'contra-Boolean', i.e., follow the same 'squaring rule' as do the $\underline{\mathbf{Q}}$ '<u>ontic</u> qualifier «monads»' -- and "'solve"'/"'satisfy" a similar contra-Boolean '<u>in</u>equation' -- $\mathbf{\hat{g}}^2$ $\frac{1}{2}$ $\mathbf{\hat{g}}^1$:

cm.¹ × cm.¹ = cm.²; cm.² < cm.¹, and cm.² ≠ cm.¹, and cm.² ≯ cm.¹; \therefore square-centimeter = cm.² $\frac{1}{\xi}$ cm.¹ = linear-centimeter, or: $\Box \frac{1}{\xi}$ |;

 $gm.^1 \times gm.^1 = gm.^2$; $gm.^2 \neq gm.^1$, and $gm.^2 \neq gm.^1$, and $gm.^2 \Rightarrow gm.^1$; \therefore square-gram = $gm.^2 \Rightarrow gm.^1 =$ linear-gram.

sec.¹ × sec.¹ = sec.²; sec.² \leq sec.¹, and sec.² \neq sec.¹, and sec.² \neq sec.¹; \therefore square-second = sec.² \neq sec.¹ = linear-second.

So, we model $\underline{\mathbb{N}}_{\underline{\mathbf{Q}}\underline{\mathbf{Q}}} = \underline{\underline{\mathbf{Y}}}$ as $\underline{\mathbb{N}}_{\underline{\mathbf{M}}}^{\underline{\mathbf{M}}} = \underline{\underline{\mathbf{M}}}$, the initial arithmetic/algebra of the series of the next three arithmetics/algebras of new "qualifiers", which we interpret as arithmetics/algebras of '<u>metrical</u> qualifiers', presented/grasped, initially, as a special class/sub-species, of '<u>ontological</u> qualifiers', and as a new, second 'contra-thesis' to $\underline{\mathbf{N}}$, and as a new, first 'contra-thesis' to $\underline{\mathbf{Q}} = \underline{\mathbb{N}}_{\underline{\mathbf{Q}}}^{\underline{\mathbf{Q}}}$:

$\underline{\mathbf{N}} \rightarrow \underline{\mathbf{N}}_{\mathsf{rev}_{\mathsf{N}}} \underline{\mathbf{Q}} \rightarrow (((\underline{\mathbf{N}}_{\mathsf{rev}_{\mathsf{N}}} \underline{\mathbf{Q}})_{\mathsf{rev}_{\mathsf{N}}} \underline{\mathbf{M}}) = \underline{\mathbf{N}}_{\mathsf{rev}_{\mathsf{N}}} \underline{\mathbf{Q}}_{\mathsf{rev}_{\mathsf{N}}} \underline{\mathbf{M}} \rightarrow \dots$

We halt this meta-systematic dialectical presentation here, because the further exposition/construction/development of the '*ideo-meta-system*' of the systems of dialectical ideography -- of the systems of dialectical algebra/arithmetic -- would take us beyond $\underline{Y} \Leftrightarrow \hat{\mathbf{g}}_4$, i.e., beyond $\underline{\mathbb{N}}_2 = \underline{\mathbb{N}}_2 = (\underline{\mathbb{N}}_2)^{2^2}$, and therefore beyond the scope of this <u>Brief</u>. [The fuller instantiation of the 'meta-systematic dialectical' method of presentation for this '*ideo*-meta-system' belongs to the third part of <u>Dialectical Ideography</u>, entitled 'The Arithmetics of Meta-Evolution'].

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Scholium 3.7 -- One may use the Q rules to organize, and to re-construct "system-atically", one's contemporaneous, "chaotic" [cf. Marx] experience of a given [sub-]totality. One may also, perhaps, use those rules to help discern, or to reconstruct, and thereby to 'retro-dict', unrecorded or overlooked ontological constituents of that [sub-]totality's past self-manifestations. Most ambitiously of all, one may essay to apply the Q rules-system to 'pre-cognize' never previously experienced anticipations/'pre-constructions', 'pre-visions', or 'pre-imaginations' -- and "'pre-dictions" -- of that [sub-]totality's future ontological constituents. These arise as the possible temporal self-prolongations, or diachronic 'self-extentions', that its past-through-present 'metastates' already onto-logically imply as their own temporal, historical entailments. Whenever one engages in such cognitive activities -- "seeding the clouds" of one's latent, "chaotic", or infelicitously-ordered experience and knowledge to precipitate insights into the systematic structure of one's present, past, and potential future experience of a given [sub-]totality -- one is, at least implicitly, entertaining, and acting in alignment and in consistency with, a certain, dialectical hypothesis. That hypothesis holds that the sub-totality in question is ordered -- is diachronically/historically, and/or synchronically/system-atically self-deployed -- as a dialectical «species» of the dialectical «genos» of the dialectic itself. That is, this hypothesis holds that the sub-totality in question self-deploys as an «aufheben», 'qualo-Peanic, archeonic consecuum-cumulum' of ontological categories/systems, together forming/constituting a single, and a singular, 'meta-system'; a dialectical, i.e., a 'meta-dynamical', 'meta-evolving', 'diachronic meta-system'/'synchronic super^w-system' [w ∈ W] hybrid; in short, a 'meta-super-system'. As such, that sub-totality is expected to exhibit the following, generic, joint, diachronic/meta-system-ic//synchronic/super-system-ic sequence of series, succession of series, or progression of heterogeneous/non-reductionist/evolute series, as its 'multi-meta-ontological', 'multi-meta-monadic', and also 'meta-monadological' and multi-super-system-ic 'consecuum-cumulum', as the temporal epoch index, τ , rises in meta-super-system . For the 'contra-thesis' sub-sequence only --

meta-super-system ₀	=	system ₁ =	<u>«arché»-system</u> = <u>super⁰-system</u> ;
meta-super-system ₁	=	<u>system</u> 1 +	\underline{super}^{1} -system = \underline{system}_{1} + \underline{system}_{2}
meta-super-system ₂	=	system ₁ +	super ¹ -system+ super ² -system;
meta-super-system ₃	=	system ₁ +	super ¹ -system+ super ² -system+ super ³ -system;
meta-super-system,	-	<u>system</u> 1	super ^w -system super ^{w+1} -system super [*] *-system

-- so that, for $w \ge 1$, each '<u>contra</u>^w-thesis' successor super-system, <u>super</u>^{w+1}-system, or <u>super-system</u>₂^w «aufheben» "contains"/"conserves", or is a [self-]subsumption of, its '[contra^w-]<u>thesis</u>' predecessor-system:

super^w-system, or super-system

Thus, to cite some *later* epochs of our *first* example, of the *historical dialectic* of nature, suppose we take, as our 'Nature-al' [super-]<u>systems</u>, the <u>units</u> or <u>monads</u> of the populations, or <u>arithmoi</u>, to which the <u>outological qualifiers</u> of that model refer, denoting the 'ontological categories' possibly extant/instantiated in the successive epochs of the history of nature. Then individual <u>molecules</u>, identified as individual 'molecular systems', <u>aufheben</u>-contain their predecessor systems, individual <u>atoms</u>, identified as individual 'atomic systems', and, these '<u>atom-systems</u>', each, in turn, <u>aufheben</u>-contain <u>their</u> predecessor systems, individual 'sub-atomic particle systems'. Thus, were we to take the latter, 'sub-/pre-atomic "particles" systems' as comprising our <u>arché</u>-system' category, then that self-same 'sub-/pre-atomic "particles" systems' category would be our <u>systems</u>, the 'atomic systems' category would be our <u>super</u>¹-system.

system + super'-system ...+... super'-system = sub-atomic systems + atomic systems ...+...molecular systems

-- or, for example, if we re-describe our <u>super²-system</u> category, for <u>molecular systems</u>, as, simply, the <u>system</u> category, then the systems of that <u>system</u> category *«aufheben»-"contain"* <u>atomic systems</u> as their immediate <u>sub-systems</u>, or <u>sub¹-systems</u>, and therefore also *"contain"* <u>sub-atomic systems</u> as their *"once-removed"* or <u>sub²-systems</u>, i.e., <u>sub¹-systems</u>, and so on.

Thus, a super⁴-system is a 'synchronic meta-fractal' self-structuring, a sub-totality, explicitly described as a 4-super-level 'super-organism', involving a crowning (4) 'super-super-super-super-system', containing, and made up out of, a heterogeneous multiplicity of sub-super-super-super-super-systems, or (3) of super-supersystems, i.e., of **super³-systems**, wherein each of the latter *contains*, and is *made up out of*, a *heterogeneous* multiplicity of sub-super-super-super-systems, or (2) of super-super-systems, i.e., of super²-systems, each containing, and made up out of, a heterogeneous multiplicity of sub-super-super-systems, i.e., (1) made up out of super-systems, i.e., **super¹-systems**, each of which, in turn, contains, and is made up out of, a heterogeneous multiplicity of sub-super-systems, or (0) of systems, i.e., of super -systems, this "system" level being the base, or «arché», level, the 'origin-al' level that is explicitly rendered/described in such a, super⁴-system, model. Alternatively, we can re-describe a super⁴-system as a sub⁴-system; as, again, a 'synchronic meta-fractal', or scale-regressed qualitative self-similarity structure, a sub-totality, explicitly described as a 4-sub-level 'super-organism', involving a crowning, or top-level, (0) 'system', or sub⁰-system, containing, and made up out of, a heterogeneous multiplicity (1) of sub-systems, i.e., of sub¹-systems, wherein each of the latter contains, and is made up out of, a heterogeneous multiplicity of sub-sub-systems, or (2) of sub²-systems, each in turn containing, and made up out of, a heterogeneous multiplicity of sub-sub-sub-, or (3) of sub³-systems, each of which, in turn, contains, and is made up out of, a heterogeneous multiplicity of sub-sub-sub-systems, or (4) of sub4-systems, this final, "sub4-systems", level being the base, or «arché», level, that is explicitly rendered/described in such a, sub4-system, model.

The later, higher- τ , epoch $\tau > 3$ self-iterates in the $\left(\begin{array}{c} \mathbb{N}\end{array}\right)^{2^{\tau}}$ series/sequence of this, our third, example, elaborate a *dialectical-ideographic syntax* for <u>explicitly</u> "'describing'", or qualo-quantitatively modeling, as such, such '<u>meta-evolving</u>', '<u>meta-dynamical</u>' '<u>meta-super-systems</u>', including the successive/progressive evocation of quantifiable '<u>qualifier</u> meta-numerals' for meta-super⁰-systems, meta-super¹-systems, meta-super¹-systems, meta-super¹-systems, meta-super¹-systems, meta-super¹-systems, meta-super¹-systems, meta-super¹-systems, meta-super¹-systems</sup>, and beyond, specifically, via the ${}_{0}\mu$, ${}_{1}\mu$, ${}_{0}\mu$, and ${}_{2}\mu$ dialectical arithmetics, respectively.

The 'syntactical self-structuring' of their successive/progressive "qualifier meta-numerals' mirrors the above-described 'meta-fractal' self-structuring of the sub-totalities that they are designed to 'languify'. That is, the syntactical structure of those 'meta-numerals' is also 'meta-fractal'. This structure is that of an iterated, nested scale-regress of 'sub-script-ations', or of a 'pure-qualitative' or 'quanto-qualitative' [finitely-]continued fraction, i.e., a scale regress of nested "denominations", or 'denominatorizations'.

Consider, for instance, the generic '<u>beta</u> meta-numeral' for that τ -epoch in which the explicit $\left(\begin{array}{c} \mathbf{N}\end{array}\right)^{2^{\tau}}$ language for '''[meta-]dynamical''', '''[meta-]evolving''', 'meta-super⁰-systems' appears – namely, that of the language denoted ${}_{\beta\underline{\mu}}$ or $\underline{\beta}$. That '<u>beta</u> meta-numeral' takes a heterogeneous, non-amalgamative, non-reductionist sum of the '<u>alpha</u> meta-numerals' of its predecessor language, denoted ${}_{\alpha\underline{\mu}}$ or $\underline{\alpha}$, as its subscript, or as its denominator, under the generalized, qualo-quantitative fraction-bar. The ${}_{\alpha\underline{\mu}}$ or $\underline{\alpha}$ language is a language limited to expressing state-variables and control-parameters. Heterogeneous, non-amalgamative sums of epoch-varying values of those state-variables and control-parameters, can \therefore model the τ -epoch average values, or '''attractor'''-values, of the ''state-[control-]vector''' '''[meta-]state''' of a 'meta-super⁰-system' being modeled thereby. The generic 'gamma meta-numeral' of the language denoted ${}_{\mu\underline{\mu}}$ or $\underline{\alpha}$ 'meta-numerals', each representing a different 'meta-super⁰ -system', and denoting thereby the modeled ''sub-systems''' of the modeled 'meta-super¹-system'</sup>, wherein each such '<u>beta</u> meta-numeral' has a different heterogeneous sum of '<u>alpha</u> meta-numerals', in turn, as its denominator, and so on, creating an ontologically non-reductionist 'co-eval co-representation', or 'holistic notation', of co-existing wholes, parts as sub-wholes, sub-parts as sub-sub-wholes, ..., etc., each as a qualitatively distinct, contemporaneous, irreducible level of emergent [meta-]dynamical "large discussion" designed to reduce a gamma of 'meta-numeral''.

A user of the dialectical ideographies' '<u>ideo</u>-meta-[super'-]system' of dialectical languages need but "dial-up", in the $(\mathbb{N})^{2^{\tau}}$ 'ideo-graph-ical' language-systems' 'systems-progression' -- by picking out the correct epoch, τ -- that particular dialectical language containing the depth of levels of <u>explicit</u> 'sub^W-systems' resolution needed for the application at hand. <u>E.D. Briefs</u>. The Q Dialectical Algebra: How To Use. [v.4.24.03] 3-12 Distributed -Samizdat- by Foundation Encyclopedia Dialectica