LIFE AS A "CODE" Thesis (LACT), starting from old philosophical questions: life forms (LFs) as primarily "software" and only secondarily "hardware", with all viruses (including SARS-CoV-2) being "living" software with "non-living" hardware

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For motivation of this Wikipedia-based paper format, see URL.

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Abstract
(with some highlighted abbreviations further used in this paper)

This paper proposes a redefinition of **life** as a **genetic & epigenetic** code (starting from old philosophical questions) with all life forms (**LFs**) being redefined as primarily "software" (**SW**) and only secondarily "hardware" (**HW**), with all viruses (including SARS-CoV-2) being redefined as "living" software with "non-living" hardware/ "storage"; based on a proposed empirical symmetry-principle (**ESP**), this paper also speculatively predicts the total biomass (of all known and unknown LFs) that already exists or may be allowed in our observable universe (**ou**).

This paper continues (from alternative angles of view) the work of other past articles/preprints of the same author in **physics** [**1**, **2**, **3**, **4**, **5**, **6**, **7**, **8**, **9**, **10**, **11**, **12**, **13**, **14**, **15**, **16**, **17**, **18**, **19**, **20**, **21**, **22**, **23**, **24**, **25**, **26**, **27**, **28**, **29**, **30**, **31**], **biology (including medicine)** [**32**, **33**, **34**, **35**, **36**, **37**, **38**, **39**, **40**, **41**, **42**, **43**, **44**, **45**, **46**, **47**, **48**, **49**, **50**, **51**, **52**] and **philosophy [53**, **54**, **55**, **56**, **57**, **58**, **59**].

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I. The main section of this paper

Philosophical questions. The generic philosophical questions "**Why don't life forms finally become(/turn into) what they eat?**" OR "**Why does an animal with a specific color generate various secretions with other colors?**" "haunted" many cultures and many minds worldwide since the beginnings of human civilization: the human intuition felt that the answer to this questions may bring a new important light and profound knowledge on the essence of life, mankind and all known life forms (**LFs**) (/living organisms). For example, Indians have an old saying that "*God is that who makes a black cow which eats green grass to produce white milk*": the famous Dutch philosopher Baruch Spinoza also launched the question "*Why don't rabbits (which eat carrots all their life) finally turn into carrots?*".

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Answers given by modern medicine to the previous cited philosophical questions. **ALL** the main complex nutrients (carbohydrates, proteins and lipids) from **ANY** food are **DECOMPOSED** by specific **ENZYMES** of any "consumer"-organism (**CORG**) (which CORG consumes nutrients and has **ALL** those specific enzymes **GENETICALLY ENCODED** in its DNA and/or RNA) down to their "building blocks" (various monosaccharides [obtained from decomposing carbohydrates], various amino acids [obtained from decomposing proteins] and various fatty acids respectively [obtained from decomposing lipids]) **AND ARE THEN PARTIALLY RECOMPOSED** in self-proteins, self-lipids and self-polysaccharides (all specific to that CORG) which are ALL (at least) partially specific to that CORG as their phenotypic marks: that is how modern medicine (in the post-DNA era) gives and elegant answer to all those types of ancient questions. **Important note (analogy)**. This decomposing-recomposing process is similar and analogous to the act of perception which ALSO implies these two complementary steps: **decomposition** and **subsequent recomposition** of any signal received by any type of nervous system (**NS**) of any life form (**LF**) (which has such NS): in the case of a an image perception for example, the human brain has specific **neuronal** groups (**NG**), each NG being composed from "specialized" neurons (some NGs specialized in analyzing straight lines, other NGs specialized in curved lines, other NGs specialized in textures etc.) which all decompose (and extract from the initial image those geometrical figures on which they are specialized!) and then analyze (and recompose) in parallel the various geometrical figures from the initial signal (each NG according to its own "specialization" and each NG producing a distinct "sketch" composed from straight/curved lines only) and then send the all these intermediary sketches to other superior NGs (specialized in assembling all these sketches) which produce the final perceived image.

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"Life as (primarily) a code (/software)" thesis (LACT) launched in this paper stating the essential difference between genes and genetic code which strongly argues that LFs should be considered primarily "software" (**SW**) and only secondarily "hardware" (**HW**). All self-proteins (including the specific enzymes that split complex nutrients into their building blocks) are produced from specific encoding DNA genes which are initially read by RNA polymerase and transcripted into messenger RNA (**mRNA**) (from the initial DNA gene template): the mature mRNA (**mmRNA**) is then produced by elimination of non-(protein) coding RNA fragments (introns) from the initial mRNA (by the so-called RNA splicing); mmRNA is then translated by ribosomes into specific (gene-encoded) proteins (including enzymes). The genetic code (**GC**) of each LF in part is the specific **set of reading-writing rules** used by that LF to create specific proteins (composed from specific sequences of amino acids) by using genes (composed from specific sequences of codons) as informational templates. *The profound "synapse"/ "articulation" between nucleic acids (DNA/RNA) and proteins actually "prolongs" GC "upgrading"/"patching" it* **with two epigenetic and phenotypic additional codes** *(the specific functions and rules of the phenotype encoded in the 3D structure and properties of DNA/RNA, proteins, groups of proteins and any other combinations of complex self-molecules).* **The generic (/broad) genetic (/informational) code (GGC) (a generic definition which also includes the epigenetic rules/epigenome and the phenotypic code) is pure code, pure "software" (SW)/information stored in DNA/RNA (which acts as a "hardware" [HW]) and applied by the ribosomes: GC**

software is obviously distinct from its DNA/RNA hardware. Although the atoms of DNA, RNA, ribosomes or any other component of any LF (which LF is essentially a dissipative system) are periodically replaced by other atoms of the same type (by various physiological renewal processes), GGC remains the same throughout the life cycle of that LF: in this sense, LF is governed by **an informational conservation principle** (more specific **GGC conservation principle**, including conservation gene structure, which store the genetic information which is also part of GGC) so that LFs are primarily SW and only secondarily HW, with two major types of LFs: (**1**) LFs with living SW and living HW (defined by autonomous metabolism) (like cells and all cell-based LFs); (**2**) LFs with living SW and non-living HW (which doesn't posses an autonomous metabolism), like all viruses are (including SARS-CoV-2 for example). **In other words, an LF remains the same because its GGC remains the same, and that is why LF should be primarily identified with its GGC (and defined as a very complex SW) and ONLY SECONDARY identified with its HW "storage" (composed from atoms and molecules which periodically replace with other atoms and molecules from the surrounding space/environment)**. In other more plastic words, if the GGC "software" is named "the mind/soul" of any LF and its physical atomic/molecular structure ("hardware") is considered the "body" of that LFs, then LFs can be considered essentially/primarily "minds/souls" and only secondarily "bodies", just because *it is GGC (not the periodically refreshable "body"/ atomic structure!) which mainly/primarily generates the identity/ individuality/ selfness of any LF*.

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Important note (implication). LACT also supports the **anti-abortion philosophy** launched by the same author in a previous paper [**41**], based on the fact that any **human person** (**HP**) (with all his/her assumed rights stated by the code of human rights) is primarily a software (**SW**) and that SW is "stored"/"archived" in/from the first cell of a human person (the zygote), immediately after fecundation: annihilating a zygote is thus annihilating a HP (thus cancelling all his/her rights) and a crime implicitly if accomplished after fecundation, which fecundation was stated to produce an "archived" HP defined by an unique GGC in a very compact state of "compression" in a single cell (the zygote).

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Prediction. LACT theoretically implies that, if the GCC of any LF is sustained by any other theoretical means (other than standard feeding with water and nutrients), that LF may theoretically survive for indefinite periods of time if no bit of information is lost from its GGC: see the inedia phenomenon which inedia is however very improbable, due to the absence of any known alternative (at least until present, in the limits of our modern scientific tools) of sustaining GCC without using nutrients (which nutrients store essential information used by GCC).

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Essential question on life/LFs creation. LACT also invokes the question if GGC is totally auto-created software (**SW**) (which is very improbable, because it is practically unconceivable how an autonomous SW can auto-create itself from nothing!) or GGC is just a partially auto-created SW which was initially created by a "mysterious" superior mind/ intelligence or by unknown (bio-) physical field/ force: there may be also a "**hidden code**" (**HC**) behind both GGC and atomic/molecular "hardware" (**HW**)/body of any LF, which HC may actually control both GGC and HW fueling the survival and the evolution of that LF.

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The apparent fine-tuning and high-compatibility between life/LFs and our universe. The GGC of LFs **NOT ONLY** appears to be fully compatible with all the physical laws and structures of our universe but also appears to can extremely "speculate" those laws and structures with a main scope: that to thrive/replicate, evolve and finally to "conquer-and-control" all known physical universe or a significant fraction of it (a very probable pre-programmed purpose of GGC).

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Speculative prediction based on an interesting mass magnitude coincidence. Let us consider the huge mass (**m**) ambitus of our observable universe (**ou**) defined as the base-10 logarithm of the ratio between ou mass $M_{ou} \cong 10^{54} kg$ and the rest mass of the lightest known elementary particle (the electron neutrino [**en**]) with non-zero rest mass $m_{en} \cong 1 eV / c^2$ [URL]:

$$\phi_m \cong \log_{10}\left(M_{ou} / m_{en}\right) \cong 90 \qquad \text{(1a)}$$

Let us also consider the base-10 logarithm of the ratio between the mass of an average star (**s**) $M_{s(av)} \cong M_{Sun} / 2 \cong 10^{30} kg$ [URL1, URL2] and the same minimum m_{en}:

$$\phi_s \cong \log_{10}\left(M_{s(av)} / m_{en}\right) \cong 66 \qquad \text{(1b)}$$

Let us also consider the base-10 logarithm of the ratio between the mass of an average living cell (**c**) [URL] and the same minimum m_{en}:

$$\phi_c \cong \log_{10}\left(m_c / m_{en}\right) \cong 21 \qquad \text{(1c)}$$

Interestingly, ϕ_s and ϕ_c are symmetrical to the middle/half $\phi_m / 2 \cong 45$ so that:

$$\tfrac{1}{2}\phi_m - \phi_c \cong \left|\tfrac{1}{2}\phi_m - \phi_s\right| \cong \tfrac{1}{4}\phi_m \qquad \text{(1d)},$$
with $\phi_c \cong \tfrac{1}{4}\phi_m$ and $\phi_s \cong \tfrac{3}{4}\phi_m$

Even more interestingly, the base-10 logarithm of the ratio between the estimated mass of Earth's biosphere (**bs**) $M_{bs} \cong 10^{12} kg$ [URL] and the same minimum m_{en} is:

$$\phi_{bs} \cong \log_{10}\left(m_{bs} / m_{en}\right) \cong \tfrac{1}{2}\phi_m \qquad \text{(1e)}$$

Given all the previous equations it's easy to observe that, on a logarithmic scale (no matter its base), ϕ_{bs} centers the ϕ_m interval, ϕ_s centers the $\left[0, \tfrac{1}{2}\phi_m\right]$ half-interval and ϕ_c centers the $\left[\tfrac{1}{2}\phi_m, \phi_m\right]$ half-interval, with ϕ_s and ϕ_c being symmetrical around $\phi_{bs}\left(\cong \tfrac{1}{2}\phi_m\right)$: based on this interesting

observation, we speculatively predict that LFs may have the potential to spread (or may have already appeared/spread!) in ou symmetrically around $\phi_{bs}\left(\cong \frac{1}{2}\phi_m\right)$ (on this logarithmic scale) so that ou may actually contain a network of biospheres possibly uniformly occupying in its entire 3D volume (with LF-based biospheres already appeared on various life-friendly planets) with:

$$\phi_{bs(\max)} \cong \frac{3}{4}\phi_m \left(\cong \phi_s\right) \tag{2a}$$

and a total mass of all predicted biospheres of ou (see below):

$$M_{bs(\max)} \cong m_{en}10^{\phi_{bs(\max)}} \cong 43 M_{\text{Sun}} \cong 10^{32}kg \tag{2b}$$

This predicted empirical symmetry-principle of LFs (**ESP**) (and LFs systems) masses around $\frac{1}{2}\phi_m$ (on a logarithmic scale) is also slightly sensitive to whether we consider viruses alive or not.

Combining this ESP and LACT (thus assuming viruses as also LFs without autonomous metabolism but being living code/software) and considering the smallest known virus with mass $m_{v(\min)} \cong 10^{-20}kg$ [**URL**] **and** $\phi_v \cong \log_{10}\left(m_{v(\min)}/m_{en}\right) \cong \frac{1}{6}\phi_m$, **we may push the prediction up to a new maximum of biomass in ou (which may be the maximum ESP-LACT-"allowed" total mass of LFs in ou):**

$$\phi_{bs(\max 2)} \cong \phi_m - \phi_v \cong \frac{5}{6}\phi_m \tag{2c}$$

and a total mass of all predicted biospheres of ou (see below):

$$M_{bs(\max 2)} \cong m_{en}10^{\phi_{bs(\max 2)}} \cong 10^{8} M_{\text{Sun}} \cong 10^{39}kg \tag{2d}$$

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II. References
(partially integrated as Wikipedia URLs in the main text of this paper)

[**1**] Andrei-Lucian Drăgoi (March 28th, 2020). (IGH - version 1.0 - 29.03.2020 - 1.5 pages without references). An informational approach of Newton's law of gravity by using the Bekenstein bound and predicting a universe with at least 5 spatial dimensions. Research Gate preprint with DOI: **10.13140/RG.2.2.25419.75049**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source). URL1c (Vixra secondary source). URL1d (General Science Journal source). **URL1e** (dragoii.com latest variant source).

See also: Andrei-Lucian Drăgoi (April 2nd, 2020). (IGH – short version - latest - 2.04.2020 - 1 A4 page). An informational approach of Newton's law of gravity by using the Bekenstein bound and predicting a universe with at least 5 spatial dimensions. Research Gate preprint with DOI: **10.13140/RG.2.2.19895.06567**. **URL1** (Research Gate main source).

[**2**] Andrei-Lucian Drăgoi (March 4th, 2020). (EGRV - version 1.0 - 4.03.2020 - 5.5 A4 pages excluding references) Integrating the speed of gravity in Newton's gravitational law, we're it probably… belongs: the universal gravitational constant (big G) is very plausibly not a true constant, but only a composite quasi-constant depending on a slightly variable speed of gravity and an electro-gravitational resistivity of (quantum) vacuum (EGRV). Research Gate preprint with DOI: **10.13140/RG.2.2.34832.35846**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source). **URL1c** (Vixra secondary source). URL1d (General Science Journal source). **URL1e** (dragoii.com latest variant source).

[**3**] Andrei-Lucian Drăgoi (February 24th, 2020). (MSTC-EP - version 1.0 - 24.02.2020 - 1 A4 page excluding references) A conjectured identity/equivalence between matter (including radiation) and spacetime curvature (STC) based on subquantum movement (SQM) explaining both inertial and gravitational masses and their equivalence/equality. Research Gate preprint with DOI: **10.13140/RG.2.2.30315.69928**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source), **URL1c** (Vixra secondary source), **URL1d** (General Science Journal source). **URL1e** (dragoii.com latest variant source).

[**4**] Andrei-Lucian Drăgoi (February 21st, 2020). (BGT - v.1.0 - 21.02.2020 - 3 A4 pages without references) A running coupling constant of a hypothetical quantum gravitational field (QGF) supporting a subtype of bimetric gravity theory (BGT) which implies two graviton modes: a super-massive one and a massless one. Research Gate preprint with DOI: **10.13140/RG.2.2.19607.11687**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source). **URL1c** (Vixra secondary source). **URL1e** (dragoii.com latest variant source).

[**5**] Andrei-Lucian Drăgoi (February 2020). (svEEC - v1.0 - 3.02.2020 - 2.5 A4 pages without references) **A strong variant of the ER=EPR conjecture based on Planck wormholes and redefining both big G and Planck constant**. Research Gate preprint with DOI: **10.13140/RG.2.2.25647.89762**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source). **URL1c** (Vixra secondary source), URL1d (GSJ secondary source), **URL1e** (**dragoii.com latest variant source**).

[**6**] Andrei-Lucian Drăgoi (February 2020). (FESTH - v1.0 - 2.02.2020 - 7.5 A4 pages without references) **A proposed set of relatively new conjectures and hypotheses in modern physics, mainly the concept of subquantum movement (SQM), the finite "elasticity" of spacetime hypothesis (FESTH), the self-repulsiveness of electromagnetic charge (SR-EMC) and the plausible gravitational significance of the fine structure constant (GS-FSC)**. Research Gate preprint with DOI: **10.13140/RG.2.2.36382.69441**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source), **URL1c** (Vixra secondary source), URL1d (GSJ secondary source), **URL1e** (dragoii.com latest variant source).

[**7**] Andrei-Lucian Drăgoi (January 2020). (QGR - v1.0 - 30.01.2020 - 11 A4 pages [without References]) (toy-model) **Sketching a new Quantum General Relativity (QGR) variant mainly based on the redefinition of leptons (as quantum micro black holes composed from highly compressed single triquarks under a very strong quantum gravitational field [QGF]), a dual electro-gravitational interpretation of the fine structure constant (FSC), Planck wormholes ("Planck tubes") and a reinterpretation of Planck units in the "spirit" of Einstein's GR**. Research Gate preprint with DOI: **10.13140/RG.2.2.15522.58567**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source), **URL1c** (Vixra secondary source), **URL1d** (GSJ secondary source), **URL1e** (dragoii.com latest variant source).

[**8**] Andrei-Lucian Drăgoi (December 2019). (GTM - long variant 1.0 - 19.12.2019 - 8.5 A4 pages without references section) **A simple Gravitational toy-model (GTM) mainly based on a new reinterpretation of the Newtonian/ universal gravitational constant (big G) which solves from "one-shot" the cosmological constant problem, the hierarchy problem, the dark energy problem and the singularity problem (GTMa, GTMb and GTMc)**. Research Gate preprint with DOI: **10.13140/RG.2.2.14361.77926**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source). **URL1e** (dragoii.com latest variant source).

  a. (**GTM - short variant 1.0 - 19.12.2019 - 7 A4 pages without references section**). Research Gate preprint with DOI: **10.13140/RG.2.2.31138.99525**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source), **URL1e** (**dragoii.com latest variant source**)

  b. (GTM - very short variant 1.0 - 19.12.2019 - 4.5 A4 pages without references section). Research Gate preprint with DOI: **10.13140/RG.2.2.25738.82885**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source). **URL1e** (dragoii.com latest variant source).

[**9**] Andrei-Lucian Drăgoi (July 2019). (SGUM - version 1.0 - 9.07.2019 - 10 pages) **A "Simply…Gravitonic" Universe (toy-)Model (SGUM)**. Wiki-like Research Gate preprint. DOI: 10.13140/RG.2.2.28671.36003. **URL1a** (Research Gate source), **URL1b** (Academia source), URL1c (Vixra source), URL1d (GSJournal source).

[**10**] Andrei-Lucian Drăgoi (October 2019). (MUM - short version 1.0 - 22.10.2019 - 4 A4 pages without references) **A "Mirrored" Universe (toy-)Model (MUM) based on a relative big G, a variable quantum big G and a finite mass ambitus of our universe (short variant of the original full preprint)**. Research Gate preprint with DOI: **10.13140/RG.2.2.11788.05763**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source). **URL1c** (Vixra secondary source), **URL1d** (GSJ secondary source), **URL1e** (dragoii.com latest variant source).

[**11**] Andrei-Lucian Drăgoi (October 2019). (MUM – [long] version 1.0 - 21.10.2019 - 7 A4 pages) **A "Mirrored" Universe (toy-)Model (MUM) based on a relative big G, a variable quantum big G and a finite mass ambitus of our universe**. Research Gate preprint with DOI: **10.13140/RG.2.2.35738.18885**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source). **URL1c** (Vixra secondary source), **URL1d** (GSJ secondary source), **URL1e** (dragoii.com latest variant source).

[**12**] Andrei-Lucian Drăgoi (August 2019). (DRH – v 1.0 - 28.08.2019 - 4 pages A4) **A Dimensional Relativity Hypothesis (DRH)**, Research Gate preprint with DOI: 10.13140/RG.2.2.30254.87368. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source), **URL1c** (Vixra secondary source), **URL1d** (dragoii.com latest variant source), **URL1e** (GSJ secondary source).

[**13**] Andrei-Lucian Drăgoi (August 2019). (ACUM - version 1.0 - 25.08.2019 - 7 pages) **An elegant Adimensional Cyclic Universe (toy-) Model (ACUM) mainly based on the electrograviton hypothesis (EGH), the quantized gravitational waves hypothesis (QGW-**

Hyp) and the dimensional relativity hypothesis (DRH). Research Gate preprint with DOI: 10.13140/RG.2.2.13834.82881. URL1a (Research Gate main source), URL1b (Academia secondary source), URL1c (Vixra secondary source), URL1d (dragoii.com latest variant source), **URL1e** (GSJ secondary source).

[**14**] Andrei-Lucian Drăgoi (June 2019). (LifeAsEmergent - version 1.0 - 6 pages - 20.06.2019) **On the very low probability of complex life forms to be just emergent phenomena and about the "continuous" versus "intermittent" free will**. Wiki-like Research Gate preprint. DOI: 10.13140/RG.2.2.22592.58887. URL1a (Research Gate source), URL1b (Academia source), URL1c (Vixra source), URL1d (GSJournal source).

[**15**] Andrei-Lucian Drăgoi (April 2019). (LFs and gravity – working paper – variant 1.0 – 7 pages – 13.04.2019) **Life forms, "hybrid" causality, gravity and hierarchical parallel universes.** Research Gate preprint. DOI: 10.13140/RG.2.2.19089.28009. URLs: URL1a (Research Gate source), URL1b (Academia source), URL1c (Vixra source), URL1d (GSJournal source).

[**16**] Andrei-Lucian Drăgoi (January 2019). (eSR – short version – 4 pages – 3.01.2018) **An extended Special relativity (eSR) containing a set of universal equivalence principles and predicting a quantized spacetime**. Research Gate preprint. DOI: 10.13140/RG.2.2.29665.35686. URL (Research Gate source).

[**17**] Andrei-Lucian Drăgoi (December 2018). (eSR – version 1.0 – 6 pages – 20.12.2018) **An extended Special relativity (eSR) containing a set of universal equivalence principles and predicting a quantized spacetime**. Research Gate preprint. DOI: 10.13140/RG.2.2.10208.53764. URL (Research Gate source).

[**18**] Andrei-Lucian Drăgoi (December 2018). (eZEH article-like preprint – version 1.0 – 8 pages -12.12.2018) **An extended zero-energy hypothesis predicting the existence of negative-energy gravitons and possibly explaining the accelerated expansion of our universe.** Research Gate preprint. DOI: 10.13140/RG.2.2.36245.99044. URL (Research Gate source).

[**19**] Andrei-Lucian Drăgoi (August 2018). (IP-GP – version 1.0 – 15 pages – 14.08.2018) **On the intrinsic paradox of the geometric point definition (solved using the Included Middle Logic) as the main cause of Euclid's postulate "inaccuracy", allowing the existence not only of non-Euclidean geometries but also of a new "t-metamathematics" used to redefine the basics of General relativity, Quantum field theory, Superstring theories and M-theory**. Research Gate preprint. DOI: 10.13140/RG.2.2.32439.42405. URL (Research Gate source).

[**20**] Andrei-Lucian Drăgoi (August 2018). (eZEH – version 1.0 – 10 pages – 2.08.2018) **An extended zero-energy hypothesis: on some possible quantum implications of a zero-energy universe, including the existence of negative-energy spin-1 gravitons (as the main spacetime "creators") and a (macrocosmic) black-hole (bh) Casimir effect (bhCE) which may explain the accelerated expansion of our universe**. Research Gate preprint. DOI: 10.13140/RG.2.2.31515.36642. URL (Research Gate source).

[**21**] Andrei-Lucian Drăgoi (September 2017). (FSC-TS – preprint – version 7.2 – 28 pages – 15.09.2017) **On a plausible triple electro-gravito-informational significance of the fine structure constant and its implications in a plausible four fields unification pattern at Planck scale and the existence of life forms in our universe**. Research Gate preprint. DOI: 10.13140/RG.2.2.13114.39365. URL (Research Gate source).

[**22**] Andrei-Lucian Drăgoi (May 2017). (version 1.1 – 12 pages – 5.06.2017) **A preonic toy model of all known elementary particles based on 1D and 2D branes**. Research Gate preprint. DOI: 10.13140/RG.2.2.26817.97123. URL.

[**23**] Andrei-Lucian Drăgoi (May 2017). (version 2.3 – 12 pages – 6.06.2017) **A cyclic toy model of the universe based on a quantized spacetime predesigned for life (technical essay)**. Research Gate preprint – Version: 2.3, In Progress. DOI: 10.13140/RG.2.2.22391.83369. URL (Research Gate source).

[**24**] Andrei-Lucian Drăgoi (April 2017). (version 2.0 – 28 pages – 9.05.2017) **A cyclic toy model of the universe predesigned for life, based on preonic quantized branes and a very strong 2D gravitational field as a candidate for a unified primordial field**. Research Gate preprint – Version: 2.0, In Progress. DOI: 10.13140/RG.2.2.24084.30087. URL (Research Gate source).

[**25**] Andrei-Lucian Drăgoi (February 2017). (BIDUM 3.2 full – Part A – 18 pages – last update on: 23.02.2017) **A Bio-Info-Digital Universe (toy)Model – towards a transdisciplinary TOE centered on life phenomenon – Part A**. Research Gate preprint. DOI: 10.13140/RG.2.2.23869.26082. URL (Research Gate source)

[**26**] Andrei-Lucian Drăgoi (February 2017). (BIDUM 3.2 full – Part B – 20 pages – last update on: 23.02.2017) **A Bio-Info-Digital Universe (toy-)Model – towards a transdisciplinary TOE centered on life phenomenon – Part B**. Research Gate preprint . DOI: 10.13140/RG.2.2.35013.65760/1. URL (Research Gate source).

[**27**] Andrei-Lucian Drăgoi (September 2016). (BIDUM 3.1 beta version – 24 pages – data) **A toy model of the universe based on a large numbers hypothesis inspired by Edward Teller – towards a TOE centered on life phenomenon.** Research Gate preprint. DOI: (see other related DOIs 10.13140/RG.2.2.23869.26082 [URL2] and 10.13140/RG.2.2.35013.65760/1 [URL2]). URL (Research Gate source).

[**28**] Andrei-Lucian Drăgoi (May 2018). (DVTM – PSIJ – Short Research Article – 30.05.2018 – 19 pages) **(Toy-model) A Simple "Digital" Vacuum Composed of Space Voxels with Quantized Energetic States** (Physical Science International Journal, ISSN: 2348-0130, Vol.: 18, Issue.: 1). **DOI: 10.9734/PSIJ/2018/41391**. URL0 (original source); URL1 (Research Gate source);

[**29**] Andrei-Lucian Drăgoi (July 2017). (PSIJ – Short Research Article – 29.07.2017) **On a Plausible Triple Electro-gravito-informational Significance of the Fine Structure Constant** (Physical Science International Journal, ISSN: 2348-0130, Vol. 15, Issue 3). **DOI: 10.9734/PSIJ/2017/34613 (URL-CrossRef.org)**. URL0 (original source); URL1 (Research Gate source);

[**30**] Andrei-Lucian Drăgoi (November 7th, 2017). (PSIP cases – version 1.3 – 7.08.2018 – 19 pages) On some specific cases of PSI phenomena (not proved to be frauds until present) with possible electrogravitational explanations and transdisciplinary implications. Research Gate preprint. DOI: 10.13140/RG.2.2.21308.74885. URL1 (Research Gate source), URL2 (Academia.edu source), URL3 (Vixra source), URL4 (GSJournal source).

See also: (PSIP cases - version 1.4 - 13.08.2019 - picture selection) **An appearance found in four pictures taken at the grave of the Romanian orthodox priest Arsenie Boca,** DOI: 10.13140/RG.2.2.27378.66241

[**31**] Andrei-Lucian Drăgoi (January 30th, 2017). (PHI-E-PI – Version 1.6 – 12 pages – 30.01.2018) **A simple recursive geometrical construct method and some properties and occurrences of the Golden Ratio (Phi) in mathematics, physics, chemistry and biology (including human medicine), also related to the transcendentals PI and to Euler's constant e**. Research Gate preprint. DOI: 10.13140/RG.2.2.25312.69125. URL (Research Gate source).

[**32**] Andrei-Lucian Drăgoi (April 13th, 2020). (Pediatrics Red List - version 1.0 - 13.04.2020 - 1.5 A4 pages without references). **What to NOT do in Pediatrics - a periodically updated RED list**. Research Gate preprint with DOI: **10.13140/RG.2.2.34960.97288**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source). **URL1c** (Vixra secondary source). **URL1e** (**dragoii.com latest variant source**).

[**33**] Andrei-Lucian Drăgoi (January 27th, 2020). (PPB - sketch-v.1.0 - 27.01.2020 - 49 A6 pages without the table of abbreviations - Romanian version) **PEDIATRIA PRACTICĂ DE BUZUNAR A DR. DRĂGOI (versiune-schiță în limba română) (DR. DRAGOI'S PRACTICAL PEDIATRIC HANDBOOK) (sketch-version in Romanian)**. Research Gate preprint with DOI: **10.13140/RG.2.2.24736.94722**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source), **URL1c** (Vixra secondary source), **URL1d** (GSJ secondary source), **URL1e** (**dragoii.com latest variant source**). The table of abbreviations used by this manual is downloadable as a separate file, from this **URL (abbrev. table on www.dragoii.com)**.

[**34**] Andrei-Lucian Drăgoi (December 9th, 2019). (SchemaSuplimPtFumatori - version 1.0 - 9.12.2019 - 1 A4 page) **SCHEMA DE SUPLIMENTE ALIMENTARE PENTRU SUSTINEREA CORPULUI FUMATORILOR ADULTI SI COPII CU VARSTA DE PESTE 12 ANI CARE NU AU VOINTA NECESARA SA RENUNTE LA FUMATUL ACTIV (Romanian version preprint) (Title in English: FOOD SUPPLEMENTS SCHEME FOR SUPPORTING THE BODY OF ADULTS SMOKERS AND CHILDREN OVER 12 YEARS OLD WHO DON'T WANT TO CEASE ACTIVE SMOKING)**. Research Gate preprint with DOI: **10.13140/RG.2.2.18126.20808**. **URL1a** (Research Gate main source), **URL1b** (Academia secondary source). **URL1c** (Vixra secondary source), **URL1d** (GSJ secondary source), **URL1e** (**dragoii.com latest variant source**).

[**35**] Andrei-Lucian Drăgoi (July 2019). (ASEA in DMD - CJBRT article - 20.07.2019) **The Remarkable Effects of "ASEA redox Supplement" In A Child with Duchenne Muscular Dystrophy – A Case Report,** Canadian Journal of Biomedical Research and Technology (CJBRT) 2019; volume 1, issue 4:8. ISSN: **2582-3663.** URLs: URL1a, URL1b, URL1c (CJBRT original sources); URL2a (Research Gate source); URL2b & URL2c (Academia sources); URL2d (Vixra source); URL3 (Research Gate **preprint** source). **See also the newly released related add-on paper (RG preprint)** *The 1st case report on the remarkable effects of "ASEA Redox Supplement" (ARS) in a boy with Duchenne muscular dystrophy (DMD) – periodic updates released after 20.07.2019 (the date of the official case publication in a peer-reviewed journal)* (DOI 10.13140/RG.2.2.23141.76002, URL to RG preprint).

[**36**] Andrei-Lucian Drăgoi (May 2018). (ASEA in DMD preprint – version 1.1 – 1.08.2018 – 13 pages) **The clinical and biological effects of ASEA ionized water /"redox supplement" (co-**

administered with L-carnitine and omega-3 fatty acids plus multivitamins dietary supplements) in a ~3-year-old boy with Duchenne muscular dystrophy (DMD) from Romania – a case report. Research Gate preprint. DOI: 10.13140/RG.2.2.21420.36486. URL (Research Gate source). 2 Recommendations from: Syed Ismyl Mahmood Rizvi and P.F. Zabrodskii. The article based on this preprint was published in July 20th, 2019 under the title "The Remarkable Effects of "ASEA redox Supplement" In A Child with Duchenne Muscular Dystrophy – A Case Report" in the Canadian Journal of Biomedical Research and Technology (CJBRT) 2019; volume 1, issue 4:8. URLs: URL1a, URL1b, URL1c (CJBRT original sources); URL2 (Research Gate source)

[37] Andrei-Lucian Drăgoi (November 2nd, 2019). (Asea in DMD – conferința Râmnicu Sărat - 45 slides - 2.11.2019) Efectele remarcabile ale suplimentului redox "Asea"® în 2 cazuri de distrofie musculară Duchenne la copil și potențialul terapeutic al Asea în bolile acute și cronice cu o importantă componentă de stres oxidativ celular. Presentation and conference paper also published on Research Gate with DOI (of RG presentation): 10.13140/RG.2.2.28023.78240 [URL2]. URL1a (Research Gate main source; see also URL1aa), URL1b (Academia secondary source). URL1c (Vixra secondary source), URL1d (GSJ secondary source), URL1e (dragoii.com latest variant source).

[38] Andrei-Lucian Drăgoi (August 30th, 2019). (ASEA in DMD 2nd case preprint - v.1.0 - 30.08.2019 - 10 pages) A Second Case Report Regarding the Effects of "ASEA redox Supplement" in a ~5-year old boy with Duchenne Muscular Dystrophy from Bucharest, Romania (preprint). Research Gate preprint with DOI: 10.13140/RG.2.2.18399.41128. URL1a (Research Gate main source), URL1b (Academia secondary source), URL1c (Vixra secondary source), URL1d (dragoii.com latest variant source), URL1e (GSJ secondary source).

[39] Andrei-Lucian Drăgoi (November 23rd, 2019). (Ataluren in DMD - version 1.0 - 23.11.2019 - 5 A4 pages) A proposed extension of Ataluren indications (with future deserved studies) in patients with Duchenne muscular dystrophy (DMD) caused by frameshift mutations of dystrophin gene associated with abnormal premature termination codons (PTCs) at distance from the site of that given frameshift mutation. Research Gate preprint with DOI: 10.13140/RG.2.2.21648.76804. URL1a (Research Gate main source), URL1b (Academia secondary source). URL1c (Vixra secondary source), URL1d (GSJ secondary source), URL1e (dragoii.com latest variant source).

[40] Andrei-Lucian Drăgoi (February 29th, 2020). (NADS in COVID-19 - short communication - version 1.0 - 1.5 A4 pages when excluding references - 29.02.2020) Potent NRF2-activating dietary supplements (like resveratrol, curcumin, sulforaphane, "Asea redox supplement" [ARS]) should be clinically tested as adjuvants in all types of medium and severe cases of aggressive respiratory viral infections (including Influenza A/B/C, SARS, MERS, COVID-19) based on their extrapolated cytoprotective antioxidant effects. Research Gate preprint with DOI: 10.13140/RG.2.2.33764.12163. URL1a (Research Gate main source), URL1b (Academia secondary source). URL1c (Vixra secondary source). URL1e (dragoii.com latest variant source).

[41] Andrei-Lucian Drăgoi (July 15th, 2019). (AAP - version 1.0 - 4 pages - 15.07.2019) An anti-abortion philosophy (AAP). Wiki-like Research Gate preprint. DOI: 10.13140/RG.2.2.18129.89440. URL1a (Research Gate source), URL1b (Academia source), URL1c (Vixra source), URL1d (GSJournal source).

[42] Andrei-Lucian Drăgoi (June 20th, 2019). (LifeAsEmergent - version 1.0 - 6 pages - 20.06.2019) On the very low probability of complex life forms to be just emergent phenomena and about the "continuous" versus "intermittent" free will. Wiki-like Research Gate preprint. DOI: 10.13140/RG.2.2.22592.58887. URL1a (Research Gate source), URL1b (Academia source), URL1c (Vixra source), URL1d (GSJournal source).

[43] Maria Roman and Andrei-Lucian Drăgoi (June 14th, 2019). (MentalDisorders ppt - 15 slides - 14.06.2019 Romanian variant) BOLILE PSIHICE – DIAGNOSTIC, TRATAMENT, PREVENȚIE - un review practic (Mental diseases - diagnosis, treatment and prevention - a practical review) (PowerPoint presentation in. Research Gate preprint. DOI: 10.13140/RG.2.2.18648.96004. URL1a (Research Gate source), URL1b (Academia source).

[44] Maria Roman and Andrei-Lucian Drăgoi (June 11th, 2019). (Etilismul ppt – 27 slides - 11.06.2019 Romanian variant) DEPENDENȚA DE ETANOL (ETILISMUL) – un review practic (Alcohol/Ethanol dependence – a practical review) (PowerPoint presentation in Romanian), Research Gate preprint. DOI: 10.13140/RG.2.2.22279.65445. URL1a (Research Gate source), URL1b (Academia source).

[45] Maria Roman and Andrei-Lucian Drăgoi (June 11th, 2019). (TMS ppt – 25 slides - 11.06.2019 Romanian variant) STIMULAREA MAGNETICĂ TRANSCRANIANĂ (SMT/TMS) ÎN TRATAMENTUL DEPRESIEI – un review practic (Transcranial magnetic stimulation in the treatment of depression – un practical review) (PowerPoint presentation in Romanian), Research Gate preprint. DOI: 10.13140/RG.2.2.28151.68005. URL1a (Research Gate source), URL1b (Academia source).

[46] Andrei-Lucian Drăgoi (April 13th, 2019). (LFs and gravity – working paper – variant 1.0 – 7 pages – 13.04.2019) Life forms, "hybrid" causality, gravity and hierarchical parallel universes. Research Gate preprint. DOI: 10.13140/RG.2.2.19089.28009. URLs: URL1a (Research Gate source), URL1b (Academia source), URL1c (Vixra source), URL1d (GSJournal source).

[47] Andrei-Lucian Drăgoi (May 19th, 2018). (DCTM – version 1.0 – 19.05.2018 – 5 pages) A simple digital consciousness toy model (DCTM) applicable to all multicellular life forms and based on a multi-level competitive hierarchical organization of biological cells in general (including neurons). Research Gate preprint. DOI: 10.13140/RG.2.2.26902.45125. URL (Research Gate source).

[48] Andrei-Lucian Drăgoi (November 7th, 2017). (PSIP cases – version 1.3 – 7.08.2018 – 19 pages) On some specific cases of PSI phenomena (not proved to be frauds until present) with possible electrogravitational explanations and transdisciplinary implications. Research Gate preprint. DOI: 10.13140/RG.2.2.21308.74885. URL1 (Research Gate source), URL2 (Academia.edu source), URL3 (Vixra source), URL4 (GSJournal source).
See also: (PSIP cases - version 1.4 - 13.08.2019 - picture selection) An appearance found in four pictures taken at the grave of the Romanian orthodox priest Arsenie Boca, DOI: 10.13140/RG.2.2.27378.66241

[49] Andrei-Lucian Drăgoi (conference in September 2017, published in October 16th, 2017). (PGERD – version 1.0 – 20 pages – 16.10.2017) (Romanian version) Pediatric Gastroesophageal Reflux Disease (PGERD) – medical studies versus personal experience, mini-synthesis of diagnosis and treatment, a selection of potential relevant medical studies. Research Gate preprint. DOI: 10.13140/RG.2.2.30297.01121. URL (Research Gate source). Firstly presented at Sika Medical Symposium (as a lecturer).

[50] Andrei-Lucian Drăgoi (January 30th, 2017). (PHI-E-PI – Version 1.6 – 12 pages – 30.01.2018) A simple recursive geometrical construct method and some properties and occurrences of the Golden Ratio (Phi) in mathematics, physics, chemistry and biology (including human medicine), also related to the transcendentals PI and to Euler's constant e. Research Gate preprint. DOI: 10.13140/RG.2.2.25312.69125. URL (Research Gate source).

[51] Andrei-Lucian Drăgoi (December 2010). (TSA early detection – journal article – December 2010) A proposed „hybrid" screening method for early detection of Romanian children under 4 years old at risk for Autism Spectrum Disorders (ASD) (O metodă „hibridă" de screening propusă pentru detectarea precoce a copiilor sub 4 ani din România aflați la risc pentru dezvoltarea unei tulburări de spectru autist (TSA)). The Romanian Journal of Child and Adolescent Psychiatry ("Revista română de psihiatrie a Copilului și Adolescentului") published by The Romanian Association of The Psychiatry of the Child, Adolescent and Associated Professions ("Asociația Română de Psihiatria Copilului și Adolescentului și Profesii Asociate" [ARPCAPA]), volume 4, no. 3-4, December 2010. URL1a and URL1b; URL2 (Research Gate source);

[52] Andrei Lucian Drăgoi (June 2010). The potential contribution of pediatricians and primary care (family) physicians in child maltreatment prevention: A proposed working algorithm for Romanian pediatricians and family doctors inspired by October 2010 guidelines of American Academy of Pediatrics (AAP). The Romanian Journal of Child and Adolescent Psychiatry ("Revista română de psihiatrie a Copilului și Adolescentului") published by The Romanian Association of The Psychiatry of the Child, Adolescent and Associated Professions ("Asociația Română de Psihiatria Copilului și Adolescentului și Profesii Asociate" [ARPCAPA]), volume 4, no.1-2, June 2010. URL1a and URL1b; URL2 (Research Gate source);

[53] Andrei-Lucian Drăgoi (October 14th, 2019). (QPH - ver. 1.1 - 14.10.2019 - 4 A4 pages) A Quantitative Philosophy of Happiness (QPH) based on some proposed happiness scores, a quantitative version of Pascal's wager and a model of collective approach of Divinity in the Christian definition. Research Gate preprint with DOI: 10.13140/RG.2.2.26517.27367. URL1a (Research Gate main source), URL1b (Academia secondary source). URL1c (Vixra secondary source), URL1d (GSJ secondary source), URL1e (dragoii.com latest variant source).

[54] Andrei-Lucian Drăgoi (July 15th, 2019). (AAP - version 1.0 - 4 pages - 15.07.2019) An anti-abortion philosophy (AAP). Wiki-like Research Gate preprint. DOI: 10.13140/RG.2.2.18129.89440. URL1a (Research Gate source), URL1b (Academia source), URL1c (Vixra source), URL1d (GSJournal source).

[55] Andrei-Lucian Drăgoi (July 16th, 2019). (Movie script - version 16.07.2019 - 8 pages). Puterea unei clipe din viața unui sfânt (Title in English: The power of an instant from a Saint's life). Scenariu literar de film mediu-metraj" *(literary script [in Romanian] for an average duration movie). DOI: 10.13140/RG.2.2.35195.46887. URL1a (Research Gate source), URL1b (Academia source)

[56] Andrei-Lucian Drăgoi (April 13th, 2019). (LFs and gravity – working paper – variant 1.0 – 7 pages – 13.04.2019) Life forms, "hybrid" causality, gravity and hierarchical parallel universes. Research Gate preprint. DOI: 10.13140/RG.2.2.19089.28009. URLs: URL1a

(Research Gate source), <u>URL1b</u> (Academia source), <u>URL1c</u> (Vixra source), <u>URL1d</u> (GSJournal source).

[**57**] <u>Andrei-Lucian Drăgoi (May 19th, 2018)</u>. (DCTM – version 1.0 – 19.05.2018 – 5 pages) **A simple digital consciousness toy model (DCTM) applicable to all multicellular life forms and based on a multi-level competitive hierarchical organization of biological cells in general (including neurons)**. Research Gate preprint. DOI: <u>10.13140/RG.2.2.26902.45125</u>. <u>URL</u> (Research Gate source).

[**58**] <u>Andrei-Lucian Drăgoi (November 7th, 2017)</u>. (PSIP cases – version 1.3 – 7.08.2018 – 19 pages) On some specific cases of PSI phenomena (not proved to be frauds until present) with possible electrogravitational explanations and transdisciplinary implications. Research Gate preprint. DOI: <u>10.13140/RG.2.2.21308.74885</u>. <u>URL1</u> (Research Gate source), <u>URL2</u> (Academia.edu source), <u>URL3</u> (Vixra source), <u>URL4</u> (GSJournal source).

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[**59**] <u>Andrei-Lucian Drăgoi (January 30th, 2017)</u>. (PHI-E-PI – Version 1.6 – 12 pages – 30.01.2018) **A simple recursive geometrical construct method and some properties and occurrences of the Golden Ratio (Phi) in mathematics, physics, chemistry and biology (including human medicine), also related to the transcendentals PI and to Euler's constant e**. Research Gate preprint. DOI: <u>10.13140/RG.2.2.25312.69125</u>. <u>URL</u> (Research Gate source).