The Enigma of the Recurring "Bodies" From Si Spencer's Adaptation

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Abstract

Finding forensic science analogically revealing of conceptual or textual analysis, this paper investigates (punned intended) the concept of movement as enunciated by Yuk Hui's *Recursivity and Contingency* by alluding to the extraordinary 2023 limited series created by Paul Tomalin, a titular adaptation of Si Spenser's 2015 graphic novel. The title does not merely remind us of the implied investigative procedural but more importantly the notion of *habeas corpus* (the corpse as evidence of murder) upon which the law insists when putting homicidal cases on trial. Of key import are these research inquiries: what role does the enigmatic cadaver the four detectives discover at Whitechapel past, present and future play? How does Yuk Hui's 2019 *Recursivity and Contingency* which articulates the three movements of linearity and non-linearity (tracing the systemic development from the feedback of first-order cybernetics to the recursion of second-order cybernetics) permit the allegorical working through here of the anatomical recurrences of Gabriel Defoe? Significantly the Ariadne thread that tie the mystery within the four timelines of 1890, 1941, 2023 and 2053, this thesis asserts that Tomalin's 2023 *Bodies* figuratively reworks these mirror-like encounters (also the adaptive possibilities given by Spencer's 2015 version) to evoke not just the reflexivity necessitated by analytical thought (or detective work) but also the digital co-creation promised by Web 3.0 when aesthetically examined with cinematographic postulation. Thus the Deutsch particle mentioned is arguably underscored by the shared etymology of commute and communication, with paradigmatic emphasis shifting to the computation and communication implied by Tomalin's time machine, the Throat.

Keywords: System Science, Quantum Science, Si Spenser, Tomalin's 2023 Bodies, Graphic Novel and Allegory

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Introduction

Paul Tomalin's 2023 titular adaptation is not merely a science-fictional Netflix original series, premised on Si Spencer's 2015 graphic novel, *Bodies*; it arguably symbolises the pertinent issues of informational capitalism. It also testifies to the importance of what Yuk Hui states during his presentation at a conference entitled "Artificial Imagination", a notion of which graphic or animated productions are instances. Hui himself has questioned the title used for this conference which is further intensified here since artificial intelligence has now taken digital culture by storm, designed to not only relieve us of our tedious chores but also aid the enhancing of our retentive possibilities. If our imagination is of any use within contemporary culture, we need to heed Friedrich Schiller's three drives, understanding how significant these drives are: the first being the formal drive, buoyed by logical postulations and the second material drive which indicates the import of our five senses when considering lived experiences. The cultural productions mentioned are examples of what Schiller calls "play drives", fusions of his formal and material ones, one indicative of intelligibility and the other sensibility, a merger arguably going beyond that of the deductive or the inductive with the transductive operations and structures described by Gilbert Simondon's oeuvre. This means that we are not only dealing with logical reflections but also transcendental ones: notwithstanding the messianic or embodiment (aligned definitively with the contextual and material dimensions that exceed the body as a physiological entity) underpinnings of Gabriel Defoe's bodies appearing at four different timelines, this thesis does not refer to out-of-this-world experiences. These transcendental reflections, when read with system science, are what Niklas Luhmann calls second-order or third-order feedback, recursive exercises leading to resolutions and/or improvements, self or otherwise, via communication (the heuristics elaborated later), comparable to the Simondonian emphasis on the transindividual reception of information when transducing.

More scope is given here to Schiller's notion of "play" here by indicating that these ludic manifestations of culture are transductive operations of which Si Spenser's 2015 *Bodies* is one instance. It recursively alludes to the strange complementarity between system and quantum sciences, one arguably a macrocosmic reflection of the other, which inheres microcosmically at subatomic levels. These sciences are also comparably discussed here not only because of their supersession of classical sciences and metaphysical realities but also because quantum computation is the most advanced technological manifestation to date, foregrounding the much-anticipated superintelligence that will move us beyond the current obsession with artificial intelligence. When I was in Japan last year presenting at IAFOR Kyoto 2023 conference, there was another supposed conference participation scheduled on sciences where I was going to speak on the recurring motifs of M. C. Escher's artworks, interpreted via system science. The abstract was written with the word "recursion" as the unarticulated key concept. Sometime early this year Hui's oeuvre was chanced upon and, most unfortunately, he has already published a 2019 book entitled *Recursivity and Contingency*. While discovering many similarities between Yuk Hui's philosophical research on technology and mine, there is a key difference between our approaches to computation and system science. His is an ontological and epistemological take on advanced computational science and mine, an aesthetic approach to the ontological and epistemological issues evinced by this postindustrial epoch and read with quantum and system sciences. I have always been intrigued by the progressive and creative aspects of science-fiction, a genre considered low-brow rather than high-brow, and decided that my approach to system and computer science should be a science-fictional one, despite the fact that one reviewer, Jason Lariviere, of Hui's *The Existence of Digital Objects* thought that "it is to Hui's credit that his work does not refer

to science-fictional imaginaries to goose the already fraught convergence" (2017, 131). My approach which is premised on science-fiction could help uncover the secret core of both quantum and computational sciences, here a direct allusion to the Derridian trace, since Luhmann (the renowned sociologist on system science to whom most of the thinkers referred when discussing system science) refers to deconstruction as an interpretative approach similar to his version of system science. Finding the systemic science of forensics *analogically reflexive* of quantum science, and also analogically revealing of conceptual or textual analysis, this paper investigates (punned intended) the concept of movement as enunciated by Hui's 2019 *Recursivity and Contingency* with allusion to the extraordinary 2023 limited series created by Tomalin, a titular adaptation of Spenser's graphic novel. The title does not merely remind us of the implied investigative procedural but more importantly the *habeas corpus* (the corpse as evidence of murder) upon which the law insists when putting homicidal cases on trial. Of key import are not only these research inquiries posed during the conference participation: what role does the enigmatic cadaver the four detectives discover at Whitechapel past, present and future play? How does Hui's *Recursivity and Contingency* which articulates the three movements of linearity and non-linearity tracing the systemic development from the feedback of first-order cybernetics to the recursion of second-order cybernetics permit the allegorical working through here of the anatomical recurrences of Gabriel Defoe? More important to this paper on quantum physics are these questions: what can an aesthetic approach to the sciences inform us about the core of these factual approaches and how artistic productions allegorically signify quantum and general sciences? This thesis insists that Hui's *Recursivity and Contingen*cy engagement with the Hegelian spiral misses the point due to the fact that the linear and nonlinear moves within his discussion do not encapsulate the quantum notion of non-linearity. Circular moves are still considered linear especially if they move from point to point progressively. Non-linear moves require backward and forward temporal jumps that go beyond clock time. The dialectical conception of the arts and the sciences within the Hegelian framework becomes not just visibly significant but epochally as well, where media ecology increasingly impacts us socially, politically and economically. Moreover, it affirms Spenser's adaptation as an allegorical visual expression of quantum computation, bringing to the fore what is lacking within Hui's 2019 *Recursivity and Contingency.* Significantly the Ariadne thread that tie the mystery within the four timelines of 1890, 1941, 2023 and 2053, this thesis also asserts that Tomalin's 2023 *Bodies* figuratively reworks these mirror-like encounters (pointing too to the adaptive possibilities given by Spencer's 2015 version) to evoke not just the reflexivity necessitated by analytical thought (or detective work), predicated on system science and its significance to the sciences for which systemic elaborations are necessitated, but also the enhanced digital co-creation promised by Web 3.0 when aesthetically examined through cinematographic postulation. Thus the Deutsch particle (named after the renowned particle physicist, David Deutsch, whose reputation rests on his innovative introduction of quantum computation) mentioned is arguably underscored by the shared etymology of commute (significantly reminiscent of "change", "exchange" and "route") and communication (and, by extension, the enhanced interactivity of Web 2.0 that prepares us for the advent of Web 3.0), with paradigmatic emphasis shifting to the computation and communication (also the redirected focus on "transmission" and "exchange" with the inferred "changes") implied by Tomalin's time machine, the Throat.

The Throat as Organically Symbolic of Communication

The Throat, oddly named for a time machine (although not that strange if we examine its function in line with commute and commun(e)icate), is the device that allows Elias Mannix,

the villain, the ability not just to travel back to the end of the 19th century so as to ensure his progenitor's existence; its looping design (also metaphorical of the self-reflexivity of the autopoiesis of first-order cybernetics) via a four-way neutrino split, two ways backwards and two ways forwards, aids his elaborate scheming so that a brave new world can be forged. Reminiscent of the totalitarian aspects of Aldous Huxley's universe, the cultish KYAL actually indicates the motivating factor upon which the entire plot is founded. More about motivations later because what concern us now are the definitions of "contingency" that may have profound consequences to heuristics. These can be discerned when Hui elaborates these three moves that arguably found his discourse on recursivity and contingency but become insignificant due to the insufficient emphasis given to them: "*Linear mechanical movement* with predefined finality linearly chained to causalities… for which contingency means error… *Non-linear movement with predefined finality*… [and] [N]on-linear movement with auto-finality…" (2019, 13-14, emphasis mine). Hui's elaborations of these three movements describe contingency as either error or occurrences inviting alteration. And it is with these descriptions of motion that the notions of repeatability such as iteration, repetition and reiterability (iteration is repeatability without any distinctions; repetition incurs identity for each repeated element with different spatialisation and reiterability is a type of repetition that imbues the repeated element with distinctive qualities due to differing conditions or contexts) are provided further notations by the author. These moves premised on the dichotomous pairing of linearity and non-linearity and symmetry and asymmetry are important to this age of information, especially when Hui points out that, after the mid-twentieth century, the thinker, Martin Heidegger calls the advent of the cybernetic epoch the end of metaphysics. The significance of cybernetics manifests when the circularity of its reflexiveness erases the dichotomies previously mentioned with a monistic self-referentiality. He cites the Hegelian spiral that aptly describe a looping which integrates the other, an alterity collected *en route* (hopefully not assimilated because I have always found the use of the word "integration" masking assimilative or mis-appropriative efforts) and synthetically fused, signaling the new science of second-order or third-order systemic reflection. Whether adaptive (necessitated by the new conditions of informational capitalism) or adoptive (again the unprecedented technological advancements enabled by digitisation and convergence require progressive inculcation of novel approaches to communication and technology, both notable keywords of system science), one should refer to Hui's 2020 publication, "Machine and Ecology" for his discursive emphasis on the "dualism of critique" (2020, 54) with the intent of philosophy on "overcoming dualism" (2020, 55). I shall refer to Hui's comprehensive definitions of "adaptation" and "adoption" when elaborating the relations between machine and its ecology with reference to Ernst Haeckel's ecological conception: "…to show that the environment is not only that which selects according to its physicality … but also that which is selected and internalized by the living being. The first type of selection may be called *adaptation*, meaning that the living being has to adapt itself to the milieu according to the available resources and physical conditions; the second type of selection may be called *adoption*, meaning that the living being has to select and to construct contexts from what is available to it as means of survival" (2020, 56). Thus, curation is definitely the key to adaptive or adoptive endeavours, signaling to us its parallel importance to media ecology in the communicative and technological areas of codification and datafication which require selection as a key operation.

The speed and moves when communicating or commuting are mirrored by the positionality, speed and movement when discussing the measuring processes of quanta. The dead body of Defoe, as a particle physicist from 2053, which mysteriously appears at four different timelines, prompts the investigative procedurals of Alfred Hillinghead, Charles Whiteman,

Shahara Hasan and Iris Maplewood at Longharvest Lane of Whitechapel: the many world manifestation within the graphic novel encapsulates that which Hui's conceptions of iteration. repetition and reiterability have not considered: albeit sharing the same space, differing temporalities are of paramount import to the recontextualisation of the aforementioned legal procedurals. This defies his previous denotations of repeatability which are founded on space rather than time. Defoe's scientific discovery of the Deutsch particle too helps create the Throat, wherein his material insertion temporally fractures embodied wholeness with multiple duplications, allegorical of the uncanny presences that refract and pose gaps as noted by one reviewer of Tomalin's 2023 *Bodies* who complained about the many inconsistencies (one of which is the inexplicable existence of the Throat) found within the Netflix series. Particle physics insists that particles, which materialise when wave functions collapse, are constituted by 6 quarks and 3 pairs of coils. Photons, which are the focus here, are both waves and particles (now simply considered as quantum states but their previous classifications are crucial to our reading of Spencer's graphic novel) and one exists due to the collapse of the other. When particles interact via long distances, quantum field theory has it that superposition occurs. System science speaks of the "horizon" that frames systemic interactions on a macrocosmic level; quantum science gestures to the many worlds that occur offering the multiple ontological possibilities before the calculation of the Lorentz invariance collapses the many waves. Spenser's graphic novel shows superb dramaturgy with appropriate research into the concept of superposition within quantum field theory. The Throat, dispersing Defoe's bodies to four different timelines through the four-way neutrino split, exemplifies the four-dimensional approach of quantum with a particle splitting by virtue of the four temporal vectors, similarly calculated both ways. It is a four multiplied by four as quantitatively described by quantum field multiplication. Thus this superpositional split led to multiverses that are found within the same space of Longharvest Lane at Whitechapel but at the different timelines of 1890, 1941, 2023 and 2053. Tomalin's *Bodies* renders clear the surpassing of the linearity and layeredness of classical sciences (extrapolated by Sonia Livingstone and cited by Terry Flew's introduction to his 2014 *New Media*) and metaphysics with the contemporary moves given by quantum computation. If we are examining movements that are adapted to contemporary situations of unprecedented technological progress then the movements that really matter are not the ones aligned with Cartesian mechanism but that of the organismic (Hui's Stieglerian discussion of organology is noteworthy), entailing *possibly asymmetry and definitely non-linearity* (and this of course implies increased decentralisation rather than the unfortunate centralisation of Web 2.0 that saw the rise of big-tech monopolies). Web 3.0 further enhances the interactive possibilities given by Web 2.0 with emphasis on decentralisation (especially with the introduction of blockchain technology) and increased collaboration, moving beyond the post-ownership of participatory culture with the advent of Web 2.0 to a more commercial and self-possessive strand of the digital and informational economies obvious today. The addition of artificial intelligence to digitisation also means greater customisation and personalisation together with increased digital speed and search engine optimisation, a forward move to more profound psychic individuation of the Web 3.0 users embedded within informational capitalism. The three "R"s of this epoch are no longer recycle, reuse and reduce but resourcefulness, resilience and resolution with more attention given to the integration of encountered contingencies.

Contemporary societies akin to life itself imply the necessity of contingency; it is necessary not just for variability (Gregory Bateson's cybernetic foundation on difference contrasts Simondon's more harmonious take on disparation) but also innovation and creation. Instead of Hui's three movements, I shall propose four moves: first, a linear deterministic *telos*

(similar to Hui's take on processes that consider contingency encountered as error); second, linear non-deterministic *telos* (contingency integrated via cybernetic processes so as to ensure adaptation to an ever-changing environment); third, non-linear deterministic *telos* (contingency encountered and determined via a circular reflection and aligned with Hui's third movement) and, four, non-linear non-deterministic *telos* (a doubly contingent instantiation scientifically known as chaos that requires us to take that quantum leap of not just integration but *resourceful adoption of idea*s). Movements defined as linear deterministic *telos* and non-linear deterministic *telos* can be classified under Paul Cilliers's conception of "complication" within system science (also known as Cartesian mechanistic processes) whereas linear non-deterministic *telos* and non-linear non-deterministic *telos* are classified under his notion of "complexity": complex systems theory, whereby Bergsonian organismic processes (his famed *elan vital*) actually reign, a science of communication that sees communicative technology as extensions of man rather than mere tools distinct from man. The Throat, as filmically featured, is not merely a vocal metaphor but also a figure of quantum, giving centerstage the temporal movements associated with interactive expressions enabled by digitisation and media convergence, not merely indicating the significance of communication in an age of information but also the retentive and protentive possibilities of computation, comparable to the memorious backward and anticipatory forward moves of our streams of consciousness, which artificial intelligence may someday emulate, according to Katherine Hayles.

System's Organising Inorganic Shifting to Quantum's Codifying Strings

Communication with its attendant accompaniments of projections (protentions) and memories technologically retained (retentions) when read with system science, attests to the connective and informational values upon which social systems are based; these potentialities also point to the rational and memorious operators enabled by neurons recursively updating the neural and cybernetic networks. With the key concept of system science as *communication* and the major premise of quantum sciences being *interaction* (the quantum concept of entanglement significantly contributes to the interactivity of particles existing on various existential planes, each influencing the others), one needs to heed both Luhmann's and Albert's and Bathon's extrapolations of the interactivity of system and environment and the speed as well as direction of the wave flows that lead to the positionality of particles when calculated.

Besides the organising premise of system and quantum sciences, one extrapolated as the "organising inorganic" of advanced communication technology and the other the codifying interactivity of entangled particles, both scientific approaches examine the engagements made between elements or entities with their environments. Luhmann's and Albert's and Bathon's scientific discussions on system and quantum cohere ecologically with the figure and ground pairing of Gestalt psychology. This pairing instantiates the "ecological reciprocity" of Hayles's "Technosymbiosis", bringing to mind the harmonious disposition of ecological thought (as always a dichotomous fusion rather than tension) but also Hui's allusion to how the figure and ground co-exist at the beginning of his book. Hui clearly thinks that the material aspect of technology is the figure, while global culture is the ground. Notwithstanding the physicality of the virtual support, after Deleuze's concept of immanence, the latter's *ground of virtual or ideational possibilities* does more than bring to the fore the materiality of the technological body, again the symbolic significance of Defoe's cadaver; the Deleuzian ground of thousand plateaus is reminiscent of the quantum potentialities as described under "wave functions" wherein only one possibility becomes materialised as

particle when measured. This indicates additionally Tim Gold's culture of invention that signifyingly points to us as *homo faber* rather than *homo sapiens* (also elaborated by Hui's chapter on Prometheanism, a legendary account on the ontological and epistemological premise of *techne* and by extension technology found within *Recursivity and Contingency*): we, as a species, do not only imitate or simulate; we actualize our potentials by *making*, a productive possibility given due attention by Bernard Stiegler's *Technics and Time* series, which too calls attention to the Simondonian *transduction*: cultural transformations that accompany transforming hybrid productions. Whereas Simondon is affirmative when it comes to innovation (most of us are when embedded within the current informational capitalism) we need to heed Heidegger's "caution" (S*orgen*) that we do not become merely ready-at-hand, a standing reserve that gives us only functional value and nothing more. While citing Marshall McLuhan at one point, Hui appears to have missed the point about technology and culture: the figure now has become the ground and the ground the figure. This inversion, according to Ernst Cassirer (2019, 39), may become perilous when technology as the ground cannot be figured; its omnipresence, and consequently omnipotence, erases the reflective sensibility that we, as a species, are known to possess. Jaron Lanier's *You are not a Gadget* indicates too the possible negative consequences of the technological overwhelming of man whose every function is tied to technology. What does this imply exactly? The recursive processes of system science mentioned within the book indicate man's increasing openness to both randomness and chance (encounters drastically different because one relies on luck and the other accident), contingent factors that require more reflective integrations via recursive engagements, placing greater emphasis on the import of the resolutions encouraged by heuristics.

The Cinematographic Split Mirroring the Neutrino Split

This non-linear non-deterministic movement (the quantum leap) proposed earlier *vis a vis* time travel as figured in Tomalin's *Bodies*, points to the overlapping analogical patterns detected as movements. Time travel via the Throat is analogically reflective of the quantum leap mentioned by many thinkers of *techne*, Gilbert Simondon and Heidegger being two of whom the "leap" gestures not only intensity of the movement but its underlying faith. The only deterministic feature when alluding to the Throat is the duplication of the temporal displacements effected by the machine with the same calculation both backwards and forwards, indicative of how quanta is etymologically the epitome of calculation. Allegorically, the neutrino split that defies natural law gestures to the indeterminacy underpinning the mysterious appearance of the same corpse at Longharvest Lane at four different timelines. Thus the key comparability between quantum mechanics and system science is their *probabilistic tendencies* by virtue of Cillier's concept of complexity rather than complication. System scientific address of contingency points to the indeterminacy encountered, what Hui called "non-linear with auto-finality" that has implications when referring to the *subjectively objective* approach of observation, whether from system or quantum sciences (within quantum science, this act of measuring ends with the erasure of all other possibilities and the materialisation of one particle). Mathias Albert's and Felix Bathon's take on "Quantum and Systems theory" speaks of the other similarities, one of which is *meaning* (both semiotically approached) and the other, *observation:* the strategies used to analyze empirically detected cues, whether engaged via scientific research or detective work.

The following allegorical "thinking through" of the anatomical recurrences of Gabriel Defoe surpasses Hui's 2019 *Recursivity and Contingency* articulation of the three movements of

linearity and non-linearity that traces the systemic development from the feedback of first-order cybernetics to the recursion of second-order cybernetics. Giving titular attention to the limited series, there are multiple symbolic roles that the enigmatic cadaver the four detectives discover at Whitechapel past, present and future play, a multiplicity reflecting the many Quantum potentials. First, it mirrors textually the adaptive qualities of the intertext, even as Defoe's body fragments and duplicates metaphorically as textual remakes. The fact that the cinematographer reworks the split screen to pay homage to its graphic beginnings is noteworthy given the democratic underpinnings of such a cinematographic technique. The split screen transitions between or among milieus (all four timelines with their concomitant subplots are illustrated and animated by different graphic artists for a varied feel) also bring to the fore the limited series' ideational dependency on quantum mechanics: a minutiae adjustment locally can have a substantial global impact. Defoe analogically figures Alberto Toscano's key Marxian (and paradoxical) concept of real abstraction, which sees possible changes from informational currency to the financial one, manipulated within Spencer's plot by Mannix, the monopolising capitalist. As an enigma, it too signifies the *habeas corpus* mentioned earlier, a body representing the *structured complexity* of law and order, the major plot premise of Tomalin's *Bodies*. This again mirrors the secret core of the sciences: the law that ensures their validity as purveyors of truth and fact. This law, by extension, is what Jacques Derrida calls "mystical foundation", a ground mystically founded by *an exception* from among many others, rendering clear the reason for the historical precedence of mysticism before science. As refutation of Lariviere's review Hui's *the Existence of Digital Objects* who criticized science-fiction as an inappropriate approach to general and quantum sciences, my reference to the Derridian take on the law further symbolises how we as *homo sapiens* are always already traced by the inhuman: the technological extensions are expansions that make us go beyond Donna Haraway's *Cyborg Manifesto* to further explore what quantum computation can reveal about us. Most importantly, besides allegorically figuring the dark matter of Chaos Theory, Defoe's cadaver reenacts the collapse of the wave function of quantum field theory that turns photons to particles whenever measurements are made: the wave falls just as Defoe falls onto the ground of Longharvest Lane when he crosses the intervals of transmission via the temporal portal within the timelines of 1890, 1941, 2023 or 2053. Photons, as mentioned, can be both waves and particles unlike electrons. With a collapsed wave function, the resulting particle becomes part of a Poincare group. Henri Poincare theorises that the invariance of the scalar field representation, which is founded on the calculation of the mass of the particle that changes to and matches the speed of quantum commutation, evinces with the computation of the neutrino split: Spenser's plot accurately demonstrates this invariance formula of the four dimensions multiplied by four vectors giving us two backward temporal moves accompanied by two moves temporally forward, which then lead to the asymmetry and indeterminacy of quantum physics with the choices that the characters of the graphic novel make.

Conclusion

Not summing up intentionally the usual manner, I shall return to what was promised earlier: a discussion of the motivating factor that creates the Mannix self-referential loop and then intercepts and disrupts it. It is love, the lack of love in the first instance and thereafter the full effect of love that caused the demise of the male detectives and the survival of the female ones. Mannix's autopoietic loop that returns him to 1890 to genealogically reproduce himself so as to cause the 2023 detonation of a nuclear bomb wiping out half the population of Britain and leading to the creation of a world society known as KYAL. It is obvious that the other enactments by Hillinghead and Whiteman are underpinned too by love. Comparably,

Shahara Hasan, with the help of Iris Maplewood and Defoe (both also performing acts of love), actively halts the nuclear detonation that would end her son's life. This limited series mirrors this historiographically with the subsequent temporal fracture; it too genealogical reflect the rise of the contemporary sciences: the general science of system and the future science of quantum, a prodigious convergence leading to superintelligence. Thus this paper ends provisionally with that which comes alive as energetics; what animates the graphic novel and our televisual or portable screens; the meaning behind live events and lived experiences: how affect plays a significant role in our approach to what enlivens our thinking capacity, the dead enigma that starts all four plots.

References

Albert, Mathias and Felix Bathon. (2020). Quantum and Systems Theory in World Society: Not brothers and sisters but relatives still? *Security Dialog*ue. Vol. 51 (5) 434-449.

Cilliers, Paul. (1998). *Complexity and Postmodernism*. Oxford University Press. 1-88.

Hayles, Katherine. (Oct, 2023). "Technosymbiosis: Figuring (Out) Our Relations with AI." *Oxford Academic. Feminist AI*. 1-18.

Hui, Yuk. (2019). *Recursivity and Contingency*. Rowman and Littlefield International.

Lariviere, Jason. (2017). Logic of Digital Worlds: Yuk Hui On The Existence of Digital Objects. (University of Minnesota Press, 2016). *Parrhesi*a 27, 129-135.

Norton, Bryan. (April, 2022). Technology after Hegemony: On Yuk Hui's "Art and Cosmotechnics", *Los Angeles Review of Books*, Online Article. https://lareviewofbooks.org/article/technology-after-hegemony-on-yuk-huis-art-and-cosmotechnics/

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