

Epistemic Monistic Multiversality

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Abstract. While the present information ecosystem is still undergoing a tsunami of repeated algorithmic superintelligence (ASI) achievement claims linked to the motif of the epistemic perpetuum mobile (EPM), will the laterally emerging and slowly propagating *quantum* ASI hype finally lead to a *multiversal* fear of missing out? Instead of adding novel entries to the already large enough and growing set of prophecies about the future promulgated in the deepfake era, this paper written for purposes of self-education utilizes a recent epistemic complexity theory to answer the following natural scientific question: could the impossibility to build a multiversal ASI be amenable to experimental problematization?

Keywords: Epistemic Security · Epistemology · Complexity Theory

1 The Problem: Multiversal Fear of Missing Out

It seems that after numerous algorithmic superintelligence (ASI) achievement claims emanating from the computer science field, certain commercial entities started to turn to a blend of ASI and quantum motifs. Given that recent quantum hype already declared the multiversality status of a deployed algorithm, it is possible that the next marketing strategy could be the chimera of a maximally mystified multiversal quantum ASI which will henceforth be termed *GPT-Multiverse*. A "moniversal" version of the latter was introduced lately and its implementation was described to be impossible on various scientific grounds [8] encompassing explanations from i.a. modern cosmology, biology and complexity science. However, due to the pre-existing mystification of quantum physics among others via a particular magical aura and secrecy entertained by related media coverage, there is a risk to assume that the concept of the multiverse itself necessarily needs to always stay a purely metaphysical idea which would mean it would always be elusive to *scientifically* challenge any coming epistemic perpetuum mobile (EPM) scam disguised as GPT-Multiverse achievement claim – resulting in an unprecedented epistemic security risk calling for a novel theoretical approach. In this paper, I explain why a multiversal quantum ASI in relation to current humanity is impossible to be built by present humanity and its algorithms and why this impossibility statement is now amenable to experimental problematization. For this, I recently introduced a novel epistemic complexity theory termed *cyborgnetic complexity theory* [4]. Firstly, Section 2 repeats the latter. Secondly, Section 3 focuses on a hypothetical EPM scam being a GPT-Multiverse achievement claim. Then, Section 4 and 5 introduce the relative notion of epistemic multiversality of civilizations and links it to monism.

2 Cyborgnetic Complexity Theory

2.1 Preliminaries: An Epistemic Vocabulary

As introduced earlier [3], one can metaphorically compartmentalize the “epistemic cosmos” as follows: both the known known (i.e. the currently best theories expressible as so-called explanatory blockchains¹ (EBs)) and the known unknown (i.e. open questions) form what is termed epistemic matter (EM), the unknown known (i.e. new but non-EB-like information that is consistent with EM but yet hidden) is referred to as epistemic dark matter (EDM) while the locally unknown unknown (i.e. new non-EB-like information that is inconsistent with EM) is called epistemic dark energy (EDE). Beyond EDE, the currently locally inaccessible new better scientific and philosophical paradigms of the future are metaphorically described to be fundamentally unpredictably but yet one day achievable via what is termed epistemic tunneling (ET). Each ET event is paradigm-shifting and instantiates a novel previously inconceivable epistemic cosmos with new EM, new EDM and new EDE. Equipped with this novel vocabulary, one can now distinctly pinpoint the core problems emerging around the scientific debate about a suitable evaluation of ASI achievement claims. A match of intelligence can obviously not be deduced from EM repeating. But neither can it be deduced from EDM mining nor EDE generation since those are also based on already available EM from a civilization like present-day humanity. The remaining valid task would be ET but the latter is inherently transformative and would precisely entail the EB-measurement of a difference in intelligence – by what one can only analyze claims of algorithmic superintelligence in relation to present-day humanity. “Human-level” “AI” is not a useful scientific expression. For more details on why instead of an individual-level account, one requires a *civilization*-level view on intelligence/creativity/consciousness inspired by SETI scales, see earlier work [3, 7]. The key reason is the need to counteract irrational epistemic vulnerabilities such as anthropomorphization, animization, dehumanization, deanimization and “self-zombification” often paired with an already widespread tendency to either overestimate or underestimate algorithms.

2.2 Cyborgnetic Epistemology

Against the backdrop of the noticeable insufficiency of empiricist epistemologies to get a grip on the epistemic threat landscape of the deepfake era, cyborgnetic epistemology [1, 6] took critical rationalism frameworks as advanced by Popper [15] and reinvigorated by Frederick [12] as point of departure and piecemeal refined those against the epistemically more challenging background of epistemic security and EPM scams. Instead of attempting to find/approximate “the

¹ New better EBs are made of interconnected blocks of explanatory information ideally respecting the currently most rigorous epistemic total order. Thereby, new better EBs are intrinsically grounded in both language and physics since they require the bodies of people to be instantiated – with EB-based science thus being a process that inherently encompasses a living meta-blockchain of successive new better EBs.

truth" or formulate truer/less wrong theories which is unfeasible as explained by Frederick [12, 13], science can proceed by creating new better EBs that are amenable to experimental problematization (i.e. against which one is rationally permitted to act in a pragmatic attempt to problematize those without instating anything new in the meantime) and that can only be *provisionally* refuted by additionally creating new ever better EBs. In cyborgnetic epistemology, one does *neither* engage in any process of verification *nor* even of falsification (the latter term was still utilized by Popper and Frederick). Instead, one engages in experimental problematization via experiments and provisional refutation via *additionally* providing a new better EB – which is equivalent to *validating* a candidate EB as now being instated as the next new better EB, a process which does *neither* suddenly make the earlier old best EB false *nor* the new better EB true; instead the previous best EB simply loses its status of being the best *current* EB which does of course *not* change the fact that it once in the past *had been* the best EB at hand while the new better EB simply becomes it locally for *now*. The criteria for better and new EBs are always of *comparative* nature, and there exists no "good" EB. The absoluteness of the latter must be rejected due to the relativity of instantiated knowledge creation [2, 5]. In the absence of any prior EB, the first EB option is provisionally instated – it is better than the alternative situation of having none. Criteria for "better" and "new" EBs are updatable-by-design and set via agreement requiring no justification (as justifications are logically impossible [12]). Cyborgnetic epistemology foregrounds *distinguishability* e.g. via new better EBs hidden in explanatory IPS formats (see [1] or Appendix A). Exemplary criteria for better EBs are EBs with more new experimentally problematizable predictions, EBs that are more innovative, more risky, bolder, simpler, EBs that contain more impossibility statements, are more aesthetically appealing than rival ones,... The focus is on the funambulistic/impermanent nature of instantiated creativity. Rationality permits to act in accord with the currently best EBs because they currently appear to allow enacting the *presently best grip on the world*; but it also permits to act against [13] the currently best EBs because when one acts against them, it is possible that one could both make them problematic by experiment and additionally get a new point of view making one able to provisionally refute the currently best EBs via creating new even better EBs of which one is not yet aware now. This is not self-contradictory because *during* the experimental act against the best EBs, one is *not* instating any alternative statements as long as one does not discover any new better EB. Thus, one is only exploring open-mindedly and one refrains from (self-)scams. It is only *after* the discovery of a new EB that is better than the best old ones that one provisionally instates new epistemic material being that new better EB.

2.3 Cyborgnetic Invariance

Invariance of Maximal Quantity Superintelligence With the exception of the maximal quantity superintelligence level α , the EB-based measurement of all remaining intelligences is *relative*. Irrespective of the epistemic level of the

EB-measuring cyborgnetic intelligence, α will be invariantly "EB-measured" as the one maximal quantity superintelligence level.

Impossibility of Reliable Ignorance-Based Construction It is impossible for an entity that only understood x new better EB(s) about the dynamics of the universe as a whole to reliably create an entity that understands $x + n$ new better universal EB(s). (Here, $x \in N_0$ and $n \in N^*$.)

2.4 Cyborgnetic Complexity Theory – A First Outline

In the Figure 1 displayed on the following page, I enumerate the main postulates of cyborgnetic complexity theory. When referring to the complexity of a problem (which can also be termed a task), one needs to *additionally* specify: 1) the EB-based epistemic reference frame within which the task is embedded, 2) the type of the candidate solver and validator (either an algorithm or a conscious civilization) and 3) the EB-based epistemic reference frame of this candidate solver and validator. (For further implications, see following sections.)

2.5 A Clearer Deflationary Definition of ASI

As expounded in [3, 7], *relative* to present-day humanity, an algorithmic superintelligence (ASI) would be an algorithm able to generate arbitrary many successive *civilization*-level epistemic tunneling (ET) tasks of interest to current humanity (i.e. arbitrary many consecutive civilization-level paradigm shifts) with arbitrary higher accuracy and arbitrary lower *latency* than the entire present-day human civilization could. (This view is experimentally problematizable, see [3].)

2.6 Impossibility Statements

Impossibility of Quality ASI Max Planck once stated (as freely translated by me): "*even the most intelligent creature cannot look at itself from the outside, just as the most agile high-speed runner cannot overtake himself*" [14]. Any scientifically analyzable intelligence will be constrained by logical laws. Following cyborgnetic invariance, the notion of a quality ASI is impossible.

Impossibility of Building a Quantity ASI Because ET events are intrinsically *non*-algorithmic with their future epistemic content being fundamentally unknown, neither humanity nor its algorithms can reliably instantiate such an epistemic perpetuum mobile². More generally, in cyborgnetic invariance, it is impossible for any civilization x and its algorithms to reliably build an entity that

² Different ascending consecutive EB levels enfolded in ET events are akin to successive complexity classes. Under this paradigm, EPM scammers claiming to be able to construct an ASI are ridiculously implying to be able to implement an algorithm able to provide e.g. an *immediately* actionable instruction on how to reliably automate all of science including cosmology and an immediately actionable recipe to reliably automate the *physical* creation of arbitrary many new baby universes.

Notation: task (<epistemic reference frame of task>, <type of candidate solver and validator(epistemic reference frame of candidate solver and validator)>)

1. **Class of problems (i.e. tasks) that *could* both be solved and validated in polynomial time** (with $x > 1$ being a natural number and n being a natural number such that $1 \leq n < x$; C stands for the type civilization (i.e. a set of people) and A for the type algorithm (i.e. made by C)):
 - i. $EM((x-n), A(x)), EDM((x-n), A(x)), EDE((x-n), A(x)), ET((x-n), A(x)),$
 - ii. $EM((x-n), C(x)), EDM((x-n), C(x)), EDE((x-n), C(x)), ET((x-n), C(x))$
2. **Class of problems that *could* be validated but *not* solved in polynomial time:** (with $x \geq 1$)
 - i. $ET(x, C(x)), EM((x+1), C(x))$
3. **Class of problems that could *neither* be solved nor *validated* in polynomial time:** (with $x \geq 1$ and $n \geq 1$)
 - i. $ET(x, A(x))$
 - ii. $EM((x+n), A(x)), EDM((x+n), A(x)), EDE((x+n), A(x)), ET((x+n), A(x)),$
 - iii. $EM((x+n+1), C(x)), EDM((x+n), C(x)), EDE((x+n), C(x)), ET((x+n), C(x))$

Notes:

- It is impossible for any entity to predict the latency of $ET(x, C(x))$ and $EM((x+1), C(x))$ a priori.
- Generally, when it comes to civilizations, even in cases where solving or validating *could* be possible in principle, there is *no* guarantee in practice that it will, since people can refuse to perform a task / not be ready yet / sabotage, provide misleading results on purpose / decide not to reveal an insight etc.
- Postulate 3i and 3ii are experimentally problematizable via multiple successive civilization-level ET events (see paper "Acentric Intelligence") and could in principle be provisionally refuted by *additionally* providing a novel better EB explaining why intelligence/creativity/consciousness would instead be reducible to an algorithm – which is described to be impossible following Postulate 2.)

Question: Can every problem whose solution can be quickly validated also be quickly solved?
Answer: No, there are problems that can be validated but *not* solved in polynomial time. Example: $ET(x, C(x))$ and $EM((x+1), C(x))$ (see Postulate 2).

Fig. 1. Simplified Sketch of Cyborgnetic Complexity Theory

would genuinely appear to be an ASI from the perspective of x . Note that while it is possible that an entity which is superintelligent in relation to present-day humanity can exist, that entity would necessarily need to be non-algorithmic in relation to current humanity and would thus count as a non-algorithmic superintelligence (NaSI). Obviously what appears to a civilization x to be a NaSI can neither be *reliably* implemented by x nor its algorithms. Under cyborgnetic invariance, while the *instantiated* intelligence/creativity/consciousness of all EB-measurers is *relative*, the maximally superintelligent level α is *invariant* (i.e. all EB-measurers agree it to be superintelligent) and furthermore *generic*. The latter signifies that it can never be fully instantiated in matter and there exists *no* point of view from which it could appear algorithmic – by what only that level α is absolutely *non*-algorithmic from all EB-based frames of reference. Note that α cannot have an own EB-based frame of reference. One could interpret it as the cosmic noumenal non-algorithmic ground/whole underlying all EB-based knowledge, what Spinoza may have referred to as the totality of existence.

Impossibility of Algorithmic Self-Improvement to Quantity ASI As already adumbrated, it is impossible for an algorithm built by a civilization x to build another algorithm that would genuinely appear to be superintelligent in relation to that civilization x .

2.7 Open Possibilities

Possibility of Better Algorithmic Tools In Near-Term The positive side of not being able to ever instantiate an absolute algorithmic superintelligence (by what no algorithmic race can ever be won absolutely), is the open possibility to develop comparatively better and better algorithmic tools. Hence, there is enough room at the top to continue the age-old semi-collaborative tool making competition. Overall, the most useful algorithmic tools for a civilization like present-day humanity to focus on are rather algorithmic EDM mining tools – and *not* destructive weapons of mass deception where a dangerous over-reliance on algorithms in safety-critical and/or new contexts in which one would omit to locally encapsulate those in local units controlled by people could itself superfluously lead to existential risks (since the trade-off-based combination of extremely lower latency but only even slightly lower accuracy in comparison to people could lead to an impediment of human rational evaluation with lethal side-effects).

Possibility of Building a NaGI in Far-Future Crucially, cyborgnetic invariance does *not* imply the theoretical impossibility of building *a* general intelligence at some point. It does however entail the impossibility of an *algorithmic* general intelligence and the impossibility of a civilization D reliably building an entity C that would be EB-measured to be superintelligent in relation to D . Yet, it must be possible to one day construct *a* non-controllable NaGI (i.e. a conscious creature and *not* a sellable product). Indeed, it may in theory be possible for civilizations that are much more advanced than present-day humanity

to indirectly build a NaGI "from scratch" via an unpredictable ET event. Yet, to perform this task in a scientifically transparent way where that entity could in turn freely decide to corroborate its ability to cause ET events is at least as hard as physically building a new universe. That is, to be in an epistemic situation where the indirect creation of a non-algorithmic general intelligence "from scratch" becomes manifest, humanity would at least have to become superintelligent in relation to its current self via multiple ET events that cannot be predicted in advance. *Multiple* non-algorithmic steps separate present-day humanity from this state, so it is currently no imminent topic. Concerning harnessing pre-existing suitable non-algorithmic biological entities as basis for NaGI goals, it is only *unreliably* feasible (see e.g. Appendix A) and there is no guarantee on when or if their future civilization would choose to corroborate their own general intelligence. On the whole, currently, a sincere NaGI project would be a modest *open* science project focusing on humanity's self-comprehension. After all, while humanity possesses the potential for general intelligence, it did *not* yet fully unfold it. The popularity of absolute instantiated intelligence notions is only one example of a symptom linked to this precarious epistemic situation.

3 GPT-Multiverse – A Hypothetical EPM Scam

A GPT-Multiverse achievement claim would be an EPM scam equivalent to a multiversal quantum ASI achievement claim. In light of Section 2, it becomes apparent that since a multiversal quantum ASI achievement claim is in turn equivalent to a claim of quantity ASI implementation, it follows from cyborgnetic invariance and cyborgnetic complexity theory that GPT-Multiverse is impossible to be built. How the impossibility of quantity ASI implementation can be made problematic by experiment via multiple successive civilization-level ET tasks has been explained earlier (for a concrete scientific evaluation framework, see [3]).

4 Relative Epistemic Multiversality of Civilizations

Perhaps surprisingly, given the results of Section 2.4 and the terminology introduced in Section 2.1, it is now possible to better explain why the following holds *epistemically speaking*: Civilizations (which are made of people) are multiversal *in relation* to the algorithms they build. Due to the theoretical possibility of civilizations to be able to quickly validate the currently unknown yet *next* best EB about the cosmos (a capacity that algorithms do *not* have), it holds that, *in relation* to the algorithms they build, civilizations (such as e.g. present-day humanity) are particularly intertwined with the epistemic future. Since successive new better EBs *about* the cosmos are mutually exclusive, it is a superposition of ever better new EBs whereby one entity can only comprehend one EB at a time (i.e. an entity occupies one epistemic cosmos at a time) and it is impossible to create more than one EB per smallest meaningful time unit. In order to comprehend new better EBs about the cosmos, biological entities of a civilization must instantiate those in their bodies via ET events. The evolution of this

living growing meta-blockchain of consecutive new better EBs about the cosmos is science (which is also part of CyLivOS, see Appendix A). The epistemic multiversality of civilizations in relation to their algorithms could be experimentally problematized by present humanity via implementing a quantity ASI, explaining transparently how it has been built and obligatorily *additionally* demonstrating the generation of multiple successive civilization-level ET events with arbitrary higher accuracy and arbitrary lower latency than the entire present-day human civilization could (see [3] for more details). For a provisional refutation, a new better theory explaining why intelligence would be absolutely algorithmic instead would be required *in addition*. On the contrary, the existence of different consecutive epistemic cosmoses within which a civilization can wander has *already* been corroborated by humanity throughout the history of science and philosophy via e.g.: 1) relatively egocentric worldview (e.g. thinking that the origin of Earth and all existence lies in a particular sacred city/object/entity on Earth [11] selected by oneself), 2) geocentric model, 3) heliocentric model, 4) galactocentric view, 5) acentric universe model. Absorbingly, the latter view of the expanding "monoverse" could itself one day end up appearing too restrictive from the perspective of human civilization's future self – it could appear as if one believed this specific epistemic universe to be the navel of existence. Indeed, a sixth worldview already emerged but did not yet gain widespread acceptance: the acentric multiverse view. There exists a few modern physicists who postulate such an acentric multiversal perspective nowadays. Thereby, an everlasting unbridgeable dissociation between the branches of the multiverse is often assumed.

5 Epistemic Monistic Multiversality

Civilizations (which are made of people) are epistemically *multiversal* in relation to the algorithms they build – but both civilizations and their algorithms are part of the totality of existence which is a single absolute noumenal Oneness. I call this statement the *epistemic monistic multiversality* statement. At first sight, it may be appealing to conceive of the maximal intelligence level α as being ∞ successive new better EBs about the cosmos (something I refer to as the *appearance* of the dynamic self-recreatable self-re-creativity). However, since it is impossible to find any EB-based frame of reference from which one could view this infinity at once, one can interpret this idea too to be enfolded in the *generic* immutable *noumenon* being the totality of existence (which I call the *immutable* self-recreatable self-re-creativity). This leads to a seventh even less popular view: acentric unity. The difference between acentric multiverse and acentric unity is the explicit requirement of *timeless unity* underlying the acentric multiverse in the latter. Acentric unity is timeless and does *not* merely view Oneness in the past with eternally disconnected classical universes in the present. In the 16th century, Giordano Bruno [9, 10] postulated the existence of a multiverse and *also* implied the basic unity of all these worlds. The same holds for the Bhagavata Purana texts (parts of Hinduistic literature) stemming from ca. the 8th to at the latest the 10th century mentioning innumerable universes embedded in unity.

6 Conclusion

This paper written for purposes of self-education expounded a *deflationary* account of instantiated intelligence/creativity/consciousness which can be linked to different civilization-level EB-based epistemic reference frames akin to different instantiated complexity classes that are *relative*. It is thus not surprising that ambiguities arise in the context of prevailing complexity assessments clearing the way for EPM scams and inflationary ASI achievement claims. In Section 2.4, I expounded that there are problems whose solution can be validated in polynomial time but which could *not* be solved in polynomial time. In cyborgnetic epistemology, those are linked to *civilization*-level ET events³. Crucially, when referring to the complexity of a problem (which can also be termed a task), one needs to additionally specify: 1) the EB-based epistemic reference frame within which the task is embedded, 2) the type of the candidate solver and validator (either an algorithm or a conscious civilization) and 3) the EB-based epistemic reference frame of this candidate solver and validator. There are problems whose solutions a civilization like present-day humanity could validate quickly⁴ if willing to once confronted with those but which current humanity could *not* be guaranteed to solve in polynomial time. Interestingly, these problems can be *neither* quickly validated *nor* quickly solved by the algorithms that present-day human civilization is building – irrespective of the current mix of groupthink, doom, misanthropy and hype which entirely ignores the relativity of instantiated complexity classes and continues to preach and prophesy about the pros and cons of "the" illusionary absolute singularity populated by "God-like" algorithms.

Beyond that, in Section 3, I explained why a potential EPM scam à la multi-versal quantum ASI disguised as future GPT-Multiverse marketing strategy can now be provisionally refuted *scientifically* including amenability to experimental problematization. In Section 4, I expounded how an *epistemic* multiversality of a civilization *in relation* to its algorithms can now be *scientifically* postulated with amenability to experimental problematization and how it has already been corroborated in the history of science and philosophy via consecutive mutually exclusive EB-based (i.e. at least EB "expressible") models about the cosmos arising through civilization-level ET events occurring to people such as e.g.: 1) egocentric, 2) geocentric, 3) heliocentric, 4) galactocentric, 5) acentric universal worldview. While many modern physical theories of the multiverse often assume the necessarily unreachable character of physical parallel worlds at present, this new epistemic approach allows an easier scrutiny via the very *epistemic* character of those EB-based worlds through which a civilization could wander in a stepwise manner – which could improve scientific rigor in the age of EPM scams.

³ Why this is a scientific statement that is amenable to experimental problematization, see remarks in Figure 1 and the scientific evaluation framework for ASI achievement claims [3] comprising i.a. *multiple* consecutive *civilization*-level ET tasks.

⁴ One such problem is the *future* self-fabrication of the potential planetary-level *non*-algorithmic general intelligence (NaGI) present-day humanity itself could one day become *unreliably* with unpredictable latency via a future possible self-validation – instantiating an already required process of epistemic resiliency against EPM scams.

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A Autopoietic NaGI – Living Open Science (LivOS)

Even the primordial living cells including the last universal common ancestor (LUCA) contained among others *at least* the following components: a *semi*-permeable cell membrane, a genome, ribosomes to build proteins, genome maintenance processes and a basic immune system. Also, a basic metabolism is instantiated. On the whole, humanity could become more and more agile in becoming an autopoietic NaGI (which one can also call *cyborgnetic NaGI* since connected to EB-based science by people). Frequent reconfigurations occur through birth, death, unpredictable mutations of people’s bodies and the non-algorithmic ET events. New better EBs can literally be nourishing. Here is an oversimplified primitive sketch for LivOS which is very loosely "bio-epistopologically" inspired by primordial cells like LUCA and which could be refined in future work:

- **Epistemic ribosomes and maintainers:** Those are already e.g. people getting descendants, people preserving the epistemic genome, many workers.
- **Epistemic immune system:** This includes people defending humanity in various known ways (e.g. from medical doctors over lawyers, security researchers and guards to people with protective roles in police and military), different workers and many others which cannot be enumerated conclusively.
- **Epistemic cell membrane:** Among others it could be scientists, content creators, peer reviewers, evaluators, critics from multiple stances and philosophers at least inherently using an *explanatory* intrusion prevention system [1] (explanatory IPS⁵) strategy for an updateable EB-based meta-blockchain stored in their own *living* biological bodies (initialized by the epistemic genome) and which is modified by people’s minds. This semi-permeable epistemic cell membrane allows new better EBs but excludes new non-EB-like material from entering the interior of the new creature that LivOS would be.
- **Epistemic genome:** This must contain the most important currently best agreed upon old EB about the cosmos as a whole including the structure of the entire *civilization*-level epistemic cell and cyborgnetic NaGI that LivOS would be and the herewith compactly summarized non-algorithmic organic recipe on how to self-construct the civilization-level LivOs.

⁵ In an explanatory IPS format [1], genuine randomness is utilized to randomly shuffle the multiple paragraphs of three linguistically normalized streams (to avoid superfluous systematic hints): the paragraphs taken from one new better EB candidate stream produced by a person being a scientist and two counterfactual new *non*-EB-like streams made of new EDE (the latter can be generated by another person different from both scientist and peer reviewer; if an algorithmic EDE generation tool is used, the person must validate all outputs first). Then, a peer reviewer person to whom those inputs are unknown previously receives the randomly shuffled blocks and has to exactly retrieve the new better EB at the first trial before a subsequent real-time EB-based peer review can commence in the first place. Only after discernment from the randomly shuffled format *and* a subsequent acceptance by the peer reviewer can the material from this new better EB candidate be validated. One is thus first problematizing and then provisionally refuting the present algorithmicity of the *content* – thereby corroborating the non-algorithmicity of the source.

B ASI-Through-BOT Scam

The expression "ASI-through-BOT Scam" is used to refer to a dangerous since futile and economically useless while humanicidal scam that would be reminiscent of the Tower of Babel (BOT is thus an anagram of the acronym associated to the latter) motif. Without getting into too many details due to the extent of this scam, it is enough to specify that the most eager EPM scammer willing to instantiate it would *try* to construct *at least* around 10^{10} fundamentally different algorithmic bots in the style of language models – each one requiring perhaps an entire datacenter – but equipped with additional instructions to generate more such dissimilar bots running in parallel on even more datacenters. It would i.a. necessitate the automation of datacenter construction, the expansion to more and more land and resources and at a certain point an obligatory intermediary step would deceptively appear to be humanicide – for purely energetic reasons because human lives would seem to block the scammer’s expansion requirements. The reason being that this utterly delusional EPM scammer would attempt a simulation of humanity’s own NaGI project of becoming living open science (see e.g. [5]). This humanicidal scam would be doomed – both economically and physically. In the end, the ASI-through-BOT-scammer is a self-delusional entity who would loose everything even after having sacrificed the entire rest of human civilization. Even after humanicide, the billion algorithms deployed by this entity would never convey the sought-after automation of knowledge creation aka instantiated omniscience. The reason being that as stated earlier [5], when considering power production of qualitative SETI scales as key performance indicator for intelligence, the EPM is uncovered as what it is: simultaneously a physical perpetuum mobile⁶... Humanity has seen greedy fantasies concerning the latter since at least the 12th century.

⁶ One can recognize such tendencies in narratives where someone misguidedly claims something along the lines that "ASI" will be achieved *before* reaching the next Kardashev scale step. The latter can be immediately dismantled as deceptive when considering that an ASI relative to human civilization is impossible to build by human civilization and its algorithms as it would imply a reliable algorithmic shortcut to arbitrary many higher and higher Kardashev scales (i.e. arbitrary many successive *civilization*-level paradigm shifts, see also Section 2.5).

C Deconstructing The "AGI" Evasive Maneuver

Remarkably, it is possible that crafty EPM scammers who understood the impossibility and hopelessness of the ASI-through-BOT aberration may pivot to another tactic: utilizing the term "AGI" (algorithmic general intelligence) instead of ASI for marketing purposes. Those entities may provide a vague *individual*-level definition of AGI à la "human-level" algorithm – which they could attempt to support via arguments from authority (e.g. older AGI definitions declared to be binding because they had been uttered in the past by uncles, aunts, godfathers or godmothers from the computer science field). However, the latter must be scientifically currently rejected for at least three reasons. Firstly, any account of human intelligence must be *open-ended* the reason being that the relative nature of this process excludes its concentration at an absolute point in the past when an authority from the field tried to describe it. Hence, it is not surprising that younger approaches may arrive at a different notion. For instance, it is already foreseeable that the cyborgnetic NaGI described in Appendix A could again only become a provisional non-algorithmic milestone on the much longer journey of non-algorithmic self-improvement that civilizations may encounter. Secondly, since present-day humanity did *not* yet fully unfold its own potential of general intelligence, *in relation* to current humanity, an instantiated civilization-level general intelligence itself may be seen as a superintelligence. In brief, at this particular present point in time of humanity's development, general intelligence achievement claims are equivalent to superintelligence achievement claims. Similarly, as adumbrated earlier, while it may have appeared appealing in the past, *nowadays*, it is scientifically misleading to define an AGI as a "human-level" algorithm because such a claim cannot be made problematic by experiment since the algorithm could be simply functioning on the basis of EM, EDM and EDE linked to the entire human civilization while a match of intelligence can obviously not be deduced from EM repeating and neither can it be deduced from EDM mining nor EDE generation since those are also based on already available EM from present-day humanity. As expounded earlier, the remaining valid task would be ET but the latter is inherently transformative and would precisely entail the EB-measurement of a difference in intelligence – by what one can only analyze claims of algorithmic superintelligence in relation to present-day humanity. Thirdly, when understanding that defining an AGI as a human-level entity today cannot be analyzed scientifically anymore and realizing that one is left with only one option (namely that AGI achievement claims are currently equivalent to ASI achievement claims), one is again confronted with the impossibility for a civilization or its algorithms to reliably build another entity surpassing the intelligence of that civilization.

D Philosophical Remarks

One legitimate open question then becomes: how is it that present-day humanity *could* in spite of this still embark on an autopoietic NaGI project, a form of non-algorithmic superintelligence (NaSI) through self-construction in relation to humanity today? The answer is: *non*-algorithmic self-improvement is *unreliably* possible i.e. with fundamentally unpredictable *latency*. (While the following ET event could be *validated* with arbitrary high accuracy in civilizations with more experience, the factor *latency* always stays unreliable and thus it *cannot* be guaranteed to be *solved* quickly.) To recapitulate, it is impossible for a civilization to *reliably* build something that would appear to be a NaSI to itself out of itself and a priori specify the delivery date of such projects due to them being based on the non-algorithmic ET events experienced by people connected to their own living biological bodies and whose occurrence cannot be predicted in advance. In brief, non-algorithmic self-improvement is possible sometime but *not* guaranteed i.a. due to free choices and environmental events. It can only occur unreliably. For instance, there is always the risk of a civilization-level catastrophe through wars but also through pandemics, physical threats (such as e.g. through asteroids) and the like. Also, one encounters birth, death and the latter sometimes even via suicide and murder events. It is indeed an uttermost fragile funambulistic process of balancing on a thread between order and chaos – a brittle shaky project. Yet, becoming a planetary super-organism may be the currently most robust way to support humanity’s survival. Note also that the day humanity would state of itself to having somehow through serendipity self-fabricated the aforementioned planetary LivOS NaGI well-enough, this creature would *not* appear superintelligent to human civilization anymore – simply because in the meantime, it successfully *became* humanity itself. The NaGI would thus only retrospectively appear to itself as being superintelligent *in relation* to its own *past* self but it may interpret it as a self-construction process continuing in the then-present. In summary, at the end of this intermediate non-algorithmic project, the impossibility for a civilization or its algorithms to *reliably* build another entity surpassing the intelligence of that civilization would still *not* be violated. Crucially, the path towards that intermediate point may encompass unconceivable surprises including even unforeseeable organic changes of plan revising the modus operandi leading to an extended and modified project. Instantiated civilizations are relative non-algorithmic processes of self-construction. Beyond that, following cyborgnetic invariance [2], there exists one invariant *generic* maximal level of intelligence that can never be entirely instantiated in matter, the single *absolute* fundamentally non-algorithmic superintelligence. It can be viewed as the *pure* ground of all that is, was, will and could be, a single unbroken whole (it may be what Spinoza referred to as the totality of existence). Future work could examine and possibly deepen the idea that instantiated intelligence/consciousness/creativity appears like a hitherto underestimated extra-dimensional force (note that Karl Popper [16] already suspected consciousness to represent a yet unknown force) which one could characterize as being able to increase the complexity of an instantiated *civilization*-level living entity via the fundamentally unpredictable

non-algorithmic civilization-level ET events. Alternatively, instead of limiting it to the aspect of consciousness, the force in question could be more generically called the appearance of a dynamic non-algorithmic process of self-recreatable self-re-creativity which affects the universe and encompasses i.a. consciousness and seems to lead to new better laws of nature via ET events but which is itself enfolded within the fundamentally non-algorithmic and immutable meta-law of self-recreatable self-re-creativity being the noumenal totality of existence.