

The Principle of Recurring Transitions from “Original Accumulation” to Reproductive Accumulation’.

Marx’s describes, in the final Part, Part VIII, of Capital, volume I, the “original accumulation”, or so-called “primitive accumulation”, of capital-value.

This process was required, before the system of capitalism proper could get started.

This “original accumulation” contrasts with the ‘reproductive accumulation’ of capital-value, that succeeds and, in some ways, opposes it, and that characterizes the capitalist system as a “going concern”.

This latter, second, successor process, of the ‘reproductive accumulation’ of capital-value, is the focus of most of the rest of the drafts of the next three of the four volumes of Capital.

This latter process, of ‘reproductive accumulation’, is, we hold, a special case of a general pattern in the [psycho]historical-dialectical progressions of ‘the dialectic of [pre-human, human, & ‘exo-human’]Nature’.

For example, consider the ‘dialectical “theory of everything”’, in its nQ dyadic Seldon Function ‘meta-model’ of ‘the dialectic of Nature’ as a whole, to-date, i.e., to epoch $\sqrt{\tau_2} = 8 + \partial 1$.

Per that ‘meta-model’, in its epoch $\sqrt{\tau_2} = 2$, the term $\diamond_{ss} \text{E} \rightarrow \square_{14}$ abruptly appears.

That term connotes the ‘self-hybridization’, i.e., the ‘self-«aufheben» self-subsumption’, & ‘meta-“particle”-ization’, of some of the pre-/sub-atomic “particles” units [e.g., of protons & neutrons] of the ontological category $\diamond_s \text{E} \rightarrow \square_{12}$.

That category-symbol denotes, per our solution, the category \diamond_a , of atomic nuclei.

It also connotes that first, “original accumulation”, or “primitive accumulation”, of atomic-level ontology that cosmologists have named “cosmological nucleosynthesis”.

“Cosmological nucleosynthesis” can yield, in any quantity, only Helium nuclei, & some Lithium nuclei, as well as multitudes of [heavy] Hydrogen “nuclei”.

It occurred in epoch $\sqrt{\tau_2} = 2$, before even the possibility of stars & .:, of stellar nucleosynthesis.

That latter possibility begins only in ‘meta-model’ epoch $\sqrt{\tau_2} = 3$.

However, upon the foundation laid by ‘cosmological nucleosynthesis’ in epoch $\sqrt{\tau_2} = 2$, in the very next epoch per that ‘meta-model’, epoch $\sqrt{\tau_2} = 3$, ‘cosmo-ontological’ category-symbols $\diamond_{an} \text{E} \rightarrow \square_{15}$, $\diamond_{as} \text{E} \rightarrow \square_{16}$, & $\diamond_{asn} \text{E} \rightarrow \square_{17}$ arise, as well as $\diamond_{aa} \text{E} \rightarrow \square_{18}$ [which, per our solution, connotes the ontological category of “molecules”, \diamond_m].

[Note: ‘E→’ stands for the mutual relation “is assigned to”, or “is interpreted as”, for the diachronic models context].

The category-symbol $\diamond_{as} \text{E} \rightarrow \square_{16}$ represents, per our solution, the life-process of so-called “Main Sequence” stars.

They mainly convert “sub-atomic particles”, e.g., stellar core plasma protons [H⁺], into Helium atomic nuclei [He⁺⁺], i.e., by the processes called “stellar nucleosynthesis”.

We identify the latter as the main ‘reproductive accumulation’ process for atomic nuclei, & for atoms, in our cosmos.

Hydrogen “atoms”, **H**, whose *nuclei* typically contain only a *single proton*, become Hydrogen ions, **H⁺**, i.e., naked sub-atomic “particles”, naked *protons* again -- i.e., their electron orbitals are stripped away -- in the superhot, plasma conditions of first generation stars’ stellar cores.

Thus, in effect, in initial stellar nucleosynthesis processes, *protons* -- with the help of *neutrons* &/in *Deuterium* & *Tritium* atomic nuclei -- are, in effect, that which is being converted into **Helium** atomic nuclei, **He⁺⁺**.

The category-symbol \diamond_{an} , per our solution, represents the combinatoric *possibility* of processes of direct conversion, into atomic nuclei, of pre-nuclear particles, e.g., -- catalyzed by the presence & involvement of atomic nuclei, e.g., like those of the “cosmological nucleosynthesis” products, **Helium** & **Lithium** nuclei.

This means the direct conversion of *non-composite bosons* & *non-composite fermions* into atomic nuclei.

Some might argue that this is an “inoperative term”.

The category-symbol \diamond_{asn} , per our solution, represents the combinatoric *possibility* of processes of direct conversion, into atomic nuclei, of earlier processes, connoted by $\diamond_{sn} \rightarrow \square_3$.

Those earlier *possible* processes, if actualized in the early cosmos, would be those that induced the \diamond_{sn} -catalyzed direct conversion of pre-nuclear “particles” -- of *non-composite bosons* & *non-composite fermions* -- into pre-/sub-atomic “particles” units, e.g., into *mesons*, *protons*, *neutrons*, & *hyperons*.

Those earlier *possible* processes, if actualized in the early cosmos, would be catalyzed by the presence & involvement of atomic nuclei, e.g., of those of the “cosmological nucleosynthesis” products, **Helium** & **Lithium** nuclei.

Some might argue that this too is an “inoperative term”.

What if \diamond_{an} & \diamond_{asn} really turn out to be “inoperative terms”, representing *unactualized* [never[-to-be]-actualized] *combinatoric possibilities*?

Then category $\diamond_{as} \rightarrow \square_6$, representing mainly the **Helium**-nuclei nucleosynthesis processes of first generation, “Main Sequence” stars, would be the one & only category-symbol that represents the *reproductive accumulation*’ of atomic nuclei in our cosmos.

Again, that process of *reproductive accumulation*’ is, we hold, distinct from the “original accumulation”’ process, of “cosmological nucleosynthesis”, represented by the category-symbol $\diamond_{ss} \equiv \diamond_a \rightarrow \square_4$.

Starting in epoch $\nu_2 = 3$, we see the “*original accumulation*”’ of **m**olecular species, $\diamond_{aa} \equiv \diamond_m \rightarrow \square_8$.

This occurs, we hold, via, e.g., the interaction of **a**tomms upon other **a**tomms in those first generation interstellar, “stellar nursery” ‘atomic clouds’, that thereby turn themselves into “**m**olecular clouds”.

They do so as these ‘atomic clouds’ expand/accumulate their populations of **a**tomms.

Those ‘atomic clouds’ thus also then darken, cool, & self-gravitationally ‘self-densify’.

They thereby bring their constituent **a**tomms into ever-closer average mutual proximity, &, therefore, into ever greater interaction-probability, forming the inter-**a**tommic bonds that constitute **m**olecules.

In epoch $\nu\tau_2 = 4$, arises the category-symbol $\diamond_{ma} \xrightarrow{E} \square_{12}$, which signifies the ‘**reproductive accumulation**’ of **m**olecules, e.g., in planetary atmospheres, in planetary oceans, and in planetary interiors/lithospheres.

There, the presence of, initially, “‘**original accumulation**’”-sourced **m**olecules, catalyzes the assembly of further **&** of more complex **m**olecules/**m**olecular formations.

Also in epoch $\nu\tau_2 = 4$ per this ‘meta-model’, this, e.g., planetary -- quantitatively expanded reproduction/- ‘**reproductive accumulation**’ of **m**olecules/**m**olecular species, **&**, consequently, the ‘self-densification’ of those **m**olecular **accumulations**, irrupts, increasing the “cross-sections’ for **m**olecule upon **m**olecule interactions.

This gives rise to ever-bigger, ever more massive *polymeric* [‘**meta-merically meta-monic**’] **m**olecules.

It also irrupts the new, next “‘**original accumulation**’”, or “‘primitive accumulation’”, the one signed by the category-symbol $\diamond_{mm} \xrightarrow{E} \square_{16}$.

The solution for this category-unknown, per our solution, is $\diamond_{mm} \vdash \equiv \diamond_p$, where \diamond_p connotes the ‘[cosmo-]ontological category’ of “**p**rokaryotic”, or “**p**re-eukaryotic”, living cells. [Note: ‘ $\vdash \equiv$ ’ means ‘solution-assertion’].

It signifies the [possible] irruption into existence of their first accumulations, from out of the densest core of populations of interacting **m**olecules.

In epoch $\nu\tau_2 = 5$, the category symbol $\diamond_{pm} \xrightarrow{E} \square_{24}$ appears, signifying, for us, the ‘**reproductive accumulation**’ of **p**re-eukaryotic living cells; the conversion of **m**olecular bodies into ‘**p**re-eukaryotic’ cellular bodies.

Per this category-symbol, this ‘**reproductive accumulation**’ conversion is catalyzed, accelerated, by the presence of, **&** by the involvement of, the originally-accumulated **p**re-eukaryotic living cells.

This conversion might be by, e.g., the direct “eating”, by such living cells, of “non-living” **m**olecules, of **m**olecular food, as by the “lithotrophic” [rock-eating], **&/or** “**chemo-synthetic**”, *archaea & archaeo-bacteria* whose still-persisting, “‘evolute’” existence has come to light in recent, deep-lithosphere observational research.

Observe **also** how, in these cosmological examples, ontological-categorical “‘**formal** subsumption’” corresponds to ontological-categorical “‘**original/primitive accumulation**’”.

Ontological-categorical “‘**real** subsumption’” corresponds to ontological-categorical ‘**reproductive accumulation**’.

In each epoch $\nu\tau_2 > 0$, the ‘**formally**-subsuming’ category-symbol is also the category-symbol that signifies the “‘**original accumulation**’”, or the “‘primitive **accumulation**’”, of the ‘onto-mass’ of the newest ontology; of the newest **kind** of being. The latter ontology is also represented by that ‘**formally**-subsuming’ category-symbol.

The ‘**really**-subsuming’ category-symbol(s), of the very next epoch, (is)(are) also the category-symbol(s) that represent(s) the subsumption/[partial-]conversion/assimilation of, **potentially**, at least locally, **all** of, but typically only a small portion of, the earlier/predecessor category-symbols’ ontology, into the newer successor symbolized ontology.

This also represents the ‘**meta**-Darwinian-fitness-manifesting’, ‘**reproductive accumulation**’ of more ‘onto-mass’ for that newer/next-to-newest **kind** of being.

Thus, in cosmological epoch $\nu\tau_2 = 2$, $\mathbb{D}_a \equiv \mathbb{D}_{ss} \mapsto \mathbb{D}_4$ represents the “‘original accumulation’” of a atomic nuclei ‘onto-mass’, & is also the ‘formally-subsuming’ category-symbol of that epoch’s categories-symbolic ‘cumulum’,



In the very next cosmological epoch, epoch $\nu\tau_2 = 3$, the cosmo-ontological category-symbol \mathbb{D}_{as} represents one of three possible ‘real-subsumption-by- \mathbb{D}_a ’ category-symbols.

It represents conversions, by the original, “first generation” stars, & by their essential “‘life’”-processes, named “stellar nucleosynthesis”.

It represents conversion of \mathbb{D}_s ‘onto-mass’, e.g., of H^+ -- i.e., of largely protonic ‘onto-mass’ -- into \mathbb{D}_a ‘onto-mass’, e.g., into Helium-a atomic-nuclei ‘onto-mass’.

This marks the beginning of the stellar ‘reproductive accumulation’ of a atomic ‘onto-mass’.