

# Towards a Big Historical Understanding of the Symbolic-Imaginary

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ABSTRACT: Big history is the most ambitious theoretical study today because it attempts to ground a grand unified narrative (story/symbolic) within a total vision of reality (picture/imaginary). However, the dominant form of contemporary big historical discourse remains committed to scientific narratives (stories/symbolism) and visions (pictures/imaginary) presented within the foundation physical naturalist universality. In this paper it is argued that this approach prevents big history from developing as a field capable of generating a novel research program and reflexively incorporating the symbolic-imaginary domain of observation into big historical theory itself. Consequently, in this analysis big history theory is first deconstructed in relation to its grounding in first-order physical naturalist complexity science and cosmic evolutionary maps (proposed ontological formula:  $\emptyset(U_1^+)\infty$ ). Secondly, this analysis proposes the first steps towards a big historical reconstruction project that takes on the structure of an inversion of standard theory. This is achieved by fundamentally grounding analysis in the phenomenal perception of subjective multiplicity in-itself overdetermined by big historical totalizing narrative structures and visionary frames that move within a higher-order domain of meaningful virtual spaces. The truth value of these totalizing narrative structures and visionary frames is not legitimized by their correlation (or lack of correlation) with physical reality but rather with their ability to structure the motion of subjectivity in relation to actual social world transformations in the historical process itself. From this analysis greater emphasis is placed on the “general humanness” of big history related to science, religion, politics, art, and other communities as well as the fictional effectiveness of big histories in relationship to the historical and future becoming of humanity (proposed ontological formula:  $\infty(U_1^-)\emptyset$ ).

Big history is the most ambitious theoretical study today. In an intellectual world dominated by string theory, artificial intelligence, cognitive science, genetic engineering, and so forth, that may seem like an impossibly ridiculous statement. How can big history be more ambitious than subjects focused on understanding the most remote scales of physical reality, creating technological intelligences, reverse engineering the human brain, or programming living matter? The reason is simple: because it includes all of these intellectual activities as “part-objects” subsumed within the universal totality of its (w)holistic narrative and vision. The main question for the future study of big history is whether the spontaneous impulse of big historical study towards universal symbolic (narrative) and imaginary (vision) totality can mature towards producing revolutionary theory worthy of its object: the (w)hole of reality. In other words, if every study is a “part-object” in relation to the study of big history, does this “holistic project” integrating world knowledge lead to anything seriously new in terms of fundamental theory about reality? Or is it doomed to become (yet another) empty repetition of the whole incapable of producing its own positive content as do “reductionist” studies from physics to sociology.

Thus far, the goal of big historian theorists is to open up a new symbolic-imaginary (narrative-visionary) space for the modern “global citizen” to ground a creation/origin story that is properly correlated to the scale and grandeur of our known physical reality (i.e. the human subject as global citizen, and the cosmic object as the subject’s big historical physical totality). As founding big history theorist David Christian articulates in the opening of *Maps of Time: An Introduction to Big History* (2004)<sup>1</sup> the study ultimately aims to conceive a “grand unified story” capable of reclaiming the human desire for a total narrative and vision of reality, a desire that has been left unsatisfied by the structure of 20th century knowledge, which, it is well-known, was characterized by hyper-fragmentation into specialized sub-fields that lost sight of the “larger picture”. In other words, big history at its most fundamental ground, desires to construct a “symbolic-imaginary” (narrative-vision) capable of grasping the universally “real” other of subjectivity as the cosmic object of physical naturalism.

From the inception of this attempt to construct a “grand unified story” the default frame has structured a tale from “Big Bang to Global Civilization”.<sup>2</sup> ‘In the beginning...’ there was nothing (an empty substanceless void teeming with virtual particles),<sup>3</sup> and from this paradoxical quantum nothingness, there emerged not just a positive substantial something, but everything we can observe and detect with our technological extensions, from the elementary particles of the tiniest subatomic scales to the cosmic web of the largest super-galactic scales (i.e. big history be-

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<sup>1</sup> Christian, D. 2004. *Maps of Time: An Introduction to Big History*. Berkeley: University of California Press. p. 4., and also personal communication, July 14 2016.

<sup>2</sup> Rodrigue, B., Grinin, L., & Korotayev, A. (Eds.). 2012. *From Big Bang to Global Civilization: a big history anthology*. Oakland: University of California Press.

<sup>3</sup> As in standard popular accounts of big bang cosmology, see: Lawrence, K. 2012. *A Universe from Nothing: Why There Is Something Rather than Nothing*. Free Press.

tween nothing and everything).<sup>4</sup> In the big historical narrative and vision what connects these unimaginably inhuman scales of subatomic elementary particles and super-galactic cosmic web space is the progressive evolution of complex structure in our local region (the materialist hierarchy of interconnected forms) starting with the big bang singularity and culminating in modern sociotechnological civilization. Thus, in this story what frames a unification of the “micro-macro” worlds of the physical universe (material forms) to the “middle” world of the human mental universe (symbolic-imaginary forms) and everything in between is the “evolution of complexity” in terms of diverse parts (elements) capable of connecting (relating) in higher coherent wholes. These wholes in turn exhibit structural forms with novel properties that cannot be reduced to their constituent parts, i.e. from macromolecular chemical communities that cannot be reduced to elementary particle physics, to the technological global human community which cannot be reduced to evolutionary biology.<sup>5</sup>

Consequently, big history has adopted holistic scientific practices capable of “grabbing the whole” and has thus consistently and pragmatically aligned its symbolic-imaginary impulse for the real with a theoretical methodology that co-maps with contemporary complexity science and cosmic evolution. In terms of concrete theoretical interpretation this has resulted in a foundational vision (“total picture”) of progressively evolving complex forms and a narrative (“grand unified story”) articulating the notion that our universe undergoes fundamental transformations described as “complexity thresholds”.<sup>6</sup> Complexity thresholds occur when a form of structural organization emerges and stabilizes a novel regime of phenomena (a new level of the materialist hierarchy). Dominant descriptions of these complexity transitions have been grounded in either an energetic base (universal complexity as best understood in thermodynamic terms),<sup>7</sup> or with an informational base (universal complexity as best understood in algorithmic terms).<sup>8</sup> The most common demarcation of these information-energy complexity thresholds into a universal “big history” narrative includes the following fundamental distinctions:<sup>9</sup>

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<sup>4</sup> Christian, D., Brown, C. & Benjamin, C. 2011. *Big History: Between Nothing and Everything*. McGill-Hill Education.

<sup>5</sup> Aunger, R. 2007. Major transitions in ‘big history’. *Technological Forecasting and Social Change*. 74(8): 1137-1163.

<sup>6</sup> Christian, D. 2008. *Big History: The Big Bang, Life on Earth, and the Rise of Humanity*. Chantilly, VA: The Teaching Company.

<sup>7</sup> Spier, F. 2005. How big history works: Energy flows and the rise and demise of complexity. *Social Evolution & History*, 4: 87-135.

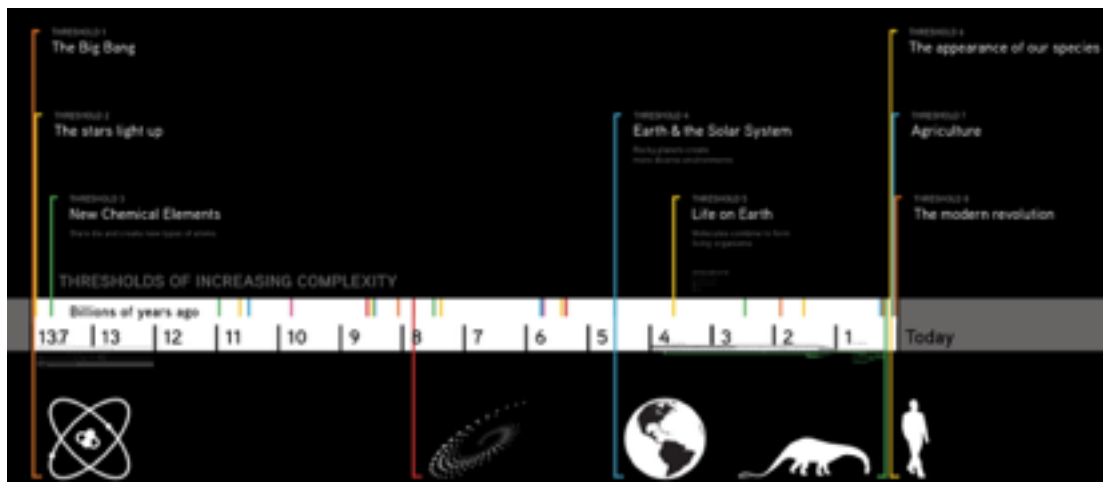
<sup>8</sup> Baker, D. 2013. 10500. The Darwinian Algorithm and a Possible Candidate for a ‘Unifying Theme’ of Big History. In: *Evolution: Development within Big History, Evolutionary and World-System Paradigms*. Grinin, L. & Korotayev, A.V. (Eds). p. 235-248.

<sup>9</sup> Christian, D., Brown, C. & Benjamin, C. 2011. *Big History: Between Nothing and Everything*. McGill-Hill Education.

- 1) origin of the universe,
- 2) the first stars and galaxies,
- 3) formation of chemical elements,
- 4) formation of the Earth and solar system,
- 5) emergence of life,
- 6) emergence of humanity,
- 7) transition to agriculture,
- 8) modern industrial revolution

From this framework some big historians have started to speculate on how this deep historical theoretical approach can help us understand the complex dynamics of contemporary civilization in regards to predicting the future of our informational and energetic capacities and organization.<sup>10</sup> Such speculations are being articulated with notions of an immanent “threshold 9” characterized by various utopian and dystopian structural possibilities depending on human choices/decision-making.<sup>11</sup>

**Figure 2: Complexity Thresholds from Big Bang to Global Civilization**



Source: Christian, D. 2011. The history of our world in 18 minutes. [TED.com](https://www.ted.com/talks/david_christian_the_history_of_our_world_in_18_minutes).

In this analysis we can derive the basic ontological structure of the study of big history itself as a subject-object operation. On the one hand (the objective hand) we have the one cosmic object emerging from an empty void as the totality of physical reality represented in “8 complexity thresholds” from Big Bang to Global Civilization. On the other hand (the subjective

<sup>10</sup> Spier, F. 2010. *Big History and the Future of Humanity*. Jon Wiley & Sons.

<sup>11</sup> see: Voros, J. 2013. Profiling ‘Threshold 9’: Using Big History as a Framework for Thinking about the Contours of the Coming Global Future. In: *Evolution: Development within Big History, Evolutionary and World-System Paradigms*. Grinin, L. & Korotayev, A.V. (Eds). p. 119-142, or also: Simon, R.B. et al. 2015. Threshold 9? Teaching Possible Futures. In: *Teaching Big History*. Simon, R.B., Behmand, M., & Burke, T. (Eds). p. 232-260.

hand) we have the open-ended multiplicity of mental/subjective interpretation of that one cosmic object in symbolic-imaginary “narrative visions” which can be theoretically grounded in a cosmic evolutionary paradigm emphasizing the increase and consequences of general complexity. Thus, the fundamental symbolic architecture of contemporary big history (i.e. the “general significations”) are framed around the “main/master signifier” of “evolution” or “complexity” or the “evolution of complexity”. Indeed, this structure fits the general theoretical scheme offered by big history pioneer Fred Spier when he stated that the study of big history is “entirely built on empirical observations and scholarly interpretation”.<sup>12</sup> From this we can derive a simple formula describing the basic ontological coordinates of contemporary big history:<sup>13</sup>

$$\text{(Big history)} = \emptyset(U_1^+)_{\infty}$$

In the symbolic-imaginary multiplicity of subjective interpretations the one physical real (as a singular universality) is thus observed (within an a priori narrative frame overdetermining perception) to have a very particular universal historical character culminating in the existence of a human species (at least in our local region) that plays a fundamental role in the transition towards a higher level of complexity (some yet-to-be-determined “threshold 9”). Furthermore, it is interesting and important to note that this basic structure does not just appear in big history proper, but in various other subjective interpretations outside of big historical analysis, from Carl Sagan’s “cosmic calendar”<sup>14</sup> (influenced by astrophysics and cosmology) to Ray Kurzweil’s “law of accelerating returns”<sup>15</sup> (influenced by computer and complexity science) among many others. Thus, although the structural details and placements of the symbolic-imaginary “complexity thresholds” (i.e. Big Bang to Global Civilization) will vary within the totality of the one physical real composed of positive substantial content depending on subjective interpretation, the general schema universally consists of a cosmic evolutionary material hierarchy that conserves distinctions at lower levels and progressively produces new distinctions at higher levels (with explicit speculation that human processes will eventually produce a yet-to-be-positively-determined — currently inexistent — higher emergent level).

The fundamental ontological question now becomes: is this a sufficient subject-object framework for the maturation of big historical theory? Does this framework allow big history theory to approach the implications of the human future both practically and theoretically at the level of the subject (the “global citizen”)? This was the essence of what I was trying to explore

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<sup>12</sup> Spier, F. 2016. Opening Keynote by Johan Gouldsblom and Fred Spier. Third IBHA Conference: Building Big History: Research and Teaching. (14-17 July 2016, University of Amsterdam). <https://www.youtube.com/watch?v=WZBeJQD3NJQ> (accessed January 24, 2017).

<sup>13</sup> Where  $[\emptyset]$  should be read as the primordial void,  $[U_1^+]$  should be read as all known physical object phenomena (positivist), and  $[\infty]$  should be read as open-ended mental/subjective multiplicity that both emerges from the physical universe and starts to interpret the physical universe via symbolic-imaginary pathways.

<sup>14</sup> Sagan, C. 1977. *The Dragon's of Eden*. New York: Ballantine.

<sup>15</sup> Kurzweil, R. 2005. *The Singularity Is Near*. Penguin.

in my own recent subjective interpretation (symbolic-imaginary difference/repetition) of big history.<sup>16</sup> In this article I attempt to draw out the general evolutionary consequences of rising complexity in informational-energetic terms from big bang to the present (which was a continuation of previous work that may be referred to as a “little big history” focused on rising complexity in informational-energetic terms as it relates to the human beings specifically).<sup>17</sup> I then attempted to situate and extrapolate the patterns from this general evolutionary trend of complexification into contemporary technological singularity theory vis-a-vis the posited future development of nanotechnology, genetic engineering, and artificial intelligence/robotics, and so forth (a theory which is, like big history, also fundamentally legitimized by cosmic evolution and complexity science).<sup>18</sup>

From this big historical “deep future analysis” I concluded that there is a basic “human futures structure” (assuming no existential crisis/catastrophe) that can be presupposed within a “post-biological/technocultural mode of evolution” via the process of “atechnogenesis” (structurally analogous to “abiogenesis”) whereby biocultural life forms (in this local big historical case: human beings) give rise to an “ecology” of “living/conscious” technological substrates structured by symbolic codes/language (and thus divorced from biological substrate).<sup>19</sup> Furthermore, I posited that this futures ecology of technocultural life could potentially be aimed in a motion towards an “expansion” or a “transcension” spacetime direction/coordinate. In this frame the expansion signals the spatiotemporal explosion of future complexity (as “technocultural” life) into the one physical real on the macro-scale (i.e. the exploration of planets, stars, and galaxies in our local medium) (as has been explored),<sup>20</sup> and transcension signals the spatiotemporal explosion of future complexity (as technocultural life) into as yet unknown dimensions of the micro-scale (i.e. sub-atomic structures) (as has also been explored).<sup>21</sup>

However, it is from this subjective exercise and analysis in exploring big historical significance structure that I have developed a belief that the current big historical framework grounded in complexity science and cosmic evolution is insufficient. To be precise, I think the current

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<sup>16</sup> Last, C. 2017. Big Historical Foundations for Deep Future Speculations: Cosmic Evolution, Atechnogenesis, and Technocultural Civilization. *Foundations of Science*, 22(1): 39-124. DOI: 10.1007/s10699-015-9434-y.

<sup>17</sup> Last, C. 2015. Human Metasystem Transition (HMST) Theory. *Journal of Evolution and Technology*, 25(1): 1-16; and also: Last, C. 2015. Information-Energy Metasystem Model (IEMM). *Kybernetes*, 44(8/9): 1298-1309.

<sup>18</sup> Goertzel, B. & Goertzel, T. (Eds.). 2015. *The End of the Beginning: Life, Society and Economy on the Brink of Singularity*. Humanity+ Press.

<sup>19</sup> For a current popular interpretation of a human-centered “big history” focused on the future consequences of technological evolution, see: Harari, Y-N. 2014. *Sapiens: A Brief History of Humankind*. Vintage. and also: Harari, Y-N. 2016. *Homo Deus: A Brief History of Tomorrow*. Vintage.

<sup>20</sup> Voros, J. 2014. Galactic-scale macro-engineering: Looking for signs of other intelligent species, as an exercise in hope for our own. *Big History: Exploring a New Scholarly Field*, 1-18.

<sup>21</sup> Smart, J. 2012. The transcension hypothesis: Sufficiently advanced civilizations invariably leave our universe, and implications for METI and SETI. *Acta Astronautica*, 78: 55-68.

big historical framework structured by cosmic evolution/complexity science is insufficient for the maturation of big history because this structure has a symbolic-imaginary totalizing nature that is incapable of reflectively understanding symbolic-imaginary totalizing natures in-themselves (and their effects and consequences for the human future). This is relevant because big history is not just about grounding subjective multiplicity in consistent relation to its “true object” (i.e. what “real-ly” constitutes the universal environment of subjective multiplicity), but rather big history is also designed as a cosmic orientation mechanism to direct humanity towards a common universal future.<sup>22</sup> Due to this property of re-inscribing a big historical singular universality we need to understand this desire for universality on the grounds of symbolic-imaginary phenomena in-themselves (i.e. the way in which universality emerges as an active agent of historicity).

Consequently, in order to approach totalizing symbolic-imaginary phenomena in-themselves (i.e. totalizing narrative-frames that overdetermine perception of the world) and also universality as an active agent of historicity (orienting humanity towards a common goal) we are presented with some specific problems for the future of big history theory:

- 1) Big history must clearly distinguish itself from cosmic evolution and complexity science as study and develop a research program capable of generating a novel methodology and results in relation to the way in which big history functions as a symbolic-imaginary phenomena on the scale of historically embedded social systems
- 2) Big history must discover a way to approach singular universality beyond the contemporary thought field deadlock that exists between physical naturalism (which analyzes the positive content of the material universe in-itself), discursive deconstruction (which analyzes the constructions of the symbolic universe in-itself), and void spirituality (which analyzes the pure phenomenal content of subjective reflection in-itself)

The first criticism involves a fundamental issue that big history as a serious research field (independent from teaching about the universal history of the one physical reality) lacks an identity that is truly its own in the same sense that all established academic disciplines have an identity of their own. This is essentially because big history’s methodological frame is one it borrows (at best) or mimics (at worst) from the studies of cosmic evolution and complexity science.<sup>23</sup> Moreover, both the studies of cosmic evolution<sup>24</sup> and complexity science<sup>25</sup> aiming at universal

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<sup>22</sup> Christian, D. 2010. The Return of Universal History. *History & Theory: Studies in the Philosophy of History*. 49(4): 6-27.

<sup>23</sup> Chaisson, E. 2014a. The Natural Science Underlying Big History. *The Scientific World Journal*, DOI: 10.1155/2014/384912.

<sup>24</sup> Chaisson, E. 1981. *Cosmic Dawn: The origins of matter and life*. Boston: Little, Brown.

<sup>25</sup> Jantsch, E. 1980. *The Self-Organizing Universe: Scientific and Human Implications of the Emerging Paradigm of Evolution*. Pergamon Press.

principles predate big history by a decade or more,<sup>26</sup> calling into question the necessity of yet another subject that specifically focuses on the same basic issues with the same basic approach (or even a derivative approach). In short, if big history is an attempt at universality “within the humanities” what is seriously distinct in this study in comparison to the natural sciences also aiming at similar goals? And if such a distinction cannot be made and implemented practically within a research discipline, then what are the long-term consequences for the health of big history as a research study, a study that can technically be subordinated to studies in the natural sciences? Or from the introduction of a recent futures article by big historian Joe Voros:<sup>27</sup>

“The modern scientifically-based understanding of how humankind came to be here — called, among other things, Cosmic Evolution, the Epic of Evolution, Universal History, or Big History — is an intellectually exciting and very powerful conceptual model for making sense of the entire past, leading from the Big Bang nearly 14 billion years ago to our present planet-wide information-based technological civilization.”

Do you see the problem here? I think that big historians need to clearly identify and isolate the problem that as current theory is *actually practiced* there is no meaningful distinction between “cosmic evolution” and “big history”.<sup>28</sup> They are practically identical on the grounds of theory. What would a big history articulated on its own terms look like? From my perspective it would look like a subject that could understand the general function of totalizing “stories-pictures” “narrative-frames” in-themselves and the way in which they function on the higher order levels of social reality. That is a massively unique and authentic humanities project capable of understanding the dynamic way in which universality becomes an active agent of historical processes.

The second criticism can be aligned with the first, which is that big history explicitly makes an attempt at a singular universality. Towards this aim big history scholars attempt to identify with scientific symbolic code (i.e. “complexification narrative”) our actual common history of the physical universe and also orient the position of humanity in relationship to this actual common history towards a common future of human becoming (i.e. “higher integrated level of human civilization”). However, this attempt has failed to break out of the contemporary thought field with respect to a “universality deadlock” that emerges on the level of linguistic social reality in-itself. This “universality deadlock” exists between three (or more) broad (and in many cases interwoven) forms of knowledge that can not universally agree on the human position in relationship to universality: physical naturalism, discursive deconstruction, void spirituality. The legitimacy or illegitimacy of this deadlock cannot be affirmed or negated by any one scholar or

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<sup>26</sup> Christian, D. 1991. The case of ‘big history’. *Journal of World History*, 2: 223-238.

<sup>27</sup> Voros, J. 2013. Profiling ‘Threshold 9’: Using Big History as a Framework for Thinking about the Contours of the Coming Global Future. In: *Evolution: Development within Big History, Evolutionary and World-System Paradigms*. Grinin, L. & Korotayev, A.V. (Eds). p. 119-120.

<sup>28</sup> Chaisson, E. 2014b. Big History’s Risk and Challenge. *Expositions*, 8: 85-95.



scholarly community as the tension/antagonism is itself speaking and acting out its own truth on the higher orders of social reality.

**1) Physical naturalism ( $U_1^+$ ):** stands for the possibility of discovering universality in simple basic symbolic principles (typically mathematical formulae) capable of describing and explaining the whole of physical reality. This attempt is traditionally conceived as a search for universality in a “grand unified theory” that would unify the whole of known physical reality as fundamental other from “quarks to quasars”, from “strings to superclusters”, from “big bang to heat death”, or some similar thematic variation in a few or even one simple line of code (*sans sujet*, i.e. cosmic objectivity as other totalized without inclusive consequences of/for subjective multiplicity). Throughout the modern era this has been most ambitiously pursued in the physical sciences (quantum physics, cosmology, etc.) related to reconciling the incompatibility of quantum mechanics (micro-macro reality) and general relativity (macro-reality) with some as-of-yet unknown form of “quantum gravitation”. In this frame universality is a progressive process where humanity’s scientific symbolic constructions (key) make substantial positive strides towards the end goal of reaching the physical “real” in-itself (hole) (often conceived ontologically in terms of eternal mathematical forms).

**2) Discursive deconstruction ( $\infty$ ):** stands for the universality of the impossibility of symbolic universal totality (complete and consistent knowledge of physical reality). In other words, discursive deconstruction stands for the incompleteness and inconsistency inherent to every discursive symbolic construction and also the impossibility of reaching a “beyond” of signification (our fundamental other is a “discursive house/cage”, signification in-itself). In this frame, we learn more from deconstructing every (mad) symbolic operation striving for universal status — to learn from its subjective biases, foundational presuppositions, structural flaws, etc. — than we do from (naively) mistaking a single symbolic-imaginary thought field striving for universality as a legitimate “real” project in any strict ontological sense vis-a-vis a radical multiplicity of physical object others. In short, deconstruction aims to “bar any other subject” spontaneously curved for an absolute (“centered”) symbolic position vis-a-vis the positive order of physical reality, and this very negative movement is the only universal.

**3) Void spirituality ( $\emptyset$ ):** stands for the universality of the void, and thus universality is only achieved by subjectively affirming a hole/lack/gap in the positive order of physical reality. In other words, we are here confronted with the affirmation of universal nothingness as true other, which is ultimately what modern science has discovered about physical reality (i.e. beneath the appearances of the “dense” substantial physical object field of “matter” is “real-ly” only an empty primordial abyss). Subjective movement into this void signals a total (self-)withdrawal in relation to actual engagement with the world (which, after all, is “only an appearance”). In this frame, human symbolic networks are hopelessly entangled in a physical reality as other that cannot experientially confront universality despite a strong spontaneous desire (curvature) towards that end goal (i.e. “desire is an illusion”). Consequently, the only solution is to negate this very symbolic operation — “to still/calm/quiet the mind” in its relation to the repetitive insistence of

language (symbolic thought) — towards the only “real” as an “eternal peace” of flat formlessness and primordial perfection.

**Figure 3: Forms of Universality: Humanist Discursive Deconstruction, Eastern Void Spirituality, Positivist Scientific Naturalism**



Image credit: (left) “deconstruction” (2013-2016). <http://stevenrussellblack.deviantart.com/art/deconstruction-350257174> (accessed: Oct 1, 2016). (middle) “meditation” Unknown. (right) “CERN particle physics” Unknown.

Of course, considering that big history is constructed in a physical naturalist mode of symbolic positing the study of big history as symbolic thought in-itself has neither broken out of this field nor remained neutral to this field. In other words big history has chosen to align itself most closely and consistently with the scientific “physical naturalist” form of universality for pragmatic and logical reasons, but also for ideological and strategic socioeconomic reasons. Although one can easily defend the contemporary position of the subject of big history it remains perhaps fatally problematic that big history itself lacks its own identity as distinct from subjects like cosmic evolution or complexity science. Furthermore big history scholars have negated and/or under-utilized forms of void spirituality and discursive deconstruction despite a latent potential interest and utility from both thought forms. Indeed, the typical reaction by the most active big history scholars to the appearance of void spiritualists is generally one of dismissiveness or intrusion and no serious big historical deconstruction of fundamental presuppositions is ever attempted at the level of the structure of the community discourse. Instead, big historians typically trade various symbolic totalities of the one physical reality oriented towards a global integration of civilization on the scholarly terms of cosmic evolution and/or complexity science. This, of course, reflects the aforementioned formula for the basic ontological coordinates of big history theory ( $\emptyset(U_1^+)^\infty$ ).

Is there a way for big history to overcome these quite serious theoretical challenges? Is there a way for big history to simultaneously find its own research identity *and* break the contemporary field of thought towards an authentic novel form of universality? In order to search for a “new” approach to totalizing big history narrative(s) and vision(s) (where we are capable of reflectively inscribing these phenomena onto the higher orders of social reality) we must first deconstruct the contemporary discursive practices of the big history social community of theorists. In other words there has been too much looking “out there” (at physical reality) and not enough looking “in here” where the “meaningful picture and story” of “out there” ultimately came from in the first place (i.e. the “strange loop” of self-positing within an a priori narrative-frame that structures the foundational presuppositions and perceptions of “what nature really is”). To be specific the focus of this deconstruction is related to the contemporary articulation of a big history that can only be legitimized by a cosmic evolutionary/complexity science narrative frame of reference. In this sense the multiplicity of subjective interpretation is fundamentally structured around one interpretation of the totality of the physical real. Indeed, this frame is presupposed to be “*the way*” for the future of big history.

However, at the same time, let me be explicit in stating that this deconstruction is not an “anti-cosmic evolution” or “anti-complexity science” pitch aiming to undermine the work of big history pioneers focused on understanding the structural architecture of material complexification throughout spacetime (which I think offers us deep insight about the nature of physical reality). Indeed, in my own big history exploration I explicitly attempt to emphasize (to the best of my abilities) the theoretical importance of the positive relation between cosmic evolution and big history:<sup>29</sup>

“[C]osmic evolution and big history are complementary subjects that could transcend the ‘two cultures’ and ultimately share the goal of providing a sense of holistic unity for our species with all nature: a history and a science, a story and a process, which can help the human species build a sense of common home and a sense of common creative origin.”

The problem (re-stated) is rather that, while a cosmic evolution<sup>30</sup> grounded in complexity science<sup>31</sup> may be close to establishing a legitimate identity for itself in the field of academic thought, big history appears to be struggling to differentiate itself as a legitimate research field of its own, as already mentioned above (which is, again, *distinct from teaching a particular “grand unified narrative” as abstract universality*). In that sense this article is a search for a new symbolic-imaginary form of big history capable of building a *unique research identity* distinct from

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<sup>29</sup> Last, C. 2015. Big Historical Foundations for Deep Future Speculations: Cosmic Evolution, Atechnogenesis, and Technocultural Civilization. *Foundations of Science*, DOI: 10.1007/s10699-015-9434-y., p. 5.

<sup>30</sup> Dick, S.J. & Lupisella, M.L. (Eds.). 2009. *Cosmos & Culture: Cultural evolution in a cosmic context*. NASA.

<sup>31</sup> Lineweaver, C.H., Davis, P.C., & Ruse, M. (Eds.). 2013. *Complexity and the arrow of time*. Cambridge University Press.

other fields like cosmic evolution and complexity science, which are legitimate and maturing on their own path and in their own way (i.e. they have established the flow of their own “fluid identity”). Furthermore, I posit that such a new form should be able to understand the nature of totalizing narrative frames in-themselves, confront the fundamental universality deadlock of our time, and most importantly, assert a holistic object of analysis with even greater consequences than the ones posited by fields of study currently in existence because it involves a fundamental entanglement of subjective multiplicity and the social systems that form an enacted foundation for big historical phenomena.

In many ways big history as study seems like an ideal symbolic-imaginary form capable of meeting such a challenge because it is already “meta” in the sense that the subject is explicitly about building a “total vision of reality” and a “grand unified narrative”. Indeed, the most obvious distinction between a study like big history and a study like cosmic evolution is the position of the “multiplicity of subjective interpretation” and the “whole of physical reality” (i.e. how human beings universally relate to otherness). In big history this multiplicity of subjective interpretation is presupposed (at least rhetorically) as equally important to the actual nature of physical reality (if not more important) as subjective multiplicity is imagined to be striving for singular universality in the form of the future global integration of humankind. However, from the form of discursive deconstruction we face universal negation of this imaginary striving with an application of critique of the totalizing nature of this symbolic-imaginary form of big history which presumably homogenizes an otherwise diverse field of totalizing stories and pictures of the human relationship to the world. Furthermore, in the form of void spirituality we face universal negation for this striving with the application of meditative detachment from the symbolic dimension of thought and communication altogether as an illusory wheel of suffering structured by imaginary desires. Is there an alternative to these universal approaches to the symbolic-imaginary which do not fall back on the invocation of the universal legitimacy of scientific constructionism at the expense of alternative constructive relations?

In other words, what are the potential consequences of theoretically incorporating the presuppositions of subjective multiplicity in-itself as valid narrative-frame realities in relation to the study of big history itself? Consider for example all of the religious, political, and artistic movements that are structured around totalizing narratives and images of the world. Also consider the diversity of potential big historical forms inherent to speculative interpretation and theorizing in the domains of science and philosophy. Due to the fact that actual big history research has focused almost exclusively on fitting cosmic evolutionary theory into a big history perspective (the general problem of the “human sciences” as making the subject bend to science, as opposed to bending science to the subject), I do not think we can answer this question yet. Moreover, this reduction of big history to cosmic evolution is a problematic operation as the rhetoric unabashedly focuses on the development of the universe in direct relation to human beings (i.e. a modern creation/origin story *for* the contemporary “global citizen”, etc.), as opposed to cosmic evolution, which is more interested in general evolutionary processes throughout the universe at large (with no particular focus on human relation to the cosmos beyond the details of our unique

evolutionary properties, etc.). Or as the distinction was already properly articulated by cosmic evolutionary theorist Eric Chaisson:<sup>32</sup>

“Cosmic evolution [...] can be defined as *the study of the many varied developmental and generational changes in the assembly and composition of radiation, matter, and life throughout the history of the Universe*. These are the changes that have produced our Galaxy, our Sun, our Earth, and ourselves, and as such include both evolution and development. A localized “big history” version of this scenario that places into larger perspective specifically humankind on Earth is part of a more universal cosmic-evolutionary narrative that addresses the Universe at large.”

Here big historians should not shy away from strongly affirming this theoretical distinction (i.e. the localized story for humankind on Earth) and seek to re-interpret the role of multiplicity of human mental/subjective interpretation vis-a-vis physical reality in order to find its own identity (i.e. what is the nature of big historical narratives and visions on the scale of higher order social reality and historicity in-itself and what are their effects and consequences?). In order to move in this direction it may be helpful to become more open in regards the contemporary field of philosophy as a tool for experimenting with alternative modes of thought capable of holding the entire body and mind of subjective multiplicity. Throughout the history of modern philosophy there has been a strong emphasis on the entanglement of subject and object (with deconstruction of the subject’s notional constructs of the object as only one potential interpretational framework).<sup>33</sup> Thus, experimenting with alternative relational notions of subject-object could be an important way for big historians to re-think a contemporary big history mainly grounded in physical naturalism (which tends to ignore the nature of the subject in-itself). This is something I attempted to point towards in my own big historical interpretation:

“From my perspective [the] goal [of big history] should not be to eventually develop ‘one unchanging objective story’, but rather to develop the empirical framework for a story of our collective history that everyone can in turn relate to and utilize on a personal level. Thus big history has the opportunity to become simultaneously one story of our shared world [ $U_1^+$ ] *as well as* an infinite number of stories of how individuals can relate to that world [ $\infty$ ].”

In other words, what cosmic evolutionary theorists often posit as a weakness of big history vis-a-vis cosmic evolution (i.e. its “local-ness” and “human-ness”) can be precisely inverted into a path-breaking strength. This potential pathbreaking strength is not trivial to unleash and the above quote/self-citation *does not reach it because it fails to understand the social consequences of totalizing narrative frames in-themselves*. However, the first step may come from big historians leveraging their impressive and extensive experience actively engaging with scientific

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<sup>32</sup> Chaisson, E. 2012. A Singular Universe of Many Singularities: Cultural Evolution in a Cosmic Context. In: *Singularity Hypotheses: A Scientific and Philosophical Assessment*. Eden, A.H., Moor, J.H., Soraker, J.H., & Steinhart, E. (Eds.). Springer. p. 415-416.

<sup>33</sup> Zupančič, A. 2014. Realism in Psychoanalysis. In: *Lacan and Philosophy: The New Generation*. Chiesa, L. (Ed.). re-press. p. 22.

universality. Could this expertise not be shifted into conversation with the other under-utilized forms of universality, in order to strive for a synthesis of these equally authentic positions? Of course, few are actually content with discursive deconstruction and void spirituality as ultimate ends to universality in themselves as they lack a radical positivist foundation for subjectivity (i.e. the failure of symbolic architecture's relation to understanding reality on the scale of universality). But at the same time, whereas scientific universality certainly speaks to the radically positivist constructive powers of the "subject of science" (the effectiveness of physics or complexity science knowledge, for example), does this speak to the totality of subjective multiplicity? Certainly not. Does it even make logical sense to think universality without incorporating the whole of subjective multiplicity on the terms of religion, politics, art, and other narrative-visionary forms of science and philosophy? Maybe not. Could a synthesis of contemporary universalities be capable of producing a qualitatively new form of universality?

Indeed, it seems like such a big historical movement would require the generation of a totally new way of seeing and speaking about reality that was capable of affirming multiplicity but still maintaining a grasp on singular universality. How to find the singular focus in a radical multiplicity without external imposition of narrative and vision? How to incorporate the horizon of scientific inquiry without reducing universality in-itself to the scientific horizon? Although these may appear to be central and impossible challenges should we not expect something this radical from something as ambitious as big history? Big historian Richard B. Simon pointed towards this theoretical futures possibility:<sup>34</sup>

"As Big History matures [...it] will be challenged or supplanted by some new understanding that incorporates a perspective that we could not yet begin to comprehend."

First, it is my contention that something like this new form will come, even if it comes from another similar form of intellectual activity like "deep history"<sup>35</sup> or "meta-history"<sup>36</sup>. Second, it is my contention that the way forward towards this new form will come from a better understanding of subject-object entanglement in relation to grand unified narratives/visions of the whole. Could it be that inscribing the consequences of the symbolic-imaginary phenomenon of holistic narratives and visions in-themselves could potentially help us fundamentally reconceptualize temporality and existence? In other words, could inscribing the consequences of the symbolic-imaginary within our theory of the whole in-itself change the way we in which we understand the physical naturalist framing of materialist movement in spacetime? Indeed, the physical naturalist mental conceptualization (symbolic-imaginary, narrative-frame) cannot understand the

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<sup>34</sup> Simon, R.B. 2015. What is Big History? In: *Teaching Big History*. Simon, R.B., Behmand, M. & Burke, T. (Eds.). University of California Press. p. 19.

<sup>35</sup> Johnston, A. 2014. On Deep History and Lacan. In: *Philosophy and Lacan: The New Generation*. Chiesa, L. (Ed.). re-press. p. 63-84.

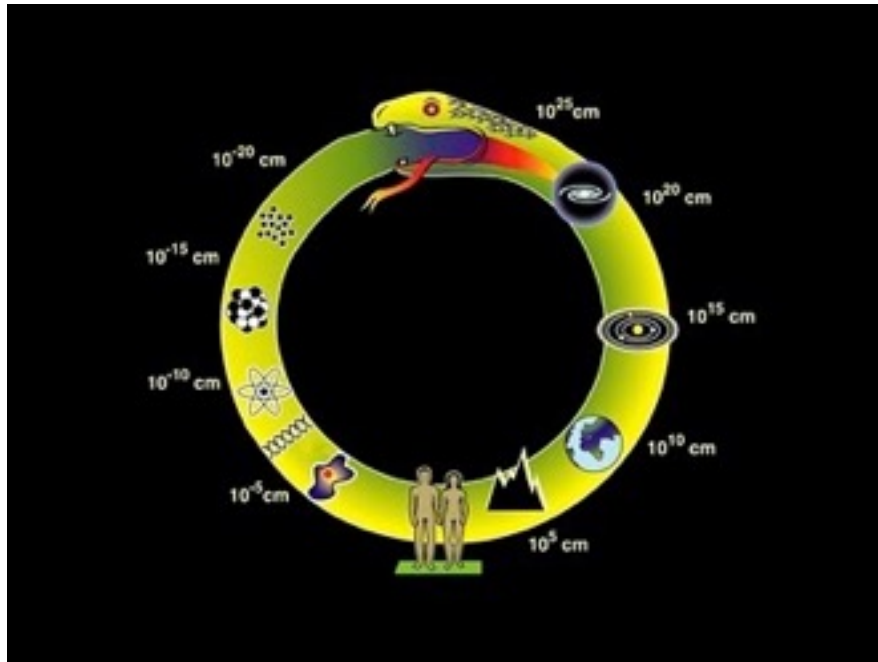
<sup>36</sup> Krakauer, D.C. 2011. The Star Gazer and the Flesh Eater: Elements of a Theory of Metahistory. *Cliodynamics: the Journal of Theoretical and Mathematical History*. 2: 82-105.

movement of mental conceptualization in-itself on the level of the individual or on the level of community or on the level of historicity, i.e. it cannot understand the very mental/subjective process (dialectic) that constitutes/frames the physical world with virtuality as such (“worlds”), and the consequences of such virtual constitution/framing (“worlding”).

The problem is thus: how can big history theory inscribe totalizing mental interventions, effects, penetrations, transformations, etc. of the whole via symbolic-imaginary (virtual) pathways into this materialist movement of the whole emphasized by the physical naturalist narrative frames of the world? How do we inscribe a dynamic dialectical movement of totalizing symbolic-imaginary mind into big history theory that would allow us to understand the formation of scientific, political, religious, artistic, and other large-scale social communities that will presumably be the fundamental constituents of the next level of human civilization? On the grounds of logic this big historical horizon of historicity cannot conform to physical naturalism, not for irrational ideological reasons, but simply for methodological reasons that you cannot analyze such phenomenon utilizing the standard forms of scientific inquiry. Physical nature is an environment open to our observations and our experimentation, and the results of such observations and experimentation can be neatly categorized into a picture and a story of how these observations and experiments fit together in a coherent and connected framework (although you still have the problem of how to frame and why you chose to frame what you did in the construction of the picture and story, etc.).

However, when it comes to the horizon of historicity in-itself (which is a phenomenon characterized by mental conceptualizations that hold together social communities), we inevitably run into new and very difficult problems. Thus it is here where I would situate the problem of how mental/subjective processes can be inscribed without simply falling back on perceiving only the mental interventions, effects, penetrations, transformations, etc. of the “subject of science” (physicists, chemists, geologists, biologists, complexity scientists, etc.) as valid in relation to reality as a whole. Are the holistic interpretations of reality by the subject of science the only interpretations with actual consequences for the becoming of reality? Certainly not. Moreover the “subjects of science” universally condemn or dismiss a particular non-scientific big historical totalizing frame and narrative does that mean that that big historical totalizing frame and narrative will not have effects and consequences on the terms of the horizon of historicity in-itself? Definitely not. In this precise sense big historians should not fear to go beyond the contemporary universality field deadlock instead of conservatively aligning with cosmic evolutionary complexity epistemology/ontology and assert an open confrontation with/re-articulation of the fundamental scientific problem field of our time on the grounds of the historical horizon in-itself. This can be a productive move because the fundamental scientific problem field of our time is still grounded on a foundation of physical naturalism and is incapable of understanding the totalizing nature of symbolic-imaginary mind. This is something that neither big historical forms of discursive deconstruction or void spirituality have approached seriously either, and perhaps it is because they are themselves deficient forms of universality (although certainly not without serious utility).

**Fig. 4: Ouroboros Universality as Representation for the Fundamental Problem Field of Physical Naturalism**



Source: Rees, M. 2000. *Just Six Numbers: The Deep Forces that Shape the Universe*. Basic Books. p. 8.

To be precise, the scientific problem field in relation to physical naturalism includes the theoretical contradictions between micro-macro reality in fundamental physics which prevents a universal unification of our understanding of space, time, matter, and energy in relationship to the division between cosmology and quantum mechanics. This scientific problem field also includes the unknown future consequences of complex process in our local middle reality (“human discursive reality”) in general complexity/evolutionary science which prevents a universal unification of our understanding of higher-order phenomenon like life, mind, and society. The first thing for big historians to reflect on when confronting this scientific problem field is that both problems were posited by mental conceptualizations of nature overdetermined by a big historical totality (i.e. “fundamental physics” and “general evolutionary systems”).

- 1) First to accomplish the task of bridging or breaking the “impossible duality” between quantum physics (quantum mechanics) and cosmology (general relativity) that, due to their mutual incompatibility, prevent a unified description and understanding of physical reality
- 2) Second to accomplish the task of holistically integrating human knowledge with unifying complexity principles related to the self-organization of systems on all scales of physical reality



In fundamental physics there is the long-standing incompatibility/antagonism between the principles of general relativity that form the foundation for modern astrophysics/cosmology<sup>37</sup> and the principles of quantum mechanics that form the foundation for particle/sub-atomic physics (i.e. the world of the cosmic-web and the world of the elementary particles).<sup>38</sup> On the terms of macro-reality (cosmic-web) quantum mechanical effects/phenomena appear to have little to no relevance as relativistic gravitational fields feature as a dominant effect/phenomenon shaping determinate material objects. In contrast, on the terms of micro-reality (elementary particles), relativistic gravitational effects/phenomena appear to contradict the basic presuppositions of quantum mechanics (indeterminacy, non-locality, etc.). Throughout the 20th century the search for a grand unified theory to reconcile the smallest and largest scales of reality has failed to generate new experimental science, and a new understanding of the world; although the most dominant approach, string theory, has generated many wild interpretations and has structured the social communities of modern physics.<sup>39</sup>

These theoretical problems between our understanding of macro-micro worlds raise issues about our tradition epistemological coordinates related to predicting object movement in spacetime fields. This is because of the strange existence of non-local (superposition) relationships fundamental to quantum phenomena (wavefunction), and also the impossibility of reconciling these wavy phenomena with traditional observational measurement approaches to “objective reality” due to irreducible mental/subjective entanglement that collapses the wavefunction into a determinate object. In other words, our ability to understand “physical reality in-itself” (ontology, or “what is”) has become increasingly problematic as quantum phenomena not only defy basic common sense of object movement in spacetime (thus violating basic Galilean-Newtonian notions of physical reality), but also, defy standard scientific practice as our own experimental intervention must be included within the process of understanding physical reality in-itself (thus violating basic Galilean-Newtonian notions of science).<sup>40</sup> According to dominant physical theory this incompatibility/antagonism between micro-macro reality could be overcome or reconciled with the development of a revolutionary “new physics” analogous to the scientific revolutions in general relativity and quantum mechanics in the early 20th century founded on a conceptual and empirical understanding of “quantum gravity”.<sup>41</sup>

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<sup>37</sup> Collier, P. 2012. *A Most Incomprehensible Thing: Notes towards a very gentle introduction to the mathematics of relativity*. Incomprehensible Books.

<sup>38</sup> Griffiths, D. 2016. *Introduction to Quantum Mechanics*. Cambridge University Press.

<sup>39</sup> Smolin, L. 2006. *The Trouble with Physics: The Rise of String Theory, the Fall of Science, and What Comes Next*. Houghton Mifflin Harcourt.

<sup>40</sup> Penrose, R. 2004. *The Road to Reality: A Complete Guide to the Laws of the Universe*. London: Alfred A. Knopf.

<sup>41</sup> Rovelli, C. 2004. *Quantum Gravity: Cambridge Monograph on Mathematical Physics*. Cambridge University Press.

On the other hand, in middle world, we face problems of understanding general evolutionary processes in relation to a strange subject-object futures horizon often framed as an irreversible complexifying “arrow of time”.<sup>42</sup> However, for the problems of middle world we cannot rely on “reductionist” thinking or methodology (i.e. pure physics/mathematics). This is because the most salient feature of general evolutionary process is the complex emergence of novel phenomena at “higher-levels” of material relations/interaction from the realms of sub-atomic physics to the realms of sociotechnological civilization where we must include the effects of chemical, biological, cognitive, social processes, and so forth (i.e. life, mind, society).<sup>43</sup> These problems require a “holistic science/philosophy” capable of discovering and applying general meta-principles transcending disciplinary boundaries that form the core structure of modernist academic communities.<sup>44</sup> In many convergent areas of thinking this has led to the development of “principles or laws of systemic complexity” where general theorists attempt to understand the processes related to how relationships/interactions self-organize from lower levels of phenomena (e.g. physics) to produce higher levels of phenomena (e.g. chemistry, biology, sociology, etc.).<sup>45</sup>

The strange subject-object futures horizon emerges from this analysis (and from common sense) when we apply the traditional scientific approach of making testable predictions from observing and measuring material phenomena to the measured and observed evolution of complex relationships throughout spacetime from “big bang to global civilization”.<sup>46</sup> This futures horizon is a problem for scientific prediction because we cannot (obviously) directly observe and measure the human social future in-itself as the human social future is generated by overdeterministic cognitive action in the present which is fundamentally incompatible with mechanistic/deterministic causal frameworks (i.e. incompatible with the unpredictable and non-linear interventions/penetrations/effects of historical subjectivity). Nevertheless systems theorists can extrapolate from past patterns of general evolutionary complexification processes that have generated higher level systems to predict the possibility space of overdeterministic action for yet another higher level metasystem transition potentially emerging from human cognitive activities in the present.

Consequently, systems theorists focused on understanding a potential future metasystem (higher level human civilization) have focused on understanding human cognitive activities in the present as they relate to the complex relationships that constitute modern science and tech-

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<sup>42</sup> Lineweaver, C.H., Davies, P.C.W., & Ruse, M. (Eds). 2013. *Complexity and the Arrow of Time*. Cambridge University Press.

<sup>43</sup> McNeill, W.H. 1998. History and the Scientific Worldview. *History and Theory*, 37(1): 12-13.

<sup>44</sup> Heylighen, F. 2011. Self-organization of complex, intelligent systems: an action ontology. *Integral Review*, 8: 1-39.

<sup>45</sup> Kauffman, S. 1996. *At Home in the Universe: The Search for the Laws of Self-Organization and Complexity*. Oxford University Press.

<sup>46</sup> Rodrigue, B., Grinin, L., & Korotayev, A. (Eds.). 2012. *From Big Bang to Global Civilization: a big history anthology*. Oakland: University of California Press.

nology.<sup>47</sup> The cognitive actions driving scientific and technological processes are a consequence of a continuously interconnected and accelerating exponential social phenomenon capable of producing “unimaginable” (from our point of view) systemic sociotechnological conditions. To be specific this “unimaginable” horizon becomes self-evident when reflecting on the immanent potentiality of the future development of the internet, robotics, artificial intelligence, genetic engineering, nanotechnology, and a whole suite of other technologies.<sup>48</sup> In the literature this immanent future development has been conceptualized as a “technological singularity” which is predicted to have unavoidable and irreversible consequences for mental/subjective human social processes.<sup>49</sup> When thinking about this futures horizon it should immediately allow us to re-situate the big history theoretic need to understand the nature and consequence of totalizing symbolic-imaginary narrative frames in-themselves (which are the locus of causation in terms of the cognitive actions driving scientific and technological processes).

In other words, according to predictions of general evolutionary theory validated by logical extrapolation of scientifically rigorous empiricism grounded in understanding complex organization, the very scientific discursive practices that constitute the most dominant and constructive form of universality (physical naturalism) can be understood as ideational networks capable of producing an eschatological event horizon in relation to human social reality.<sup>50</sup> The most extreme interpretations of this eschatological event horizon involve the possibility that the human mental field constituted by symbolic-imaginary phenomena will encounter either an extinction or transcension process in relation to “super” intelligent and/or conscious technological apparatuses (i.e. artificial intelligence and robotics, etc.) that replace human form and function in the sociotechnological sphere (a belief that is now engrained in popular thought and media).<sup>51</sup> However, no scientific models of this potential futures horizon have been properly developed (or could be properly developed?) and consequently there is no scientific consensus on the dominant interpretations of this complexity science extrapolation (just simply scientifically structured imaginary fantasies of human civilization eschatology).<sup>52</sup> The only general consensus may be that human society is the most complex phenomena in the known universe and that the future consequences of its development in relation to physical reality is not only radically open on the terms of mental penetration/transformation, but also radically unknown on the terms of mental reflection.

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<sup>47</sup> Turchin, V. 1977. *The Phenomenon of Science*. New York: Columbia University Press.

<sup>48</sup> Kurzweil, R. 2005. *The Singularity Is Near*. Penguin.

<sup>49</sup> Shanahan, M. 2015. *The Technological Singularity*. The MIT Press.

<sup>50</sup> Goertzel, B. & Goertzel, T. (Eds.). 2015. *The End of the Beginning: Life, Society and Economy on the Brink of Singularity*. Humanity+ Press.

<sup>51</sup> Bostrom, N. 2014. *Superintelligence: Paths, Dangers, Strategies*. Oxford University Press.

<sup>52</sup> Eden, A.H., Steinhardt, E., Pearce, D., & Moor, J.H. (Eds.). 2012. *Singularity Hypotheses: The Frontiers Collection*. Berlin: Springer.

How can big history directly engage a new interpretation this horribly fragmented and confused “double” problem field positioned by physical naturalism in the traditional mode of scientific universality? From the current big historical paradigm of aligning with cosmic evolutionary theory the logic is that this can be done from within one of the sides of the double problem, i.e. from the side of the self-organization of complexity on all scales of the cosmic material hierarchy. Clément Vidal, a philosopher of cosmology and cosmic evolution, succinctly and clearly expressed this potential of big history theory:<sup>53</sup>

“If on large scales all our sciences are reduced to cosmology, and if on small scales all our sciences can be reduced to particle physics, then how do we link the two? The sciences of evolution and complexity have the potential to bridge the gap between these two reductions to cosmology and particle physics. Evolution and complexity sciences are anti-reductionist by nature and seek to understand the emergence of new laws and of complexity transitions.”

And this was indeed my own thought direction that inspired my own previously mentioned big historical interpretation:<sup>54</sup>

“[N]o unified theory of nature can emerge if we are only engaged purely in reductive science. The whole of nature cannot be reduced to its constituent parts. Here it is evolution and complexity, as situated within a multi-disciplinary big historical framework that offers us a chance to achieve what academics in disciplinary information silos have failed to achieve.”

The question posited here is, simply: what if these presuppositions are just totally wrong? What if cosmic evolution and complexity science are not the revolutions capable of confronting challenges and realities that will emerge from our continued sociotechnological development on the terms of the horizon of historicity in-itself? What if big history misses an opportunity for a totally other framework capable of grasping the whole of reality constituted by totalizing narratives and visions by focusing all of its time and energy on building scientifically legitimized complexity narratives of physical reality’s processual becoming? What if big history ultimately fails to meet its proposed function as a modern origin/creation story for the contemporary global citizen by articulating repetitions of pre-human physical reality and then extrapolating these processes into the near-term and deeper-term future? What if this form of symbolic-imaginary theorization can never get close to the real in-itself? In other words, what if this project is doomed to be deconstructed (either in the present or the future) and thus retroactively relativized?

These questions may be difficult but worth considering for the future of big history. After all, ultimately, what has the grounding of big history in complex evolution/complexity science

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<sup>53</sup> Vidal, C. 2014. *The Beginning and the End: The Meaning of Life in a Cosmological Perspective*. Springer. p. xxxi.

<sup>54</sup> Last, C. 2015. Big Historical Foundations for Deep Future Speculations: Cosmic Evolution, Atechnogenesis, and Technocultural Civilization. *Foundations of Science*, DOI: 10.1007/s10699-015-9434-y., p. 69.

positively produced on the terms of the reality legitimized by scientific discursive practices? What are the concrete research results and future directions of the study? What is gained other than awe-inspiring poetic expressions and mathematical formulae dedicated to the grandeur of continuous change throughout all physical reality as abstract universality? What new understanding of the future of human social communities is derived? From my perspective the concrete result has been an endless number of repetitions that possess a fundamental “objective-linear-teleological” structure (and no meaningful differences, i.e. new positive content). The total object is physical reality, this physical reality is a linear complexifying process, and this complexifying process can be extrapolated into the future utilizing the patternist teleo-logic of something like “in the past there were energetic/informational flow thresholds stabilizing higher levels of complexity, and it therefore stands to reason that in the future of human development these same processes will actualize within a higher level of organization” etc.

This view is logical and reasonable enough but are we fundamentally stuck conceptualizing big history in this “objective-linear-teleological” way? Is this not potentially a theoretical dead end? The first red flag should come from the fact that big history has not produced anything like a qualitative phase transition in the form of scientific knowledge itself on the level of a Darwinian evolution, a general relativity, or a cybernetics (for example), despite the fact that the study aligns itself with scientific universality. Big history as totally new paradigm capable of producing a “universally recognized [achievement] that for a time provide[s a] model [of] problems and solutions to a community of practitioners”<sup>55</sup> has not occurred. This makes contemporary big history either a “Kuhnian failure”, or a “Kuhnian revolution” waiting to happen. In other words, if the goal of big history has been to unify all of human knowledge, from physics, to biology, to geology, to sociology, to theology, to philosophy, and so forth, into one overall totality, *this unification process did not produce any new paradigm for the structure of symbolic knowledge that we did not already possess before the unification.*

This can be most clearly seen from the first academic experiments in building a big history course as organized by Fred Spier at the University of Amsterdam in the 1990s and 2000s.<sup>56</sup> In this academic experiment intellectuals from various disciplines (astronomy, geology, history, etc.) were brought together to teach one course (e.g. big history) and *this very movement was the course itself.* In other words, there was nothing new that made “big history” “big history” *other than the desire to have everything under one symbolic roof* (Heidegger: “language is the house of being”<sup>57</sup>). In other words, it was not that intellectuals from various disciplines were brought together and, in combining these disparate elements, something totally/qualitatively new emerged, i.e. a new way of seeing the whole of reality with its own new research methodology, and its own unique unifying principles. Instead, intellectuals from various disciplines were

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<sup>55</sup> Kuhn, T. 1970. *The Structure of Scientific Revolutions*. University of Chicago Press., p. viii.

<sup>56</sup> Spier, F. 2016. Opening Keynote by Johan Gouldsblom and Fred Spier. Third IBHA Conference: Building Big History: Research and Teaching. (14-17 July 2016, University of Amsterdam).

<sup>57</sup> Heidegger, M. 1947. Letter on “Humanism”. Translated by Frank A. Capuzzi. p. 239.

brought together and, in combining these disparate elements, we just got an “objective-linear-teleology” from “big bang to global civilization” (fundamental structural notions that existed well before the modern incarnations of academic big history proper). No new research methodology, no new unifying principles.

Let us take a deeper look at this important and strange phenomenon with an example of the definition and consequences of big history as expressed by Spier in the introduction to his *Big History and the Future of Humanity* (2010):<sup>58</sup>

“[B]ig history: the approach to history that places human history within the context of cosmic history, from the beginning of the universe up until life on Earth today. In a radical departure from established academic ways of looking at human history, in big history the past of our species is viewed from within the whole of natural history ever since the big bang. In doing so, big history offers the modern scientific story of how everything has become the way it is now.”

However, what is not demonstrated in the description of big history’s “radical departure” from “established academic ways of looking at human history” is what novel knowledge this movement produces (i.e. what positive content that could not be generated without big history as a research field). For example, if we lost physics, chemistry, or biology, we would be losing scientific fields that produce new positive content of physical reality. But, if we lost big history... what exactly do we lose *on the terms of research in relation to physical reality*? Again, what is remarkable is that the “big historical unification” of all these disparate sub-disciplines has not resulted in a qualitative transition in the *form of knowledge itself* capable of producing knowledge that stems *from its own methodological inquiry, and its own unifying principles*. This bizarre fact was explicitly stated by Spier himself a few paragraphs later on the same page:<sup>59</sup>

“Although all the knowledge taught in big history courses is readily available in academia, only rarely is it presented in the form of one single historical account.”

The implications of this statement are far reaching: Does it mean big history as study just organizes the positive content of the rest of academia into an “objective-linear-teleology” but does not generate an ability to produce any new positive content itself from leading an analysis focused on the total object as absolute other of subjective multiplicity? Why is it that a unification of all subjects has not led to anything like a totally novel coherence of form between disparate disciplines? I think this non-revolutionary quality of the attempted integration of all knowledge in big history cannot be over-stated enough (or overlooked on the terms of theory).

In order to approach these issues I would start a proposal to explore some potentially foundational ideas for the future of a “new” big history that is capable of understanding the na-

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<sup>58</sup> Spier, F. 2010. *Big History and the Future of Humanity*. Jon Wiley & Sons., p. 1.

<sup>59</sup> Ibid.

ture of totalizing narrative-frames, stories-pictures, etc. in themselves and also the field deadlock in contemporary forms of universality. This would include attempting to understand the importance of the general constructive and communal nature and effects of totalizing subjective interpretation striving for singular universality on the level of the historical horizon. Let me specifically relate this attempt back to the aforementioned big historical ground posited by Fred Spier as being “entirely built on empirical observations and scholarly interpretation” (from which I derived a basic ontological formula for big historical study:  $\emptyset(U_1^+)\infty$ ).<sup>60</sup> I believe that what this ground misses is something very precise and something with deep consequences for big historical research:

- 1) The empirical dimension of the observer in-itself
- 2) The ontological consequences of all observational interpretation vis-a-vis the becoming of reality itself

In other words what big historians must attempt to think are the consequences of including the observers *of* total visions of reality and the creators *of* grand unified narratives *in* the total vision of reality and *in* the grand unified narrative (irrespective of whether it is connected to the physical reality as legitimized by scientific discursive practices). What is the crucial logic at work here? The logic here is that if big history is a field that is focused on understanding the whole of reality in both narrative and vision it must include the effective consequences of (w)holistic narratives and visions). In this way I would offer the famous axiom developed by Spinoza, deployed by Descartes, and revived by Lacan:<sup>61</sup> “A true idea must agree with its object”. Here the object in question is the *totality of subjective multiplicity’s universal virtual field and the effects of this field in transforming physical reality and constituting social reality*. To be very specific this object is an inverted object field from the totality of the object field analyzed by scientists in the mode of physical naturalism with deep consequences for our understanding of big historical theory.

In physics, chemistry, geology, biology, and so forth (the raw material of big historical narratives and visions) the objects of analysis are external to subjective multiplicity. Thus, we can say that the physical sciences are set up in a fundamental relation between “words” and “things” where “things (physical real) cause “words” (symbolic real). In other words, we repetitively observe the natural world (as “reality”) and when we identify a new object/process (thing/phenomenon) we name it (with a word) and attempt to understand (explain) its relation to the other objects/processes within the field. This is the basic mechanism at work from everything from Newton, to Darwin, to Faraday, to Einstein, and so forth. On the terms of big history we may say that the totality of this field ( $U_1^+$ ) is conceptualized as one interconnected relational entity of which subjective multiplicity plays its part though reasonable interpretation. However,

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<sup>60</sup> Spier, F. 2016. Opening Keynote by Johan Goulsblom and Fred Spier. Third IBHA Conference: Building Big History: Research and Teaching. (14-17 July 2016, University of Amsterdam).

<sup>61</sup> Lacan, J. 2005. Presentation on Psychical Causality. In: *Écrits: The First Complete Edition in English*. Translated by Bruce Fink. New York: Norton. p. 154.

this does not help us to approach the nature of the subjective and historically constituted narrative frames in-themselves which are always-already there positing the primacy of objects, processes, and their relations to each other in the first place. In other words, the ultimate horizon is not the horizon of objects in-themselves or object relations in-themselves that we come to understand indirectly via scientific discursive practices. The ultimate horizon on the terms of history is instead the horizon of self-positing subjective multiplicity that is always already in-itself linguistically framing the whole of reality (worlding).

In order to achieve this inscription of the historical horizon in-itself we will have to be willing to look to the totality of subjective multiplicity's universal virtual field. On the terms of subjective multiplicity we are dealing with an extimate (internally external, or intimately external)<sup>62</sup> object field where (paradoxically) words (symbolic) can cause (imaginary) things to materialize in the physical real.<sup>63</sup> Here we see the ultimate breakdown of the difference between the scientific horizon and the historical (or transcendental) horizon in the sense that causation in human reality in-itself is virtually mediated via universal extimate object field in relation to the truth of the subject (which is its own form of observation and experimentation). Thus many scientific approaches (everything from traditional anthropology to contemporary neuroscience) cannot handle the human subject's truth in-itself. However, for big historical theory, understanding the nature of this universal virtual field is crucial since it is what enables universality to actualize itself in historical processes through particular individual subjects, and is thus a potential way to locate singular universality within a radical multiplicity.

Here I would posit that there is something of an impossibility to reduce "scientific knowledge of the object" (as universality) to "historical truth of the subject" (as universality) even if a better understanding of scientific knowledge can open up new possibility spaces for the historical truth of the subject. The consequence of failing to understand this difference is ultimately a failure of the Newtonian worldview (where the subject's truth is eradicated from consideration for understanding the objective truth of nature). This in turn may explain the rise of "post-modern" social theory which focuses on "deconstructing" subject's who cling too tightly to scientific objectivity in relationship to inscribing relativistic subjective positioning in historical context. Thus, post-modern social theory has tended to become skeptical of scientific analysis of human behaviour and society (i.e. certain schools of psychology, sociology, anthropology, economics, politics, etc.). The problem with certain schools in the human sciences may be that they treat the object of analysis (human beings) from the outside (external view) like a physical scientist would approach an object of analysis (external non/pre-human things/processes). However, human beings cannot be reduced to the external view in this way as the subject as its own virtual

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<sup>62</sup> Here the crucial concept of "extimate" or "extimacy" (a combination of the word "external" and "intimate") does not attempt to re-enforce the traditional psychological distinction between "interior" and "exterior", but instead, very precisely, attempts to convey the concept of an object field whose "exterior is present in the interior" or an object field that has "a quality of exteriority", see: Miller, J-A. 2008. Extimity. *The Symptom* 9. [www.lacan.com/symptom/?p=36](http://www.lacan.com/symptom/?p=36) (accessed: Sept 29, 2016).

<sup>63</sup> See Fig. 5 for a potential modelling structure for this extimate field of the symbolic-imaginary-real.



object that is purely in-itself (i.e. dreaming/worlding). Consequently, post-modern social theory has tended to place far more emphasis on the radically relativistic nature of subjective experience and general intersubjective discourse and action that remains impossible to study on the classical scientific terms of external observation and experimentation.<sup>64</sup>

Consequently, what I am advocating is an approach to big history capable of understanding the multiplicity of narratives (stories, symbolic) and visions (pictures, imaginary) in-themselves. This perspective shifts emphasis from the “physical world” and towards the “world-of-views-and-voices” that frame physical reality and have diverse and extreme effective consequences in relation to actual subjective motion (often irrespective of physical reality).<sup>65</sup> However, as mentioned above, the big historical search for universality can still be maintained within this multiplicity because we can conceptualize universality as the very movement of totalizing narrative-frames manifesting/actualizing in particular subjective individuals. Thus, big historical theory could incorporate a new sense of universality by reflectively developing the necessary general meta-theory to understand this multiplicity of totalizing narratives and visions with higher-order psycho-social analysis. In this sense what I am attempting to introduce is a crucial “minimal difference” in regards universality and the historical (transcendental) constitution of reality that moves universality from the “homogenous outside” (physical world) to the “heterogenous outside within” (virtual world) that always-already constitutes what we think of the “homogenous outside” (physical world).

How would this potentially change an aspect of big history theory? First, contemporary big historical theory conceptualizes universality as the abstract notion of “physical reality” constituted by scholarly interpretation and empirical observations. However, what I am suggesting is that this “abstract universality” (scholarly interpretation) or “physical reality” (empirical observations) should not be confused with the *real virtual universal* which works in and through each particular subjectivity in historical context (which is not just valid depending on scholarly interpretation and deeply related to physical and social consequences in historical reality). In other words, the universal horizon of reality is not constituted by the gaze and voice of contemporary subject’s of science (although forms of universality also move through their particular forms of subjectivity), but rather the universal horizon of reality is the historical gaze and voice of subjective multiplicity in-itself and the way in which the totality of that subjective multiplicity fractures objective reality via symbolic-imaginary communal dream action (related to science, religion, politics, art, and other large-scale communal entities). Thus, we cannot merely judge a big historical totality in terms of how well (a certain number of “subjects of science” believe) a certain world-view-and-voice structure is aligned to the positive material contents of the physical

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<sup>64</sup> see: Foucault, M. 1970. *The order of things: An archaeology of human sciences*. New York: Pantheon Books.; Baudrillard, J. 1995. *Simulacra and simulation*. Ann Arbor: University of Michigan Press.; Derrida, J. 1997. *Of grammatology*. Baltimore: Johns Hopkins University Press.

<sup>65</sup> Vetias, V. & Weinbaum (Weaver), D. 2015. A World of Views: A World of Interacting Post-Human Intelligences. In: *The End of the Beginning: Life, Society and Economy on the Brink of Singularity*. Goertzel, B. & Goertzel, T. (Eds.). Humanity+ Press. p. 373-427.

object that both precedes the subject and prevents direct contact. The real virtual universal as a meaningful field (“semiosphere”) possesses beliefs, desires, and intentions that are purely in-itself and can only be judged by higher social orders of history itself.

In this sense the first and most important point to articulate here is that this paper preposes a theoretical adjustment to the focus of big history that seeks to turn big historical inquiry inside out (to invert the object in question). Thus, if the fundamental ontological formula of contemporary big history is  $\emptyset(U_1^+)\infty$  (void—>physical universality—>subjective multiplicity), where physical universality emerges from the quantum void, and subjective multiplicity emerges from physical universality; then the theoretical foundation being proposed here looks to be something along the lines of:  $\infty(U_1^-)\emptyset$  (subjective multiplicity—>virtual universality—>void), where virtual universality emerges from subjective multiplicity, which in turns covers/positivizes the void (i.e. the “fullness” of symbolic-imaginary totality hides the fact/protects individuals and societies from the fact that our virtuality/dreams/pictures hover over nothingness). In other words, when we are thinking about the totalizing images and narratives produced by subjective multiplicity desiring a big historical reconciliation of singular universality (e.g. God, heaven, utopia, super-humanity, post-humanity, etc.) we can think of these images and narratives as “existing” in a state opened by the lack/void/hole of actual singular universality.

In order to accomplish this inversion of big history towards thinking the universality of mortal and finite world views and voices in-themselves we must attempt to climb the order of social reality. First we must make the jump from *first-order thinking* (i.e. positivist approach centered on “objective” analysis of physical reality) where the multiplicity of subjective interpretation is excluded from the theoretical ground to *second-order thinking* (i.e. constructor relativism characterized by observer-observed systems that form their own entangled circular loop) where the multiplicity of subjective interpretation is impossible to disconnect/disentangle from the theoretical ground that inscribes an object field.<sup>66</sup> From the perspective of second-order cybernetics much more emphasis would be placed on the observer, i.e. how a scientist or philosopher (theorist) actively constructs big historical visions and narratives (i.e. methodology, focus, bias, as well as political, economic, social, psychological context).<sup>67</sup> Thus, the “objective” status of these visions and narratives (as world models/maps) becomes dizzily relativized to/entangled with the subjective locus producing it (i.e. the particular “view and voice” that insanely rants to the others about the whole of physical reality).<sup>68</sup>

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<sup>66</sup> Heylighen, F. & Joslyn, C. 2001. Cybernetics and Second-Order Cybernetics. In: *Encyclopedia of Physical Science & Technology* (3rd ed.). Meyers, R.A. (Ed). New York: Academic Press.

<sup>67</sup> Umpleby, S.A. 2016. Second-Order Cybernetics as a Fundamental Revolution in Science. *Constructivist Foundations*, 11(3): 455-88.

<sup>68</sup> “But if man were reduced to being nothing but the echoing locus of our discourse, wouldn’t the question then come back to us, “What is the point to addressing our discourse to him?” Lacan, J. 2005. Overture to this Collociton. In: *Écrits: The First Complete Edition in English*. Translated by Bruce Fink. New York: Norton. p. 4.

However, this first step (*first to second* order thinking) does not help us in a potential concrete confrontation with singular universality in the phenomenological-experiential sense as it opens the door for the universality of deconstruction in the quite fundamental sense that our “true other” is still a barred (impossible) physical reality (i.e. the “Kantian” things-in-themselves). In other words, no matter how long we look and call this other (physical nature), it will never return the look (world-view), it will never return the call (world-voice), it will never validate the insistence of our virtual belief and desire structure: it is an *impossible thing* in precise relation to the *impossible image* and we will forever be absolutely alone within our own irreducibly isolated horizon of meaning. Thus, this first step could be followed by a second step to third order big history that shifts towards observing-observed systems forming their own higher relativistic level (i.e. the totality of subjective multiplicity in-itself).<sup>69</sup> This can be theoretically accomplished as a consequence of self-observing viewers and voices themselves incorporating their self-observing world-views-and-voices as models structured by an a priori frame of desire that unconsciously filters orientation, intervention, and understanding of subject-object entanglement. This moves us beyond the level of science (first order) and deconstruction (second order) and toward the level of psychoanalysis where the processing of unconscious desire and its integration with reason becomes the fundamental level of big historical reality.

To push further (fourth order) we could first identify the individual and collective level of overdetermination (totality of subjective multiplicity in-itself as a dynamic force) where an observer (or network of observers) reflectively incorporate their noumenal view and voice models structured by an a priori frame of desire as capable of overdetermining the virtually narrated images of externally observed objects (“the world”) through transcendental reflection and creation. This is a process that occurs on the level of historical subjectivity (or historical archetypal subjectivities) (e.g. Plato, Jesus, Buddha, Da Vinci, Newton, Darwin, Einstein, etc.) and is the actualization of the real virtual universal in the motion of being channeled through particular individuals (or where an ideal archetype becomes embodied in particular individuals). Thus, on the level of historical subjectivity and the real virtual universal the subject’s virtual world-view-and-voice structure as other can overdetermine our understanding of physical and social reality in the mode of “subjects of science” but also in the mode of “subjects of” politics, art, love, religion, and so forth. Consequently, on the fourth-order of big history we shift our analysis to the “agents of big history” in the “becoming of singular universality”.

To push even further still (fifth order) we could take the totality of subjective multiplicity as a dynamic world-view-and-voice structure. We can imagine this order as the total sphere of virtuality that exists as the eternal (timeless) niche for discursive articulation (i.e. where the symbolic grounds itself in the imaginary field). Of course, there is something of an impossibility when attempting to imagine the “total sphere of the imaginary field” in-itself and the multiplicity of limit-images which characterize its own horizon. However, it is this horizon of limit-images (e.g. God, heaven, utopia, super-humanity, post-humanity, etc.) which stabilize the only “true

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<sup>69</sup> Yolles, M. & Fink, G. 2015. A general theory of generic modelling and paradigm shifts: part 2 — cybernetic orders. *Kybernetes*, 44(2), p. 299-310.

other” of subjectivity and constitute the highest level of what some social theorists call the “semiosphere” (i.e. the sphere of meaning distinct from the biosphere that emerges with language and enables the existence of supra-individual social constructs).<sup>70</sup> These limit-images most fundamentally structure the motion of subjective multiplicity in-itself and thus constitute the furthest reaches of the “virtual plane of immanence” (i.e. the immanence of human limit-images) as a field of imaginary potentiality that are inherently open to actualization via the intensity of subjective/mental action.<sup>71</sup> This move to analysis of the fifth-order as the total sphere of virtuality holding subjective multiplicity is, perhaps, the way to locate the imaginary-real in-itself via the symbolic, because the “true other” for the totality of the subjective multiplicity is *no longer the physical world revealed to us through sensory perception* (big history as:  $\emptyset(U_1^+)\infty$ ) but instead *the suprasensible (imperceptible) world view-and-voice* (of the imaginary-real) that emerges as the virtual effacement/positivization of the void (big history as:  $\infty(U_1^-)\emptyset$ ).<sup>72</sup>

This interpretative meta-level is obviously highly relativistic and indeterministic in relation to the observer’s field of virtual objects but absolute in-itself (as evidence by the observer’s disposition in-itself in relation to belief, desire, and intention). Thus, when contemplating the immanence of the imaginary real as a fifth-order “absolute other” the important consideration is to not just think of “world-view-and-voice” structures as related to relativistic and indeterministic self-recursive virtual entities (third order) that can overdetermine historical process (fourth order), but also and much more radically, to conceptualize the totality of these virtual entities as relating/interacting with each other in an “extimate field” all of its own (fifth order) where the ideational environment in-itself becomes the creator in its asymmetrical and irreversible relation to the processing/sublimation of physical universality in a network of pure relations. From my perspective it may be possible to here apply the classic psychoanalytic triad of the symbolic-imaginary-real to this higher-order extimate space or “semiosphere / virtual plane of immanence”. From this application it may be possible to analyze the psycho-social contents and dynamics of the higher orders of big historical social reality in relation to subjective belief, desire, and intention on the level of psycholinguistics (Fig. 5). Furthermore, we can here summarize the cybernetic “higher” orders of social reality from first to fifth:

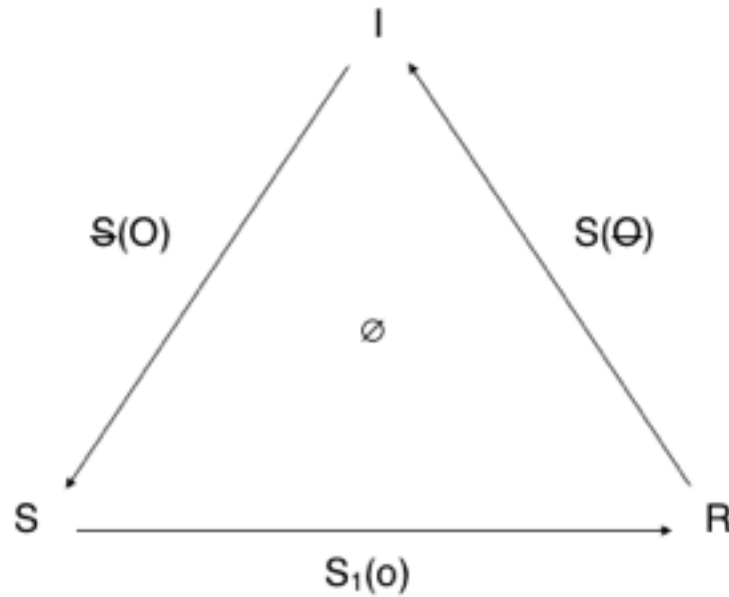
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<sup>70</sup> Lenartowicz, M. 2016. Creatures of the Semiosphere: A problematic third party in the “humans plus technology” cognitive architecture of the future global superintelligence. *Technological Forecasting and Social Change*, DOI: 10.1016/j.techfore.2016.07.006.

<sup>71</sup> Weinbaum, D.R. 2015. Complexity and the Philosophy of Becoming. *Foundations of Science*, 20: 283-322.

<sup>72</sup> Again see Fig. 5 for a potential modelling structure for this extimate field of the symbolic-imaginary-real.

Figure 5: Psychoanalytic Triad of Imaginary-Symbolic-Real (ISR)<sup>73</sup>



Order	Description	Example
First order	externally observed objects are modelled with an observer’s noumenal view and voice that is systematically excluded from the “objective” model of the world to create the effect that the “true natural world” in-itself is looking and speaking at the subject	Science
Second order	observer’s noumenal view and voice of externally observed objects is included in the model thus creatively relativizing the observer’s “objective” world model to the subjective locus producing it in order to study its effects in the ideational field structuring the motion of subject-object entanglement	Deconstruction

<sup>73</sup> Modified diagram in Žižek, S. 2014. From Here to *Den*. In: *Absolute Recoil: Towards a New Foundation of Dialectical Materialism*. London: Verso. p. 255. The crucial description of how to read this ISR triad: “the three Lacanian dimensions are intertwined (knotted) in such a way that no two dimensions are directly connected but are held together only through the third, so that if we cut out the third dimension, the other two are also disconnected — the point being that there is no (direct) relationship between any two dimensions, since each of them relate to another only through the third. It is only through the imaginary — the *objet a* [partial object other, in this paper: (o) grounding (S<sub>1</sub>)] — that the Real is linked to the symbolic; it is only through the symbolic — S(A) [barred Other, in this paper: Θ] — that the imaginary is linked to the Real; it is only through the Real — S, the barred subject [in this paper oriented towards [O]] — that the symbolic is linked to the Imaginary. [...] [These] three worlds [ISR] “hover in midair over the abyss of Nothingness” [∅]” (ibid.). For Lacan’s last version of the ISR triad, which includes the dimension of enjoyment [enjoy-*meant*] [in this paper produced in the “symbolic → real” of S<sub>ne</sub> orbiting S<sub>1</sub>(o)] see: Lacan, J. 1999. Knowledge and truth. In: *The Seminar of Jacques Lacan. Book XX: On Feminine Sexuality, The Limits of Love and Knowledge, 1972-1973*. Edited by Jacques-Alain Miller, Translated with notes by Bruce Fink. New York: W.W. Norton & Company. p. 90.

Order	Description	Example
<b>Third order</b>	observer of externally observed objects reflectively incorporates its own and subjective multiplicities noumenal world view and voice model as a (virtual, extimate) object of analysis structured by an a priori frame of desire that unconsciously filters orientation, intervention, and understanding of subject-object entanglement	Psychoanalysis
<b>Fourth order</b>	observer reflectively incorporates noumenal view and voice model(s) structured by a priori frames of desire as capable of overdetermining the virtually narrated images of externally observed objects (“the world”) through transcendental reflection and creation	Historical subjectivity
<b>Fifth order</b>	observer identifies the virtual ideational field composed of a multiplicity of self-relating and desiring world view and voice models as a universal agency (“semiosphere”) in-itself with asymmetrical and irreversible reflective and creative autonomy structuring the motion of subject-object entanglement	History itself

Thus, and to summarize the logic of this paper, if big history is a field that is focused on understanding the whole of reality in both a total vision and grand narrative (including the effective consequences of (w)holistic narratives and visions), big historians must be able to interpret the way in which the multiplicity of subjectivity is always already constituting the whole of reality in totalizing visions and narratives on the level of a historical horizon in-itself. Furthermore, this could be why the multiplicity of subjectivity clearly appears at the problematic heart of both the micro-macro reality antagonism (i.e. quantum gravity) and also the middle world eschatological event horizon (i.e. technological singularity). In other words, to echo the introductory challenges of this article, if every study (from physics to sociology) is a “part-object” in relation to the study of big history, does this “holistic project” lead to anything seriously new in terms of fundamental theory about the whole of reality? Or are we here dealing with (yet another) empty repetition of the whole incapable of producing its own positive content and thus failing to inform the modern global citizen about the meaning of the whole? From my perspective if big history is serious then it should be able to develop a meta-level understanding of symbolic (stories/narratives) and imaginary (pictures/images) phenomena that are in-themselves the transcendental agents of historical transformations (including on the level of fundamental physics theory or of the level of general evolutionary theory).

Consequently, and from my perspective, a bold big history theory would look for a new form of *undeconstructible* universality that can *constructively go beyond scientific universality* (and thus also go beyond discursive deconstruction (second order) and void spirituality (no order)). Discursive deconstruction stands for the impossibility of complete and consistent knowledge of physical reality (and thus stands as a universal negation of constructive scientific universality). Void spirituality stands for the universality of the void for the hole/lack/gap in physical reality in-itself (the space that renders fundamental reality an empty nothingness). Physical naturalism stands for the possibility of discovering universality in simple constructive symbolic principles (typically mathematical formulae). However, each form has its fundamental shortcomings when put into the context of higher order social reality. For example, discursive deconstruct-

tion and void spirituality successfully engage the totality of subjective multiplicity, but they both fail to affirm a constructive universality either on the scale of the psycholinguistic unit (subject) or on the scale of the psycholinguistic-social unit (community). In contrast, physical naturalism affirms an effective and constructive universality, but cannot include the totality of subjectivity (only the horizon of subjectivity that understands and conforms to physical naturalism). Consequently, if we are to embrace a big history that can handle the symbolic-imaginary (visions and narratives) in-themselves (and their general effectiveness in relation to religion, politics, art, love, etc.) we must reflectively understand that science in its fundamental operations *cannot include the subjective multiplicity or its ontological consequences in relation to the becoming of reality*.

Moreover, and perhaps even more importantly, from the perspective of subjective multiplicity we can see this double-problem field in fundamental physics and complexity/evolutionary science in a totally new way. We can see it in a totally new way because both fundamental problems, although they appear totally disconnected in terms of scale (Fig. 4), share the fact that they are problematic in relation to subjective multiplicity and also were both primordially posited by subjective multiplicity in the symbolic-imaginary. Thus, by including subjective multiplicity in the frame we can re-frame this double-problem field of scientific universality *as precisely the same problem on the terms of an antagonism fundamental to the big historical level of mental conceptualization*. In other words, if we shift perspective to the higher order sphere of virtual meaning perhaps we can see the problems of “quantum gravity” and the problems of “technological singularity” as the exact same problem and that the reconciliation of a concrete universality may require an understanding of inscribing the totality of subjective multiplicity and the truth of its mental conceptualizations into this field. Thus, in contrast to contemporary cosmic evolutionary/complexity science theory focused on material processes in spacetime, big history theory should be capable of *radiating out from the multiplicity of subjectivity that constitutes big historical inquiry as such within the virtual spherical domain of higher-order meaning searching for a concrete singular universality*:

- 1) Micro-macro reality incompatible due to unknown properties of *quantum gravitation* (quantum physics, cosmology);
- 2) Unknown consequences of rising complexity due to predicted *technological singularity* (complexity science, cosmic evolution);
- 3) Inscribe total immanence of subjective multiplicity (symbolic-imaginary) attempting to “real-ize” an “ideal relation to otherness” via strange loops of self-positing into the frame as a phenomenon capable of generating a *quantum gravitational technological singularity* (anthropology, psychoanalysis)

In big historical terms, the higher-order virtual realm of meaning that houses the totality of subjective multiplicity should be seen as in-itself the emergence of an incredible mystery worthy of meta-level theory. Moreover, we should pay close attention to the way in which this high-

er-order virtual realm has started to mentally model physical reality utilizing idealized first-order scientific symbolic discursive practices in narrative and vision that in themselves will have emergent transcendental ontological effects, i.e. “scientific knowledge of the object” opens up the possibility spaces for the realization of the “historical truth of the subject”. In other words, the big historical consequence of being able to model this higher-order realm of the symbolic-imaginary in-itself would be to develop a drive for a theory that, instead of tethering the narratives and visions of the subjective multiplicity to the narrative and vision (gaze and voice) of science in-itself, would realize that the subjective multiplicity always-already transcendently frames the whole of reality with symbolic-imaginary fictions that stabilize *worlds/frames that are valid in-themselves* (effects of the real). These (virtual) worlds/frames (of reality) have actual physical consequences in relation to the becoming of physical reality in-itself, i.e. *effective general fiction (e.g. science, religion, politics, art, etc.) is the interesting phenomenon in relationship to the becoming of the symbolic-imaginary in relation to what we think of as physical reality.*

To connect this back to the aforementioned universality field deadlock between physical naturalism, void spirituality, and discursive deconstruction, this new approach would thus speak to a big history that can analyze the *universality of fiction* which is both capable of being constructive (e.g. science, religion, art, politics, love, etc.) and includes the totality of subjective multiplicity as the foundation of their community life. This could immediately be able to inform a change to big historical analysis which is capable of modelling the higher-order big historical constructs and their consequences for the total sphere of subjective multiplicity. Thus, the question is not whether or not a total vision and narrative is aligned (agrees) with physical nature (or how well it describes physical nature) but rather to understand how a big historical totality (vision and narrative) effectively functions in relationship to subjective motion in the higher-orders of the real virtual sphere of meaning. In other words, from this view of fictional universality, each human being is nothing but a subjective loop with a virtual fictional construct that attempts to map and understand (epistemology) the whole of reality (big history) in order to stabilize some relationship to (what it perceives to be) the ideal real other of subjective multiplicity.

Consequently, this multiplicity of “strange loops” searching for “reality” needs to be understood in-itself (the motion of the subjective multiplicity holding big historical visions and narratives). This would not be easy because it would involve the discursive mediation of the processual becoming of a global community of strange loops in-itself (higher order analysis instead of first order analysis). To be specific the effectiveness of the mediation of the community of strange loops searching for the universally real (and thus the validity of a particular big history) should not be understood on the terms of physical naturalism but instead on the terms of the subject’s processual becoming with the higher-orders of the real virtual sphere of meaning that contains all subjective multiplicity. In this way we could potentially approach a meta-level understanding of philosophy, religion, and other big historical fictional constructs that spontaneously exist in the subjective multiplicity (and always have) independently of the subject of big history and the community of big historians that attempt to sanction physical nature with their particular abstract universality.