

Glossaries

Glossary of Technical [Phonetic/Phonogramic] Terms, including Neologia

γ. words beginning with the letter 'C'.

“**calculus**” ≡ Any ideographic, rule-based written language which includes algorithmic rules or procedures -- mental and scriptal “programs” or “recipes” -- for achieving certain specified computational goals.

“**camps**” ≡ The *E.D.* ‘*onto*’ denoted $\overset{2}{h}\overset{2}{c}_m$, a “socio-sub-ontic category”, or ‘socio-sub-onto’, in the *taxonomy level two* [$\overset{2}{h}$] ‘human-social formation(s) meta-model’, $\overset{2}{h}\overset{2}{c}_m \uparrow = \langle \overset{2}{h}\overset{2}{b} \rangle \overset{2m}{\uparrow}$, of the ‘socio-onto-dynamasis’ going on inside the *taxonomy level one* [$\overset{1}{h}$] ontological category of

human[oid] societies, $\overset{1}{h}$, within the *E.D.* historical-dialectical ‘meta-model’ of the total cosmos, $\overset{1}{Q}_v \overset{1}{I}_v$ or $\overset{1}{h}\overset{1}{c}_v \uparrow = \langle \overset{1}{h}\overset{1}{n} \rangle \overset{2v}{\uparrow}$, such that $\overset{1}{h}\overset{1}{n} \rightarrow \overset{1}{h}\overset{1}{b}$ denotes its «*arché*» ‘*onto*’ of “pre-nuclear particles”. The ‘*onto*’ denoted $\overset{2}{h}\overset{2}{c}_m \equiv \overset{2}{h}\overset{2}{b}_{bb} \rightarrow \overset{2}{h}\overset{2}{c}_2$. It arises initially out of the [cf. Marx] growth of the human-social forces of production-driven expanded social self-reproduction - i.e., out of the self-proliferations/‘self-densifications’/self-confrontations -- of the «*monads*» of its immediate predecessor ‘socio-onto’, the ‘*arche*»-*onto*’ of this ‘*ontic progression*’, namely, the primitive “bands” of predatory proto-human[oid] hunter-gatherer-forager-scavengers, denoted by $\overset{2}{h}\overset{2}{b} \equiv \overset{2}{h}\overset{2}{b}_{bb} \rightarrow \overset{2}{h}\overset{2}{c}_1$. Refers to the ‘ Δ ’ term in --

$$\overset{2}{h}\overset{2}{b}^1 \rightarrow \overset{2}{h}\overset{2}{b}^2 = \overset{2}{h}\overset{2}{b} \langle \overset{2}{h}\overset{2}{b} \rangle = \overset{2}{h}\overset{2}{b} \langle \overset{2}{h}\overset{2}{b} \rangle = \overset{2}{h}\overset{2}{b} \diamond \Delta \langle \overset{2}{h}\overset{2}{b} \rangle = \overset{2}{h}\overset{2}{b} \diamond \overset{2}{h}\overset{2}{c} \overset{2}{h}\overset{2}{b}. \text{ [See Wright, } \underline{\textit{Non-Zero}}, \text{ pp. 20; 353].}$$

“**Cantor continuum hypothesis**” ≡ $\vdash. 2^{\aleph_0} = \aleph_1 = c \equiv |\mathbf{R}| \gg \aleph_0$, for $\aleph_0 \equiv |\mathbf{N}|$. A locus of for dialectical, immanent critique of the ideology in contemporary mathematical science. Cantor’s conjecture that the supposedly “actually infinite” number of “Natural” numbers, $\aleph_0 \equiv |\mathbf{N}|$, and the supposedly “actually infinite” number of “Real” numbers, $c \equiv |\mathbf{R}|$, with \mathbf{N} & \mathbf{R} posited as somehow-*pre*-constructed infinite actualities, is a *consecuum* ‘ordered pair’, $\langle \aleph_0, \aleph_1 \rangle$. An upshot of the mid-last-century work of Gödel and

Cohen is that *the generalization of this conjecture, the Generalized Continuum Hypothesis, $\vdash. \mathbf{E} \aleph_k = \aleph_{k+1} = 2^{\aleph_k}$, is “undecidable” -- neither provable nor refutable -- from the axioms of Zermelo-Fraenkel Axiomatic Set Theory, [“ZF”], and, in particular, when the axiom of choice is included as among them [“ZFC”]. In terms of actual constructions by actual human mathematicians, these sets are *potentially infinite* [cf. Aristotle; Brian Rotman] at most. Related to Cantor’s ‘reductionistic’, ‘point-atomistic’, ‘dimensionality-denying’ theorem that --*

$|\mathbf{R}^{n>3}| = \dots = |\mathbf{R}^3| = |\mathbf{R}^2| = |\mathbf{R}| = c$. This theorem shocked even Cantor, who wrote: “I see it, but I do not believe it!” Note: The \aleph_k are “Boolean” -- $\aleph_k \times \aleph_k = \aleph_k^2 = \aleph_k^1$ [also -- $\aleph_k + \aleph_k = \aleph_k$].

“**capital**” [**the capital-Relation as social Relation of production**] ≡ The memetic category of ‘meta-monies’ «*monads*», each one *made up out of a heterogeneous multiplicity of monies* «*monads*» as its ‘sub-«*monads*»’, or internalized «*arithmos*», i.e., via a ‘*meta-monadization*’ of the $\overset{2}{h}\overset{2}{M}_R \leftarrow \overset{2}{h}\overset{2}{M}_R$ «*monads*». Typically, the heterogeneity of these multiple “monies” results from their origination as the money profits(losses) from the disparate ‘monetic’ units that constitute the net proceeds of previous, episodic usurious loan lettings, previous, episodic mercantile expeditions, previous, episodic business “deals”, or previous, rigidly standardized, regularly recurring accounting periods [e.g., “retained earnings”]. Refers to the ‘ Δ ’ term in:

$$\overset{2}{h}\overset{2}{M}^1 \rightarrow \overset{2}{h}\overset{2}{M}^2 = \overset{2}{h}\overset{2}{M}_R \langle \overset{2}{h}\overset{2}{M}_R \rangle = \overset{2}{h}\overset{2}{M}_R \langle \overset{2}{h}\overset{2}{M}_R \rangle = \overset{2}{h}\overset{2}{M}_R \diamond \Delta \langle \overset{2}{h}\overset{2}{M}_R \rangle = \overset{2}{h}\overset{2}{M}_R \diamond \overset{2}{h}\overset{2}{K}_R \overset{2}{h}\overset{2}{M}_R.$$

The qualitative, ontological emergence, or irruption, [\uparrow], of the ‘ideo-physio-ontology’ of “**capitals**”, denoted $\overset{\uparrow}{h}\overset{2}{K}_R$, within the human Phenome, during epoch $\tau_R = 4$ per the *E.D.* “psychohistorical equation” known as

'The Equation of Human-Social Relations of Production Meta-Evolution', ${}^2_h \text{---} | \text{---} \text{---} \tau_R \uparrow = \langle {}^2_h \text{A}_R \rangle^{2^{\tau_R \uparrow}}$, represents the "formal subsumption of labor by capital" [Marx] -- and the merely "formal subsumption", by the capital-relation, of all previously-emergent human-social relations of production 'ideo-physi[c]o-ontology', or 'psycho-physi[c]o-ontology' -- but not yet their "real subsumption" [cf. Marx] in either sense.

The symbol ${}^2_h \text{K}_R \text{E} \rightarrow \mathbb{Q}_{16}$ intends the «arithmoi» of 'human-social Relations of human society self-re-production' «monads», called *Capital-relations*.

'Monadization' of the *Capital-relation* arises initially out of an accelerating self-proliferation/self-densification/self-confrontation of the «monads» of its predecessor *human-social relation of production*, i.e., those of the Money-relation, denoted ${}^2_h \text{M}_R \equiv {}^2_h \text{CC} \text{E} \rightarrow \mathbb{Q}_{8'}$ where ${}^2_h \text{C}_R \text{E} \rightarrow \mathbb{Q}_4$ denotes the «arithmos»/population, or system of *units*/*«monads»*, of the predecessor 'meta-meristemal' social relation of production to ${}^2_h \text{M}_R$: the [barterable] Commodity-relation. The fully-developed [Industrial-]*Capital-relation*, or *Wage-Labor-relation*, emerges from within of the core of the Money-relation, or of the Money-'"form of social intercourse"' [Marx and Engels, *The German Ideology*], or of the Money form of exchange-value, as 'the auto-catalytic form of [exchange-]value'.

As a value-form, capital is a «species» of a «genos» that resides within the domain of 'psychohistorical materiality', per the E.D. paradigm of 'psychohistorical materialism'. I.e., *capital-value*, though embodied in physical materials, is not an entirely physical/external-objective materiality, but, rather, a partially 'memetic', inter-subjective/mental, cultural-'Phenomic', or, in sum, an 'ideo-physio-ontological', 'psychohistorical material'.

"capitalism" [the capitalist system] \equiv An ontological categorial possibility 'cumulum' -- or non-amalgamative, qualitative, heterogeneous "sum" -- of 'ontos'. That 'cumulum' is connoted by the entire sub-series that constitutes the "delta"-term, or ' Δ ' term, of the epoch $\tau_R = 5$ 'dialectical meta-model' generator, $\langle {}^2_h \text{A}_R \rangle^{2^5}$, except for its last, 'meta-meristemal' term, ${}^2_h \text{E}_R \equiv {}^2_h \text{KK} \text{E} \rightarrow \mathbb{Q}_{32}$ [which connotes a new *social relation of production*, one of 'generalized Equity', predicted, per this 'meta-model', to supersede the «Kapital»-relation] --

$$\Delta_h^2 | \text{---} | \text{---} \text{---} 4 = \Delta \langle {}^2_h \text{A}_R \rangle^{2^4} = {}^2_h | \text{---} | \text{---} \text{---} 5 \diamond {}^2_h | \text{---} | \text{---} \text{---} 4 =$$

$${}^2_h \text{KA} \diamond {}^2_h \text{KG} \diamond {}^2_h \text{KGA} \diamond {}^2_h \text{KC} \diamond {}^2_h \text{KCA} \diamond {}^2_h \text{KCG} \diamond {}^2_h \text{KCGA} \diamond {}^2_h \text{KM} \diamond {}^2_h \text{KMA} \diamond {}^2_h \text{KMG} \diamond {}^2_h \text{KMGA}$$

$${}^2_h \text{KMC} \diamond {}^2_h \text{KMCA} \diamond {}^2_h \text{KMCG} \diamond {}^2_h \text{KMCGA} \diamond {}^2_h \text{E}$$

This 'cumulum' models the "social relations of production" [Marx] -- or "'forms of human social intercourse"' [cf. Marx and Engels, *The German Ideology*] -- consequences, or results, of the history, through epoch $\tau_R = 5$, of "'human-social Relations of expanding human-societal self-re-production", per the *taxonomy level two* [2_h] E.D. 'Psychohistorical-Dialectical Equation of Human-Social Relations of Production Meta-Evolution',

$${}^2_h | \text{---} | \text{---} \text{---} \tau_R \uparrow = \langle {}^2_h \text{A}_R \rangle^{2^{\tau_R \uparrow}}$$

For example, in the 'ideo-physio-cumulum' symbolized above, the term ${}^2_h \text{KC} \text{E} \rightarrow \mathbb{Q}_{20}$ signifies the "real subsumption" [cf. Marx] of ${}^2_h \text{C}_R \text{E} \rightarrow \mathbb{Q}_4$ by ${}^2_h \text{K}_R \text{E} \rightarrow \mathbb{Q}_{16}$ [e.g., "Commodity-Capital"; '*capital-value taking the transitory form of an «arithmos» of Commodity «monads» or units*'], the term ${}^2_h \text{KM} \text{E} \rightarrow \mathbb{Q}_{24}$ signifies the "real subsumption" of ${}^2_h \text{M}_R \text{E} \rightarrow \mathbb{Q}_8$ by ${}^2_h \text{K}_R$ [e.g., "Money-Capital"; '*capital-value taking the transitory circulation-form of an «arithmos» of Monetary «monads» or units*'], and the term ${}^2_h \text{KMC} \text{E} \rightarrow \mathbb{Q}_{28}$ signifies the "real

subsumption''' of $\overset{2}{h} \underset{MC}{\text{MC}}$ $\mapsto \overset{2}{h} \underset{12}{\text{MC}}$ by $\overset{2}{h} \underset{R}{K}$ [“capital-circulation”]; the “real subsumption” of the [earlier-irrupted] “Monies-Mediated Circulations of Commodities”, connoted by $\overset{2}{h} \underset{MC}{\text{MC}}$ – i.e., the “real re-subsumption” of the earlier “real subsumption” of the Commodities[-barter] praxis by Monies – in the form of “The Circulation of the Aggregate Social Capital” [cf. Marx, *Capital: A Critique of Political Economy*, volume II.].

This ‘cumulum’ represents the “real subsumption of labor by capital” [Marx] -- and also the “real subsumption”, by the capital-relation, of all previously-irrupted human-social Relations of production ‘ideo-physio-ontology’, or ‘psycho-physio-ontology’, as classically described by Marx in general terms as follows: “While in the completed bourgeois [≡ capitalist] system every economic relation presupposes every other in its bourgeois economic form, and everything posited is also a presupposition, this is the case with every organic system. The organic system itself, as a totality, has its presuppositions, and its development to its totality consists precisely in subordinating all elements of society to itself, or in creating out of it the organs which it still lacks. This is historically how it becomes a totality.” [Marx, *Grundrisse*, Penguin 1973, p. 278, emphasis added].

In its partial rendition above, the “core”, or “seed”, of the ‘The Equation of Human-Social Relations of Production Meta-Evolution’, present in its generator-term, $\langle \overset{2}{h} \underset{R}{A} \rangle^{2\tau R \uparrow}$, is the symbol $\overset{2}{h} \underset{R}{A} \mapsto \overset{2}{h} \underset{1}{\text{MC}}$, which connotes the human-social «arché» category of “hunting & gathering” social Relations of production, or forms of social intercourse, dominated by the units, or «monads», of the Appropriation of the products of nature in “raw” form, as yet unimproved, for human consumption, by human labor, as primary inputs to human-social reproduction. This ‘dialectical meta-model’ describes self-developments one taxonomy-level down[$\overset{2}{h}$], within, or “inside”, the taxonomy level one [$\overset{1}{h}$] ontological category, or «arithmos», of humanity, denoted $\underset{h}{h}$, which has individual human societies as its units, or «monads».

The term “capitalism” thus refers to those human-social formations within which the «monads» of the «arithmos» of the Capital-relation -- the ‘capital-«monads»’ of the ‘capital-«arithmos»’ -- constitute the predominant form of human-social-Relations self-re-production, i.e., of human-society’s self-re-production.

“categorial” ≡ Involving categories, e.g., those in a [meta-]systematic dialectical’ or [psycho]historical-dialectical’ categorial progression [meta-]model, e.g., the expanding ‘cumulum’ of a self-generating ‘aufheben» consecuum’ of “ontological categories”. ‘Modelable’ by $\overset{n}{u} \underset{s}{H} = \langle \overset{n}{u} \underset{s}{\text{MC}} \rangle^{s\tau}$, for the “pure” ‘ideo-progressions’, and by $\overset{n}{u} \underset{1}{\text{MC}} \mapsto \langle \overset{n}{u} \underset{s}{\text{MC}} \rangle^{2\tau \uparrow}$, for [ideo-]physi[c]o-progressions’, using one of the Q dialectical-ideographical languages’ «characteristica universalis», for universe of discourse u, taxonomy level n.

“categorial progression” ≡ A self-generating ‘aufheben» consecuum’ of “categories”, such as those modeled by [meta-]systematic dialectical’ or [psycho]historical-dialectical’ [meta-]models, formulated via the Q dialectical ideographies. Models the [self-]propagation of a ‘multi-ontic monadic swarm’, i.e., the [self-]inflorescence of the qualitatively different “numbers” [«arithmoi»] of a ‘multi-qualitative’ -- of a [‘depictorially’] “multi-chromatic” -- ‘meta-population’, or ‘multi-population meta-distribution’, of «monads», e.g., those [‘representationally’, “dynamic-graphically”] projected by E.D.’s “Prime Radiant” ‘meta-planetary’ holographic projector for the ‘Encyclopedia Dialectica Holo-Deck’.

[Meta-]Modelable by a [meta-]model ‘dialectical equation’ of generic form $\overset{h}{H} = \langle \overset{h}{\text{MC}} \rangle^{2h\tau} = \overset{h}{H}_0$.

An ‘arithmoi»-progression’: A [self-]progression of «arithmoi», which are made up out of «monads».

“**category**” ≡ “...a principle (a universal) for unifying a manifold of some sort or other (different individuals, or particulars). A category thus articulates a structure with two poles, a pole of unity and a pole of differences. In Hegelian language, this sort of structure, captured in some category, can be described as a unity if identity in difference, or as a reconciliation of universal and individuals.” [Tony Smith, *The Logic of Marx's Capital: Replies to Hegelian Criticisms*, SUNY Press [Albany: 1990], p. 5]. A *population* of [qualitatively similar] [logical] *individuals*, a *set of elements*, a “number of [qualitative] *units*”, i.e., an «*arithmos*» of like-*kind* «*monads*».

“**category [ontological]**” ≡ A category that represents a single «*genos*», or *kind of being*, of «*on*». An «*arithmos*», or *assemblage* [e.g., a “population”], of [logical-]*individuals*, *units*, or «*monads*», defined by an existential or *ontological* characteristic quality that every «*monad*» of that «*arithmos*» shares, and that distinguishes that «*arithmos*» and its constituent «*monads*» *qualitatively* from other «*arithmoi*» / «*gene*» /

kinds. For example, the **E.D.** ‘Dialectical “Theory Of Everything” Equation’, $\downarrow_{\nu} \text{---} | \text{---} (\tau_{\nu} \uparrow = \langle \downarrow_{\nu} n \rangle^{2^{\tau_{\nu} \uparrow}}$, solves out, using the **E.D.** ‘Organonic Algebraic Method’, for the following ‘qualo-Peanic’ temporal-ordinal sequence, or ‘consecuum’, of ‘taxonomy level one’ [\downarrow_{ν}], ‘self-hybrid’ ontological categories, or «*gene*» [‘ellipsing’ or *eliding* all of the ‘hybrid ontological categories’] -- $\mathbb{Q}_1 \leftarrow \downarrow_{\nu} n \equiv \downarrow_{\nu} n \leftrightarrow$ pre-nuclear “particles”, $\mathbb{Q}_2 \leftarrow \downarrow_{\nu} s \equiv \downarrow_{\nu} s \leftrightarrow$ subatomic “particles” ... $\mathbb{Q}_4 \leftarrow \downarrow_{\nu} a \equiv \downarrow_{\nu} a \leftrightarrow$ atoms ... $\mathbb{Q}_8 \leftarrow \downarrow_{\nu} m \equiv \downarrow_{\nu} m \leftrightarrow$ molecules ... $\mathbb{Q}_{16} \leftarrow \downarrow_{\nu} p \equiv \downarrow_{\nu} p \leftrightarrow$ prokaryotic cells ... $\mathbb{Q}_{32} \leftarrow \downarrow_{\nu} e \equiv \downarrow_{\nu} e \leftrightarrow$ eukaryotic cells ... $\mathbb{Q}_{64} \leftarrow \downarrow_{\nu} b \equiv \downarrow_{\nu} b \leftrightarrow$ multi-[eukaryotic-]cellular *asocial* ‘meta-biota’ ... $\mathbb{Q}_{128} \leftarrow \downarrow_{\nu} l \equiv \downarrow_{\nu} l \leftrightarrow$ proto-language-based animal societies ... $\mathbb{Q}_{256} \leftarrow \downarrow_{\nu} h \equiv \downarrow_{\nu} h \leftrightarrow$ languages-based, *humans*-led ‘meta-societies’ ... $\mathbb{Q}_{512} \leftarrow \downarrow_{\nu} y \equiv \downarrow_{\nu} y \leftrightarrow$ ‘meta-humanity’; ‘meta-*human*’ ‘meta-meta-societies’ ... **E.D.** abbreviation: ‘*onto*’.

“**C.E.**” ≡ **C**ommon **E**ra; non-sectarian alternative to the sectarian [christian] qualifier “**A.D.**” [**A**fter the **D**eath of *christ*].

“**cells [eukaryotic]**” ≡ An “ontological category”, or ‘*onto*’, of the *taxonomy level one* [\downarrow_{ν}] cosmos-model,

$\downarrow_{\nu} Q_{\tau} \downarrow_{\nu} T_{\tau}$ or $\downarrow_{\nu} \text{---} | \text{---} (\tau_{\nu} \uparrow = \langle \downarrow_{\nu} n \rangle^{2^{\tau_{\nu} \uparrow}}$, s.t. $\downarrow_{\nu} n \equiv \downarrow_{\nu} n \xrightarrow{\mathbb{Q}_1}$ denotes its «*arché*» ‘*onto*’ of “pre-nuclear particles”. The ‘*onto*’ denoted $\downarrow_{\nu} e \equiv \downarrow_{\nu} e \xrightarrow{\mathbb{Q}_{32}}$. It arises initially out of the *expanded self-reproduction* - i.e., out of the *self-proliferations* / ‘*self-densifications*’ / *self-confrontations* -- of the «*monads*» of its immediate predecessor ‘*self-hybrid onto*’, that of *prokaryotic cells*, denoted $\downarrow_{\nu} p \equiv \downarrow_{\nu} p \xrightarrow{\mathbb{Q}_{16}}$, wherein $\downarrow_{\nu} m \equiv \downarrow_{\nu} m \xrightarrow{\mathbb{Q}_8}$ denotes the immediate predecessor ‘*self-hybrid onto*’ of the $\downarrow_{\nu} p$ ‘*onto*’, namely, the ‘*onto*’ of *molecules*.

Refers to the ‘ Δ ’ term in: $\downarrow_{\nu} p^1 \rightarrow \downarrow_{\nu} p^2 = \downarrow_{\nu} p \langle \downarrow_{\nu} p \rangle = \downarrow_{\nu} p \langle \downarrow_{\nu} p \rangle = \downarrow_{\nu} p \diamond \Delta \langle \downarrow_{\nu} p \rangle = \downarrow_{\nu} p \diamond \downarrow_{\nu} e \frac{1}{2} \downarrow_{\nu} p$.

“**Eukaryotic cell**” names that ontological category, or «*arithmos*», of «*monads*» which has ‘*meta-prokaryotic cells*’ as its ‘[meta-]«*monads*»’, wherein *each* such ‘[meta-]«*monad*»’ is *made up out of a* [typically] *heterogeneous multiplicity of prokaryotic cells* as its ‘[sub-]«*monads*»’, or internalized [sub-]«*arithmos*» -- a *prokaryotic cells*’ “*symbiogenesis*” or “*endosymbiosis*” form of ‘*self-meta-«monad-ization*’ [cf. Margulis].

“**cells**” [*prokaryotic*] ≡ An ontological category, or ‘*onto*’, of the *taxonomy level one* [\downarrow_{ν}] cosmos-model, $\downarrow_{\nu} Q_{\tau}$

$\downarrow_{\nu} T_{\tau}$ or $\downarrow_{\nu} \text{---} | \text{---} (\tau_{\nu} \uparrow = \langle \downarrow_{\nu} n \rangle^{2^{\tau_{\nu} \uparrow}}$, wherein $\downarrow_{\nu} n \equiv \downarrow_{\nu} n \xrightarrow{\mathbb{Q}_1}$ denotes its «*arché*» ‘*onto*’, that of the

primordial “pre-nuclear “particles””. The ‘*onto*’ denoted $\downarrow_p \equiv \downarrow_{\downarrow_p} \equiv \downarrow_{\downarrow_{mm}} \mapsto \downarrow_{16}$. It arises initially out of the *expanded self-reproduction* – i.e., out of the *self-proliferations*/‘*self-densifications*’/‘*self-confrontations*’ -- of the «*monads*» of its immediate predecessor ‘*self-hybrid onto*’, i.e., that of *molecules*, denoted $\downarrow_m \equiv \downarrow_{\downarrow_m} \equiv \downarrow_{\downarrow_{aa}} \mapsto \downarrow_8$, wherein $\downarrow_a \equiv \downarrow_{\downarrow_a} \mapsto \downarrow_4$ denotes the immediate predecessor ‘*self-hybrid onto*’ of the \downarrow_m ‘*onto*’, namely, the ‘*onto*’ of [chemical] *atoms*.

Refers to the ‘ Δ ’ term in: $\downarrow_m^1 \rightarrow \downarrow_m^2 = \downarrow_m \langle \downarrow_m \rangle = \downarrow_m \langle \downarrow_m \rangle = \downarrow_m \diamond \Delta \langle \downarrow_m \rangle = \downarrow_m \diamond \downarrow_p \uparrow \downarrow_m$.

Each “*prokaryotic cell*” *unit*, or «*monad*», is a ‘*meta-«monad*’ – more specifically, is a ‘*meta-molecule*’ -- *made up out of a [typically] heterogeneous multiplicity of molecules*, via ‘*self-meta-«monad»-ization*’ of *molecules*.

‘**cellular power**’ [**eukaryotic**] \equiv The unity, for that epoch in the “*self-meta-evolution*” of the human-societal *self-applied-force* of human-societal self-reproduction / human ‘*socio-mass*’ self-[re]-productivity -- in the “*meta-evolution*” of the human-social self-**Force** of social reproduction [cf. Marx] -- i.e., in that epoch of social reproductive “*technologies*”, and of their “*natural Resource bases*”, whose ‘*meta-meristemal*’ developments involve the human-social appropriation of the *eukaryotic cellular ‘physi[c]o-ontology*’ of the cosmos, as epitomized by the *human harnessing* of cellular yeast in the making of humanity’s “*daily bread*”, and of eukaryotic bacteria in cheese-making, yogurt-making, wine-making, pickles-making, etc., motivated, in part, as strategies for effective storage, & for the useful-life ‘*duration-extention*’, of human-societally-produced food-“**Goods**”, or of *human-societally-Appropriated* raw ‘*eatable nature*’. Denoted by ${}^2_h R_e \mapsto \downarrow_8$ per the **E.D.** “*psychohistorical equation*” named ‘*The Equation of Human Social Forces of Production Meta-Evolution*’:

$${}^2_h R_e \uparrow = \langle {}^2_h R_h \rangle \uparrow$$

‘**change of ontology**’ \equiv The ‘*onto-dynamasis*’ of a universe [of discourse]. The process of emergence of new *ontological categories*, or ‘*ontos*’, from old, as well as of the [partial or total] *extinction* of old ‘*ontos*’, usually as a result of ‘*ontic «autokinesis»*’, or ‘*auto-onto-dynamasis*’, modelable as such via the **Q** ‘*dialectical ideographies*’,

«*et seq.*», in the generic form $\mathbb{H}_h \uparrow = \mathbb{H}_h \uparrow$, encompassing *both* the form $\mathbb{H}_s \uparrow = \mathbb{H}_s \uparrow$,

for “*pure*” ‘*ideo-systems*’, and the form $\mathbb{H}_s \uparrow = \mathbb{H}_s \uparrow$, for ‘*[ideo-]physi[c]o-systems*’.

“**«characteristica universalis»**” \equiv A ‘*universal character-language*’, ‘*universal algebra*’, or ‘*universally-applicable ideography*’, such as that proposed by Leibniz, probably, in part, as a furtherance to Descartes’ proposal of a “*universal mathematics*”, for the «*mathesis universalis*», or “*universal subject-material*”. An objective of the ‘*dialectical ideography*’ project is to develop an *explicitly dialectical ‘universal characteristic*’. The **E.D.** ‘*metasystematic-dialectical progression of the axioms-systems of the dialectical arithmetics’ method of presentation* [cf. Marx], modelable via the ‘*cognitive-psychoarchaeological, psychohistorical-dialectical equation*’ --

$${}^3_h \mathbb{H}_s \uparrow = \mathbb{H}_s \uparrow \equiv \mathbb{H}_s \uparrow$$

-- provides a **step-wise progression method of presentation** [cf. Marx] of “*dialectical «characteristica universalis»*” axioms-systems of “*dialectical arithmetics*”, which represent ever-increasing degrees of “*determinateness*”, “*concreteness*”, or “*richness*” of mathematical expressive power -- i.e., of potential capability for ever-increasing mathematical modeling “*realism*”.

“**chiefdoms**” \equiv The E.D. ‘*onto*’ denoted $\frac{2f}{h_m}$, a “socio-sub-ontic category”, or ‘socio-sub-onto’, “inside” the *taxonomy level two* [$\frac{2}{h}$] ‘human-social formation(s) meta-model’, $\frac{2}{h} \text{---} | \text{---} \tau_m \uparrow = \langle \frac{2}{h} \text{b} \rangle^{2\tau_m \uparrow}$, of the ‘socio-onto-dynamisis’ going on “within” the *taxonomy level one* [$\frac{1}{v}$] ontological category of *human[oid] societies*, $\frac{1}{v} \text{b}$, “inside” the E.D. *historical-dialectical total cosmos ‘meta-model’*, $\frac{1}{v} \text{q}_v \frac{1}{v} \text{I}_v$ or $\frac{1}{v} \text{---} | \text{---} \tau_v \uparrow = \langle \frac{1}{v} \text{n} \rangle^{2\tau_v \uparrow}$, such that $\frac{1}{v} \text{n} \text{E} \rightarrow \text{q}_1$ denotes its «*arché*» ‘*onto*’ of “pre-nuclear particles”. The ‘*onto*’ denoted $\frac{2f}{h_m} \equiv \frac{2}{h} \text{b}_{vv} \text{E} \rightarrow \text{q}_8$. It arises out of the [cf. Marx] *growth of the human-social forces of production-driven expanded social self-reproduction borne self-proliferations/’self-densifications/’self-confrontations*, of the «*monads*» of its immediate predecessor ‘*self-hybrid socio-onto*’, the isolated “*villages*” ‘*socio-onto*’, denoted $\frac{2v}{h_m} \equiv \frac{2}{h} \text{b}_{vv} \text{E} \rightarrow \text{q}_4$. Refers to the ‘ Δ ’ term in -- $\frac{2v}{h} \uparrow \rightarrow \frac{2v^2}{h} = \frac{2v}{h_m} \langle \frac{2v}{h_m} \rangle = \frac{2v}{h_m} \langle \frac{2v}{h_m} \rangle = \frac{2v}{h_m} \oplus \frac{2v}{h_m} \langle \frac{2v}{h_m} \rangle = \frac{2v}{h_m} \oplus \frac{2f}{h_m} \frac{2v}{h_m}$. [Wright, *Non-Zero*, pp. 59-60; 365].

‘**chrono-dynamics**’ \equiv ‘Time-dynamics’. An aspect of the theory of temporality once the fetishized, reified, and subject-object inverted conception of “Time” is overcome by immanent critique, to reveal «*autokinesis*», i.e., *dialectic*, as the root cause of the phenomenon of “time”, so that, e.g., the concept of ‘*temporal acceleration*’ as a manifestation of diachronic [meta-]fractal scaling can be formed.

‘**chrono-empiricism**’ \equiv Also: ‘*time-empiricism*’, ‘*temporal empiricism*’, or ‘*historical empiricism*’. The new, higher standard of scientific empiricism offered by E.D., as an included moment of its Marxian paradigm of ‘*psychohistorical materialism*’. The principle of ‘**chrono-empiricism**’ holds that scientific theories that abstract from natural history; that embody only ‘*natural-historical genericity*’; that fail the test of “*natural-historical specificity*” [cf. Marx]; that present only “*supra-historical*” categories, or ‘*meta-temporal summarizations*’, e.g., in their mathematical models, represent an insufficient degree of fitness to the historical content of the scientific, empirical data of objective nature. That is, this principle holds that truly scientific theories must, as part of their most central explanatory content, “reproduce the data” of the historical “*order of appearance*” [cf. Chardin] of the different «*gene*» and «*species*», etc., of «*monads*» that constitute the multiple ‘*physio-ontological*’, and/or ‘*ideo-ontological*’, categories, or «*arithmoi*» -- the ‘*kinds of numbers* [of «*monads*»] -- that they invoke. It holds that scientific theories must model and explain the *necessary* “*ordinality*”, or “*logic*” -- the “*what follows from what, and why*” -- of the [‘*qualo-Pearic*’] *sequence*, or ‘*consecuum*’, the *succession*, the *progression* of events, of “*eventities*”, of ‘*kinds of being/becoming*’, that constitute objective, empirical nature as *inherently temporal*, as *inherently dynamical*, as ‘*nature-al history*’: that constitute the very content of “*concrete duration*” [cf. Bergson]; of *concrete* “*time*”. Thus, the E.D. ‘*Dialectical Theory of*

Everything Equation’, $\frac{1}{v} \text{---} | \text{---} \tau_v \uparrow = \langle \frac{1}{v} \text{n} \rangle^{2\tau_v \uparrow}$, *generates* the following “*order of appearance*” of «*gene*» for the self-expanding ‘*taxonomy level one*’ [$\frac{1}{v}$] *ontology* of nature as maximal totality: pre-nuclear “particles” ... sub-atomic “particles” ... atoms ... molecules ... prokaryotic cells ... eukaryotic cells ... multi-[eukaryotic]-cellular asocial meta-biota ... proto-language based animal societies ... languages-based, humans-led ‘*meta-societies*’ Thus, the E.D. “*psychohistorical equation*” for [cf. Marx] ‘*Human Social Formation(s) Meta-Evolution*’, $\frac{2}{h} \text{---} | \text{---} \tau_m \uparrow = \langle \frac{2}{h} \text{b} \rangle^{2\tau_m \uparrow}$, *generates*

[cf. Robert Wright] the following “*order of appearance*” of «*gene*» for the self-expanding ‘*taxonomy level two*’ [$\frac{2}{h}$] *ontology* of humans led ‘*meta-societies*’: hunting/gathering bands ... multi-band camps ... multi-camp villages ... multi-village chiefdoms ... multi-chiefdom city-states ... multi-city-state empires ... multiple-fallen-empires’-fragments nation-states Thus, the E.D. “*psychohistorical equation*” for [cf. Marx] ‘*Human Social Relations-of-Production Meta-Evolution*’,

$\frac{2}{h} \text{---} | \text{---} \tau_R \uparrow = \langle \frac{2}{h} \text{A}_R \rangle^{2\tau_R \uparrow}$, *generates* the following “*order of appearance*” of «*gene*» for the self-expanding ‘*taxonomy level two*’ [$\frac{2}{h}$] *ontology* of *human-social Relations* that mediate human-societal self-reproduction: Appropriation of the raw products of nature [predation] ... human-labor-refined/-improved use-values from “raw” products of nature via multi-/cross-Appropriation of natural properties in Goods-making ... barterable Commodities as exchange-values ... Monies ... «*Kapitals*»

Thus, the **E.D.** *“psychohistorical equation”* for modeling [cf. Marx] *Human Social Forces of Production*

Meta-Evolution, ${}^2_h \text{---} | \text{---} \langle \tau_F \uparrow = \langle {}^2_h \mathbf{R}_h \rangle \uparrow$, generates the following *“order of appearance”* of «*gene*» for the self-expanding *‘taxonomy level two’* [2_h] ontology of the *technologies* of the human-societal *“self-force”* of human-social [self-]reproduction that progressively enhance human-societal *‘self-productivity’*, in terms of the concrete energies or *‘negentropies’*, the *‘nature-al’ Resources ‘physi[c]o-ontology’* that human society progressively *“Appropriates”*, in reverse order of their natural-historical *“order of appearance”*: the “cooperative labor” -- in cooperative hunting, gathering, foraging, and scavenging -- of whole [primitive] **h**uman communities/bands as first/primary/primordial natural energies **R**esource ... proto-**l**anguage based animal societies as prime natural energies **R**esources, via herd-hunting, then via herding, then via full “domestication” ... the multi-eukaryotic, meta-**b**iotic behaviors/**b**odies of other-tribe humans / *meta-zoan* animals and of *meta-phytic* plants as prime natural energies **R**esources, via *animal labor/slave labor, domestication* of plant crops, etc. ... **e**ukaryotic cellular behaviors/energies for foods preservation, via yeast/**e**ukaryotic bacteria in breads-making, cheeses-making, yogurts-making, beers-making, wines-making, pickles-making, jerkies-making, etc. ... **m**olecular power, as in the burning of chips, woods, peats, coals, petroleums, and natural gases as prime natural energies **R**esources ... **a**tomic power, as in the nuclear fission of heavier-elements’ nuclei, e.g., those of Uraniums and/or of Plutoniums, and as in the nuclear fusion of Hydrogen and of other lighter-elements’ nuclei, as prime natural energies **R**esources ...

Thus, the **E.D.** *‘taxonomy level three’* [3_h] within $\downarrow \mathbf{h}$ *‘ideo-ontology’* of [cf. Marx] *The Psychohistorical*

Equation of Human Ideology/Knowledge Meta-Evolution, ${}^3_h \text{---} | \text{---} \langle \tau_K \uparrow = \langle {}^3_h \mathbf{M}_K \rangle \uparrow$, generates the following *“order of appearance”* of «*ideo-gene*» of human[oid] ideology/human[oid] **K**nowledge forms: ${}^3_h \mathbf{M}_K \leftrightarrow \text{Mythopoeias, “Myth-makings”; “Mythologies”} \xrightarrow{\mathbb{Q}_1} {}^3_h \mathbf{R}_K = {}^3_h \mathbf{R}_K \leftrightarrow \text{Religions, codified/standardized/dogmatized “Meta-Mythopoeias”} \xrightarrow{\mathbb{Q}_2} {}^3_h \mathbf{R}_K \leftrightarrow \text{reconciliations of } {}^3_h \mathbf{R}_K \text{ \& } {}^3_h \mathbf{M}_K / \text{ conversions from } {}^3_h \mathbf{M}_K \text{ into } {}^3_h \mathbf{R}_K \text{, e.g., Ancient Rome’s Pantheon} \xrightarrow{\mathbb{Q}_3} {}^3_h \mathbf{P}_K \leftrightarrow \text{Philosophies, i.e., “Meta-Religions”} \xrightarrow{\mathbb{Q}_4} {}^3_h \mathbf{R}_K | {}^3_h \mathbf{P}_K \text{ reconciliations, even including } {}^3_h \mathbf{P}_K \text{ retrograde } {}^3_h \mathbf{P}_K \text{ into } {}^3_h \mathbf{R}_K \text{ conversion, e.g., Aquinas’ } \textit{Summa Theologica} \xrightarrow{\mathbb{Q}_6} {}^3_h \mathbf{K}_K \leftrightarrow \text{Scientific Knowledges, i.e., “Meta-Philosophies”} \xrightarrow{\mathbb{Q}_8}$.

‘chronogenesis’ ≡ The [original and/or continuing] *“genesis”* or *“generation”* of time; *“birth”* of time.

‘chronogenetic’ ≡ ‘Time-generating’. Synonym: *chronogenic*.

‘chronogenic’ ≡ ‘Time-generating’. Synonym: *chronogenetic*.

‘chronopoiesis’ ≡ The *“making”*, *“creation”*, or *“production”* of time.

“city-states” ≡ The **E.D.** *‘onto’* denoted ${}^2_h \mathbf{s}_m$, a *“socio-sub-ontic category”*, or *‘socio-sub-onto’*, in the *taxonomy level two* [2_h] *‘human-social formation(s) meta-model’*, ${}^2_h \text{---} | \text{---} \langle \tau_m \uparrow = \langle {}^2_h \mathbf{b} \rangle \uparrow$, of the *‘socio-onto-dynamasis’* going on inside the *taxonomy level one* [1_h] ontological category of

human[oid] societies, $\downarrow \mathbf{h}$, *“inside”* the **E.D.** *historical-dialectical ‘meta-model’* of the *total cosmos*, $\downarrow \mathbf{q}_v \downarrow \mathbf{I}_v$ or $\downarrow \mathbf{v} \text{---} | \text{---} \langle \tau_v \uparrow = \langle \downarrow \mathbf{n} \rangle \uparrow$, such that $\downarrow \mathbf{n} \xrightarrow{\mathbb{Q}_1}$ denotes its *‘arché’* *‘onto’* of *“pre-nuclear particles”*. The *‘onto’* denoted ${}^2_h \mathbf{s}_m \equiv {}^2_h \mathbf{b}_{ff} \xrightarrow{\mathbb{Q}_{16}}$. It arises out of the [cf. Marx] *growth of the human-social forces of production-driven expanded social self-reproduction*, i.e., out of the self-proliferations/‘self-densifications’/self-confrontations, of the *«monads»* of its immediate predecessor *‘self-hybrid socio-onto’*, the *“tribal” “chiefdoms” ‘socio-onto’*, denoted ${}^2_h \mathbf{f}_m \equiv {}^2_h \mathbf{b}_{ff} \xrightarrow{\mathbb{Q}_8}$. Refers to the

‘ term in ${}^2_h \mathbf{f}^1 \rightarrow {}^2_h \mathbf{f}^2 = {}^2_h \mathbf{f}_m \langle {}^2_h \mathbf{f}_m \rangle = \mathbb{P} \langle {}^2_h \mathbf{f}_m \rangle = {}^2_h \mathbf{f}_m \oplus \langle {}^2_h \mathbf{f}_m \rangle = {}^2_h \mathbf{f}_m \oplus {}^2_h \mathbf{s}_m \frac{1}{2} {}^2_h \mathbf{f}_m$. [See Wright, *Non-Zero*, p. 109].

“**closed form solutions**” ≡ Solution, e.g., of a nonlinear equation, by a formula expressed in terms of familiar, well-known, well-understood, and, typically, ‘linearistic’ functions, “elementary” and/or “transcendental”.

‘**COA**’ ≡ A[n immanent, dialectical] **C**ritique **O**f **A**rithmetic.

“**cognition**” ≡ The more *conceptual aspect*, as opposed to the more *affective aspect*, of the human[oid] consciousness-process, as studied and modeled, in its collective/inter-subjective aspects, by *psychohistorians*.

“**cognitive**” ≡ Involving cognition.

‘**cognitive psychoarchaeology**’ ≡ Reconstruction of Terran humanity’s cognitive past via ‘psycho-artifacts’.

‘**cognitive psychohistory**’ ≡ Reconstructive and/or predictive modeling of human[oid] cognitive history.

“**combinatoric explosion**” ≡ Rapid rise of multi-ontic ‘meta-populations’ via ‘self-combinatorics’, as modeled by ${}^n\mathbb{Q}_\tau$,

${}^n\mathbb{I}_\tau$ or ${}^n\mathbb{I}_\tau \dashv \vdash \tau \uparrow = \langle \langle {}^n\alpha \rangle \rangle^{2^\tau \uparrow}$, wherein ${}^n\alpha$ denotes the «*arché*», or originating, ontological category of the ‘ontological categorial progression’, and of its resulting ‘ontology cumulum’ [cf. Stuart Kauffman].

“**commodity**” ≡ The *E.D.* ‘*psycheo-onto*’ denoted ${}^2\mathbb{C}_R$, a “‘socio-sub-ontic category’”, or ‘socio-sub-onto’, in the

taxonomy level 2 [2_h] ‘social **R**elations of production meta-model’, ${}^2_h \dashv \vdash \tau_R \uparrow = \langle \langle {}^2\mathbb{A}_R \rangle \rangle^{2^{\tau_R \uparrow}}$, of the ‘socio-onto-dynamasis’ going on inside the *taxonomy level one* [1_v] ontological category of **h**uman[oid] societies, 1_h ,

within the *E.D.* *historical-dialectical* ‘meta-model’ of the total cosmos, ${}^1\mathbb{Q}_\tau \dashv \vdash \tau \uparrow$ or ${}^1_v \dashv \vdash \tau_v \uparrow = \langle \langle {}^1_n \rangle \rangle^{2^{\tau_v \uparrow}}$,

s.t. ${}^1_n \mathbb{E} \rightarrow \mathbb{Q}_1$ denotes its «*arché*» ‘onto’ of “‘pre-**n**uclear particles’”. The ‘onto’ denoted ${}^2\mathbb{C}_R \equiv {}^2_h \mathbb{G}_G \mathbb{E} \rightarrow \mathbb{Q}_4$.

It arises initially out of the [cf. Marx] *growth of the human-social forces of production-driven expanded social self-reproduction* – i.e., out of the self-proliferations/‘self-densifications’/self-confrontations -- of the «*monads*» of its immediate predecessor ‘socio-onto’, namely, the human-labor-fashioned “‘**G**oods’”/intra-tribal, obligatory

“‘**G**ifts’” *human-social Relation of production / form of social intercourse*, denoted by ${}^2\mathbb{G}_R \equiv {}^2_h \mathbb{G}_G \mathbb{E} \rightarrow \mathbb{Q}_2$.

Refers to the ‘**G**’ term in: ${}^2\mathbb{G}_R^1 \rightarrow {}^2\mathbb{G}_R^2 = {}^2\mathbb{G}_R \langle \langle {}^2\mathbb{G}_R \rangle \rangle = \mathbb{F} \langle \langle {}^2\mathbb{G}_R \rangle \rangle = {}^2\mathbb{G}_R \oplus \mathbb{A} \langle \langle {}^2\mathbb{G}_R \rangle \rangle = {}^2\mathbb{G}_R \oplus {}^2\mathbb{C}_R \mathbb{F} \langle \langle {}^2\mathbb{G}_R \rangle \rangle$.

“**completeness theorem**” ≡ The theorem proved in his doctoral dissertation, circa **1930**, by Kurt Gödel, asserting that the axioms of symbolic logic in the form of first order-predicate calculus are sufficient to deduce all of its truths, i.e., that every valid formula of that logic is deductively provable as a theorem from its premises or axioms.

“**concentration**” ≡ Physical-spatial ‘self-densification’ of a ‘*monad*’-ic’ population, as in a ‘*conversion locus*’.

‘**consecuum**’ ≡ A sequence, succession, or progression of distinct, consecutive objects, with no other objects recognized as residing “in-between” each predecessor-successor pair. Per *Dialectical Ideography*, a *dialectical progression* is a ‘*qualo-Peanic*’, «*aufheben*»-‘*evolute*’, ‘*archeonic*’ *consecuum*. Plural: ‘**consecua**’.

‘**contra-Boolean algebra**’ ≡ An arithmetical/algebraic rules-system whose base rules, or axioms, contain one or more negations of Boole’s «*de facto*» axioms for his “*calculus of deductive reasoning*” in his *Laws of Thought*.

Ex.: ${}^w\mathbb{Q}$ “contains” a theorem, $\llbracket \forall \mathbb{X} \in {}^w\mathbb{Q} \ominus \{ \mathbb{Q}_0 \} \rrbracket \llbracket \mathbb{X}^2 \neq \mathbb{X}^1 \rrbracket$, contrary to Boole’s $\llbracket \forall \mathbb{X} \in {}^w\mathbb{E} \rrbracket [\mathbb{X}^2 = \mathbb{X}^1]$.

'contra-Cantorian totality theories' \equiv "Non-Standard" rule-systems about "'totalities'" or "sets" whose base rules – axioms or core theorems – contain a contrary of the *Cantor continuum hypothesis*, or of the *generalized continuum hypothesis*, one candidate being the '*generalized cumulum hypothesis*' of *Dialectical Ideography*.

The generic ideographical form of this hypothesis is: $\underline{H}(h) = \underline{H}(0)^{2^h}$. It is grounded in '*The Gödelian Dialectic*', and in the **E.D.** '*Finitary Set of All Sets*' cognitive-psychohistorical paradigm of '*predico-dynamasis*' / *human knowledge development*, rendered ideographically as $\underline{S}_{t+1} = \underline{S}_t^2 = \underline{S}_t \cup 2^{\underline{S}_t}$, given $\underline{S}_0 = 2^{\underline{U}}$, for $\underline{U} \equiv$ the **U**niversal Set of the **U**niverse of Discourse at issue, and given the '*«aufheben» evolute power-set self-product*' rule: $\underline{S}_t \times \underline{S}_t \equiv \underline{S}_t \cup 2^{\underline{S}_t}$.

“contradiction [chronogenic]” \equiv The "*existential*" or "*ontological*" [*immanent*", "*internal*" or [*self*"] contradiction, or '*self-duality*', of a system that gives rise to its *«autokinesis»*, thereby generating its contribution to "*concrete time*" / *natural history*.

“contradiction [dialectical]” \equiv The '*existential*' or '*ontological*' [*immanent*", "*internal*", or "*self*"] contradiction, or '*self-duality*', of a system, which is that which generates its '[self-]meta-evolution'; its '*meta-dynamic*', i.e., its '*meta-system*', that is, the *diachronic*, '*qualo-Peanic*', *«aufheben»-evolute*, '*meta-fractal*' progression, or *consecuum*, of itself plus its *successor systems*. If \boxtimes denotes a system-category, system-kind, ontological category, system-population of *«monads»*, or '*system-onto*' generically, then *Dialectical Ideography* asserts that eventivity's self-relation of *dialectical contradiction* ideographically by the formula $\boxtimes \# \boxtimes$, using the **E.D.** *dialectical [internal or self-] contradiction sign*, '#', the '*doubly-negated equality sign*'.

“contradiction [dynamical]” \equiv An *immanent-duality*, or '*self-duality*', of a system that develops or manifests *progressively and cumulatively*, as a '*progressive revelation*', in the *positive* "sense", or "direction", of "*time*".

“contradiction [existential]” \equiv An '*intra-duality*', or '*progressive self-incompatibility*', of a system, one which is inherent in the nature, content, or very existence of that system. Distinguished from a *propositional contradiction*, defined as the relationship between *two qualitatively distinct propositions* having mutually contrary meanings, or as the '*self-relationship*' of a *single proposition* that is *propositionally self-contradictory* [e.g., the *Epimenides «pseudomenon»* "*self-reflexive paradox*" [cf. Russell], e.g.: "*This proposition is false.*"].

“contradiction [external]” \equiv Mutual opposition of [physical] [vector] "*allo-forces*" directed oppositely in physical space, seen as generated separately by two separate "*systems*", conceived as being external to one another, not as "*sub-systems*" / "*sub-organs*" of any single, higher "*super-system*" / "*super-organism*".

“contradiction [formal]” \equiv A *propositional contradiction*. The truth-values relationship of *two qualitatively distinct propositions*, call them \underline{P}_1 and \underline{P}_2 , with mutually contrary meaning/semantics, [e.g., $\underline{P}_1 \Leftrightarrow$ "*It is day time.*", versus $\underline{P}_2 \Leftrightarrow$ "*It is night time.*"], or of a *single proposition*, \underline{P} , which is formally self-contradictory [e.g., a *Russell Paradox Proposition*: $\underline{P} \Leftrightarrow$ "*The set of all sets which are not members of themselves is not a member of itself.*"], expressed in a formal language, e.g., in the ideographical language of the *first-order predicate calculus* of

"*symbolic logic*", such that, in **E.D.** standard notation, $\underline{P}_1 \not\equiv \underline{P}_2$ & $\underline{P} \not\equiv \underline{P}$, respectively.

“contradiction [functional]” \equiv Relation of conflict between two contrary "*functions*" / "*organs*", in a single "*system*" / "*organism*".

“contradiction [historical]” \equiv The "*existential*", or "*ontological*", [self-]contradiction, or '*self-duality*', of a system; that which gives rise to its *«autokinesis»*, thus generating its "*history*", and its contribution to "*universal history*".

“contradiction [internal]” \equiv The '*intrinsic*' or '*immanent*' [self-]contradiction, or '*self-duality*', of a system; that which generates its '*meta-evolution*'; its '*meta-dynamic*', i.e., its '*meta-system*' – the *diachronic*, '*qualo-Peanic*', *«aufheben»-evolute*, '*meta-fractal*' progression, or '*consecuum*', of itself plus its *successor systems*. Example: The capitals-system '*intra-duality*', '*self-expanding value* # *self-contracting value* [technodepreciation]', '*consequentializing*' as the further '*intra-duality*' *rate of social [use-value] reproduction* # *rate of capital [exchange-value] reproduction [profit-rate]*'.

“**contradiction [immanent]**” ≡ An ‘intrinsic’ or ‘inherent’ [self-]contradiction, or ‘self-duality’, of a “system”, that which generates its ‘meta-evolution’; its ‘meta-dynamic’, i.e., its ‘meta-system’ – the diachronic, ‘qualo-Peanic’, «aufheben»-‘evolutive’, ‘meta-fractal’ progression, or ‘consecuum’, of itself plus its successor systems. Example: The ‘star # star self-duality’ [the ‘self-gravitational self-implosion # thermonuclear fusion self-explosion’ ‘meta-dynamic’ of a stellar object / eventuality as a “Hydrogen-burning/-fusing system”].

“**contradiction [logical]**” ≡ A formal contradiction. The truth-values relationship of two qualitatively distinct propositions, call them P_1 and P_2 , with mutually contrary meaning/semantics, [e.g., $P_1 \leftrightarrow$ “It is day time.”, versus $P_2 \leftrightarrow$ “It is night time.”], or of a single proposition, P , which is formally self-contradictory [e.g., the Russell Paradox Proposition: $P \leftrightarrow$ “The set of all sets which are not members of themselves is not a member of itself.”], expressed in a formal language, e.g., in the ideographical language of the first-order predicate calculus of

“symbolic logic”, such that, in E.D. standard notation, $P_1 \not\leftrightarrow P_2$, and $P \not\leftrightarrow P$, respectively.

“**contradiction [onto-logical]**” ≡ An ‘intra-duality’, or ‘progressive self-incompatibility’, of a “system”, one which is inherent in the nature, content, or very being of that “system”. Distinguished from a propositional contradiction, defined as the relationship of two propositions with mutually contrary meaning/semantics, or as the ‘self-relationship’ of a single proposition that is propositionally self-contradictory [e.g., the Epimenides «pseudomenon» “self-reflexive paradox” [cf. Russell], e.g.: “This proposition is false.”].

“**contradiction [propositional]**” ≡ A pair of qualitatively distinct sentences that “say against”, or “speak against” [«dict»-«contra»] each another, or a single sentence that “speaks against itself”. The relationship of two distinct propositions, say P_1 and P_2 , with mutually contrary meanings, or the ‘self-relationship’ of a single proposition, say P , [e.g., of a “paradoxical” proposition, such as the “self-reflexive paradox” [cf. Russell]: $P =$ “This proposition is false.”] which is propositionally self-contradictory. In E.D. notation, these

two cases are generically ‘notated’ as, e.g., $P_1 \not\leftrightarrow P_2$, & as, e.g., $P \not\leftrightarrow P$, respectively, via the E.D. propositional contradiction

sign, ‘ $\not\leftrightarrow$ ’, the [mutual] propositional [self-]negation [‘¬’] inequality sign’, wherein $P_1 \not\leftrightarrow P_2$, and, of course, $P \not\leftrightarrow P$.

“**contradiction [self-]**” ≡ The “existential”, “ontological”, ‘contental’, inherent, immanent, internal, intrinsic, ‘nature-al’, or ‘essence-ial’ and necessary / ineluctable contradiction, or ‘self-duality’, of a system of «monads», i.e., of an «arithmos».

“**contradiction [temporal]**” ≡ An immanent-duality, or ‘self-duality’, of a “system”/«arithmos», manifesting itself “in”, or “as”, the particular, ‘essence-ial’ quality of temporality, or of self-extending ‘fourth dimensionality’, of that “system” of «monads».

“**contrarities**” ≡ Totalities of discourse formed or induced by the expression(s) of contrary views.

‘**conversion formation**’ ≡ A natural [self-]formation of the cosmological process of ‘physio-onto-dynamasis’, often interpreted, in \mathbb{Q}_τ ‘meta-models’, \mathbb{I}_τ ‘meta-models’, or $\mathbb{U}_\tau \mid \langle \tau \uparrow \rangle = \langle \mathbb{Q}_\alpha \rangle^{2\tau\uparrow}$ ‘meta-models’, as a ‘hybrid onto’, one which ‘houses’, or ‘mediates’, the ‘self-conversion’ of the «monads» of one ‘ontological category’, or «arithmos», into those of another, and which contains, at its ‘core’, a ‘conversion locus’, wherein its processes of ‘ontological self-conversion’ are ‘physical-spatially’ concentrated, for universe of discourse u , and for taxonomy level n .

‘**conversion locus**’ ≡ That ‘engine’, ‘driver’ sub-system, or ‘central region,’ of a conversion formation wherein the processes of ‘ontological [self-]conversion’ are seen to [self-]concentrate’. Plural: *conversion loci*.

‘**conversion meta-dynamic**’ ≡ The [concrete] logic, or pattern, of ‘followership’/succession, by which processes of ‘ontological [self-]conversion’ drive the “meta-evolution”, the [self-]generation of new, successor systems -- of new ‘meta-states’ -- in a [diachronic] ‘meta-system’, or [[natural-]historical] ‘systems-progression’.

‘**conversion singularity**’ ≡ The generic phenomenology surrounding the moment when the ‘ontic fuel’, or ‘conversion-from onto-mass’, or ‘relative/concrete negentropy store’, in the ‘conversion locus’ of a ‘conversion

formation, is “exhausted”, or ‘completely converted’. For example, the ‘metafinite singularity’ of the atomic «species», “‘stellar-nucleosynthetic’”, ‘onto-dynamical’ phenomenology observed when a star completely converts its core Hydrogen ‘ontic fuel’, or ‘relative/concrete *negentropy*’, into Helium, including, e.g., the phenomena of accelerated “‘self-contraction’” / ‘self-densification’ / ‘physical-spatial self-**concentration**’ of the star, including of its core, until the “Helium flash” -- the ignition of Helium fusion -- converts the core Helium “ash”, or ‘relative/concrete *entropy*’, into the next/new ‘ontic fuel’, or new/next ‘relative/concrete *negentropy*’.

“‘**convolute**’” ≡ [as distinguished from “‘*evolute*’”]: predicate for ‘ontological processes’ which “cover-up” or otherwise obscure their past history/epochs of ‘onto-dynamasis’ due to their more-recent ‘onto-dynamasis’.

‘**convolute meta-numbers**’ ≡ ‘Meta-numbers’ whose ‘self-products’ have generic form $\hat{X}^2 = \square \hat{X}^1, \frac{1}{\hat{X}} \hat{X}^1$, instead of the [“‘*evolute*’”] generic form $\hat{X}^2 = \hat{X}^1 \boxplus \square \hat{X}^1, \frac{1}{\hat{X}} \hat{X}^1$.

‘**convolute process**’ ≡ An ‘onto-dynamasis process’ which “covers-over”, or obscures/hides, its *just-previous* ‘onto-dynamasis’, and/or its more *remote-past* ‘onto-dynamases’, as a result of its more-recent ‘onto-dynamasis[i][e]s’.

‘**convolute product**’ ≡ A ‘meta-number’ product rule, or axiom, for, e.g., $\hat{X} \boxtimes \hat{Y}$, where neither \hat{X} , nor \hat{Y} , nor both re-appear *additively* in the result. A product, or “multiplication”, of the form $\hat{X}^2 = \square \hat{X}^1, \frac{1}{\hat{X}} \hat{X}^1$, or of the form $\hat{X} \boxtimes \hat{Y} = \square [\hat{X}, \hat{Y}], \frac{1}{\hat{X}} \hat{X}, \hat{Y}$, given that $\hat{X} \frac{1}{\hat{X}} \hat{Y}$.

‘**convolute re-qualification**’ ≡ ‘Qualification’ of an ‘unqualified’, or ‘purely-quantitative’ equation -- e.g., a nonlinear integrodifferential equation -- using only ‘convolute meta-numbers’, e.g., using ‘metrical qualifiers’ of the seventh, $\underline{\mu} \Leftrightarrow \underline{\mu}_{MU} \Leftrightarrow \underline{\mu}_{MQN} \Leftrightarrow \underline{\mu}_7$, dialectical calculus of *Dialectical Ideography*, and of *E.D.*’s step-wise ‘Meta-Systematic Dialectical Progression of the Axioms-Systems of the Dialectical Arithmetics’ for stage **R** --

$${}^3_h \underline{\mu}_{S^{\uparrow}} = ({}^3_h \underline{\mu})^{2S^{\uparrow}} \equiv ({}^3_h \underline{\mu}_{\underline{R}})^{2S^{\uparrow}}$$

-- such that $\underline{\mu}_{\underline{R}} \equiv \underline{R} \equiv$ the “first order” [non-standard-models-including] axioms-system of the Real Numbers,

standardly denoted by **R**. Performed to accomplish ‘singularity semantification’, via the ‘Full Zero, or ●, Axiom’ assertion [**F**] regarding the multiplicative interaction of ordinary, “Empty Zero”, **0**, with generic

‘state-variable qualifiers’, $\underline{\mu}_j$, or ‘control-parameter qualifiers’, $\underline{\mu}_j$, and ‘metrical qualifiers’, $\underline{\mu}_{\sum_k \hat{u}_k}$ --

$$\mathbf{F.} \quad \mathbf{0} \times \underline{\mu}_{\sum_k \hat{u}_k} \equiv \bullet$$

-- as well as to achieve a full ‘dimensionally-analytic’ version of the equation in question, which has the effect of

assigning the “‘black-hole’-like, and ‘Langolier-like’ value ‘●’ to qualified division-by-zero singularities.

Accomplished by multiplying each of the ‘pure-quantifier’ known and unknown functions, variables, and

constants of such an equation by the dimensionally appropriate specification of the generic $\mathbb{R} \xrightarrow{\mu} \mathbb{E} \rightarrow \mathbb{R} \xrightarrow{\mu} \mathbb{MU}$

arithmetical 'metrical «monad», or 'metrical unit, 'metrical qualifier' variable 'meta-numeral', $\mathbb{R} \xrightarrow{\mu} \sum_k \hat{\mathbb{U}}_k$

'cumulativity' \equiv The characteristic, quality, or predicate associated, especially, with «aufheben», 'evolute' ontological processes. The quality of an *assemblage*, or of a "sum", of «monads», of more than one *kind*.

'cumulum' \equiv A 'meta-«arithmos»', or 'multi-«arithmos»', containing multiple «arithmoi», including «arithmoi» made up out of different «gene», or made up out of different «species», of «monads», e.g., out of «monads», 'meta-«monads»', 'meta-meta-«monads»',..., etc., issuing from an originating, «arché»-«monad» category, population, or *units-assemblage*. A *heterogeneous* population, or "non-amalgamative sum", of «monads». Plural: 'cumula'. In E.D. standard notation, a 'cumulum' is denoted by \mathbb{H} for a generic 'cumulum', by \mathbb{H} for a "pure" 'ideo-cumulum', and by \mathbb{H} for an '[ideo-]physi[c]o-cumulum'.

'cumulum hypothesis [generalized]' \equiv An hypothesis aimed at the reform of "Standard", "reductionistic", 'point-atomistic', 'dimensionality-denying', and/or "actual infinity" phantasizing totality-theories, or axiomatic set theories, one which replaces 'point-atomistic' postulates, such as the [Gödel-undecidable] *generalized continuum hypothesis*, and the [also Gödel-undecidable] *axiom of choice*, with postulates congruent with the 'multi-ontic cumulum'-forming characteristics of dialectical, i.e., of 'meta-system-atic', diachronic, 'qualo-Peanic', «aufheben»-evolute', 'meta-fractal' progressions, or *consecua/cumula*. The generic ideographical form of this hypothesis is: $\mathbb{H}(\mathbf{h}) = \mathbb{H}(\mathbf{0})^{2^h}$. It is grounded in 'The Gödelian Dialectic', and in the E.D. 'Finitary Set of All Sets' cognitive-psychohistorical paradigm of 'predico-dynamasis' / human knowledge development, rendered ideographically as $\mathbb{S}_{\tau+1} = \mathbb{S}_{\tau}^2 = \mathbb{S}_{\tau} \cup 2^{\mathbb{S}_{\tau}}$, given $\mathbb{S}_0 = 2^{\mathbb{U}}$, for $\mathbb{U} \equiv$ the Universal Set of the Universe of Discourse at issue, and given the '«aufheben» evolute power-set self-product' rule: $\mathbb{S}_{\tau} \times \mathbb{S}_{\tau} \equiv \mathbb{S}_{\tau} \cup 2^{\mathbb{S}_{\tau}}$.

"**'cyborg prosthetics / bionics'**" \equiv A predicted path to 'meta-humanity', denoted $\mathbb{V}^1 \Delta \mathbf{h} = \mathbb{V}^1 \mathbf{h}^2 \diamond \mathbb{V}^1 \mathbf{h}^1 = \mathbb{V}^1 \mathbf{Y}^1$. The pathway denoted, in the E.D. standard notation, by $\mathbb{Y}^2 \mathbf{c} = \mathbb{Y}^2 \mathbb{R} \mathbf{g} \mathbb{E} \rightarrow \mathbb{Q}_{13}$. It constitutes (3) the third of the E.D.-predicted/'pre-constructed' 3 'taxonomy level two' [\mathbb{Y}^2] «species»; to the "dialectical synthesis" «species», or "complex unity" «species», of the other 2 «species» -- all 3 new ontological «species» being already 'fractionally-emergent' in 'the Terran locus' as 'sub-ontos' of what E.D. terms 'the meta-human' -- $\mathbb{Y}^2 \mathbf{c}$ being a «species»/'ontological sub-category' of the E.D.-predicted, 'Dialectical Theory-of-Everything Equation'-preconstructed, 'taxonomy level one' [\mathbb{Y}^1] «genos» major ontological category -

$$\mathbb{V}^1 \Delta \mathbf{h} \equiv \mathbb{V}^1 \mathbf{meta-humanity} \equiv \mathbb{V}^1 \mathbf{Y} \mathbb{E} \rightarrow \mathbb{Q}_{1512}$$

-- its other two «species» being that of (1) *human-genomic self-re-engineering*, denoted by $\mathbb{Y}^2 \mathbf{g} = \mathbb{Y}^2 \mathbb{R} \mathbf{g} \mathbb{E} \rightarrow \mathbb{Q}_{11}$ and that of (2) *android robotics*, denoted by $\mathbb{Y}^2 \mathbf{r} = \mathbb{Y}^2 \mathbb{R} \mathbf{r} \mathbb{E} \rightarrow \mathbb{Q}_{12}$, per the E.D. standard notation.

"**'cyclonic vortices'**" \equiv 'Toroidal vortices'; 'donut-shaped', 'self-rolling donut', "self-re-entering" [cf. Varela] spiral-vortical 'flow-forms' which, under many conditions, self-organize, in both electro-neutral and electrically-charged, magneto-active "hydrodynamic" media [e.g., "low-pressure" air masses ["cyclonic"] and "high pressure" air masses [anti-cyclonic] in Earth's atmosphere, driving Earth's weather; oceanic "meso-scale eddies", plasma paired "cyclonic" / "anti-cyclonic" vortices, etc.]. Thought to represent, physically, the mathematically and conceptually still "unknown", "closed-form", "analytical" solution-functions which satisfy the highly-nonlinear **Navier-Stokes Equations**, the **Boltzmann-Vlasov-Maxwell Equation**, etc., and other such "fluidic", or "rheidic", equations, as **3-D "nonlinear wave"** solutions, as **3-D solitary wave** solutions, or as **3-D soliton** solutions.