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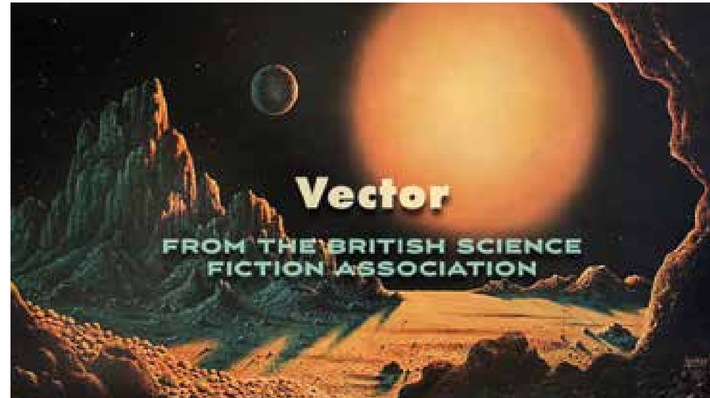

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Torque Control

Polina Levontin and Jo Lindsay Walton

Welcome to *Vector* 292: the contemporary art issue. It's positively seething with interviews, articles, and reviews about contemporary art's encounters with the speculative. We're very fortunate to be joined by guest editor Rhona Eve Clews, herself an artist whose stunning interdisciplinary work frequently takes in science fictional themes. Rhona's guest editorial takes the form of a dialogue with artist and SF researcher, Stephanie Moran, who also contributes an article on her own groundbreaking eco sci-fi art.

Clearly, there is currently something very science fictional that is palpable in every public space, not just contemporary art galleries. But long before the pandemic, the frequency with which science fiction started to appear in exhibition catalogues and curators' notes at the main contemporary art galleries seemed to be on the rise. For instance, the first exhibition to open after the lockdown at the Curve, Barbican — *A Countervailing Theory* by Toyin Ojih Odutola — is framed as alternative history, with works on display as artefacts from the discovery of an ancient and possibly alien civilisation at a Nigerian archaeological site. In the past year alone, many of the major London galleries — the Tate, the Hayward, the Somerset House, the Store X, Draf, the Zabludowicz Collection, the Serpentine, the Camden Arts Centre and the Autograph, just to name a few — featured exhibitions with explicit science-fictional references. For example, the wall description of Victoria Sin's work at the *Kiss My Genders* exhibition mentions that 'they draw on [...] science fiction.' We are told that Juliana Huxtable's self-portraits at the same Hayward exhibition are 'informed by science fiction.'

What does it mean for art to draw on science fiction? When do artworks become science fiction themselves? Surely when a work of art performs the same tasks as more widely-recognised forms of science fiction such as literature or film — when it imagines the future, deconstructs conventional ideas of linear time, restructures manifest and latent traumatic content, explores aspects of identity such as gender or race from a fantastical perspective, stages scientific experiments, embodies a novel technology, etc. — then it should be considered itself an instance of science fiction? If so, then many of the artists featured and discussed in these pages are creators of science fiction, not just of art that can be constructively linked to it: Juliana Huxtable, Sensory Cartographies, Lawrence Lek, Damien Hirst, Neo Rausch and others.

Before handing over to Rhona and Stephanie, let's take a moment to talk about keeping in touch. The BSFA has a Twitter account (@BSFA), a Facebook page (BritishScienceFictionAssociation), a Discord server (discord.gg/wxrJfQ8), and an Instagram (@BSFA_Vector). There's the main website (bsfa.co.uk), which should be seeing some big changes soon, and there is also the Vector site (vector-bsfa.com). There's a regular email newsletter from chair@bsfa.co.uk. The BSFA is its membership, and there are frequent opportunities to get more involved. We are currently looking for volunteers for a bunch of new or newly available roles, including one or more Publications Designer(s), a Diversity Officer, a Website Officer, an Awards Officer, and Councillors. If you're curious, please get in touch with BSFA Chair, Allen Stroud.

And now please get cozy and plunge yourselves into worlds of coral-encrusted counterfeits, machines raised by octopuses, cyborg senses in mist-swept laurissilva forests, and bat-people and their dreams of orange groves, and much much more . . .

Birth, death, dreaming and disruption: Let's spread our arms wide to catch them all

Guest editor Rhona Eve Clews in conversation with Stephanie Moran

Rhone Eve Clews, *Hydrogen, Oxygen and that slippery stuff (water)*

Stephanie and I met in 2018, whilst I was a student at Slade School of Fine Art, visiting the library of Iniva on a tour with artist Joy Gregory, where Stephanie was Library Manager at the time. We then met spontaneously again in 2019 via a CHASE series of PhD seminars on science fiction and ecology, organised between Goldsmiths and Birkbeck.

With a desire to acknowledge the variety and breadth of ideas discussed in this issue, Stephanie noted my comparison to the sensation of trying to catch jellyfish, needing to spread our arms wide to catch them all.

RC: Hi Stephanie! As a way into SF, contemporary art, and this issue of *Vector*, I'm thinking about the role of *dreaming*. You astutely recognised the theme of *disruption* and the theme of *birth* and *death*, and I added *transformation*, after I had initially considered *adaptation*, and now, I feel most seduced by *dreaming*.

Dreaming as a space for processing/digesting/transforming, allowing things to die, and then also a space for conjuring — for allowing new worlds, possibilities and visions to emerge. Dreaming as a bridge space. Dreaming and its relationship with reality too. How you cannot tell you are in a dream

until afterwards. It's immersive, like air and water. Or as Sissel Marie Tonn from Sensory Cartographies describes a landscape in this issue: "You're either inside a cloud, or outside a cloud." This feels both artistic and science-fictional in itself. And then I am thinking about how this sits with birth, death and disruption?

SM: Mmm, I like these connections to dreaming. Juliana Huxtable talks about dreams and epigenetics in her interview. And in Smin's article, 'Fashion and SF,' the two narrative strategies from Dan Hassler-Forest's theory that encourage worlding are "a lack of narrative closure, and the process of immersion," both of which are dream conditions. The liminality of dream-space is inevitably also a condition of birth, death and transformation. Perhaps the disruptive potential of art and SF is linked to dreaming?

RC: Yes, I think this immersive quality of dreams is often embodied through scale and vision in SF and art. Whole worlds, space operas, civilisations and currencies are born, function and dysfunction here. Via imagination, we are offered glimpses into other realities outside of the normative and mundane. SF and art potentially embody a willingness to confront the status quo and challenge what does not match up to an overarching potential. It takes guts to voice what isn't working, and SF and art both have that capacity for progressive leadership. Juliana Huxtable addresses this directly in her interview when discussing gender. SF and art are able to envisage and hold a sense of the alternate or possible, whereas so many attempts at change, even those that are seemingly about innovation or improvement, so often default to the existing social norms for fear of disruption, ending up settling for staying stuck.

SM: Well yes, thinking systemic change on a scale of constructing new worlds is what SF and art are good at. They can disrupt the cybernetic governing code of a system — something I talk about in my article — they can disrupt the conservation of the status quo, which in the case of the economy, for example, means the status quo of power and distribution.

RC: And of Man1, as you discussed in your talk on Ecological Sci-Fi at Iniva earlier this year.

SM: Yes, Sylvia Wynter's concept of Man1, Man2 and Man3, that represent a consecutive series of 'human governing master codes' beginning in the seventeenth century in the West. Wynter uses a cybernetic approach to history, showing how this series of transformations actually function to maintain relations of power. Each is constructed on top of compressed strata of embedded hierarchical forms and inequalities necessary for the system to operate. This is expressed in many of these essays' discussion of colonialism, for example, something SF has a foundational relationship with. These systems are cybernetic in the sense that they automatically adjust to maintain a status quo. And like you say, SF and art are invested in different kinds of transformation altogether. They seek to imagine and dream truly new and different worlds.

RC: Yes, absolutely. The colonial vision seems to assume an unending state of dominant control and certainty which is a deeply flawed and violent fantasy! Perhaps Sensory Cartographies' perspective that nature is impossible to categorise as it is "a constantly developing mass of life" is helpful here? Alex Buckley and Hannah Galbraith's article on African Contemporary artists and SF centre-stages artists considering alternate realities, such as Nuotama Frances Bodomo who envisages an alternate history where the Zambian space project really did send a young woman to space, whereas in this current reality, the project never received sufficient funding. Dreaming possibilities enables us to experience a potential without them having needed to take place.

SM: Thinking about the process of change and adaptation and mimicry, and maybe even more so, hybridity. Buckley and Galbraith also talk about hybridity and synthesis: particularly in the work of Beninese-French artist Emos de Medeiros, who fuses sci-fi, space travel and technology with Beninese traditional cultural forms, philosophy and divination. Buckley's discussion of Africanfuturist and Afrofuturist artists as a whole emphasises hybridity in Black technofuturisms. I think mimicry and hybridity are things you are doing in your work. I love the eating/becoming theme in your work. The way that we can connect to stuff through eating it, and then in some way you become that thing. Eating the earth (*Humic densities (Earth)*) and the water (*Hydrogen, Oxygen and that slippery stuff (Water)*) where you are talking about swimming in the ponds, I thought that was really beautiful in terms of thinking how we become other things.

And I suppose that you are talking about bodily, somatic interconnectedness and that links with hybridity and symbiogenesis. I found something today which was really key. A quote from Lynne Margulis' book, *Symbiotic Planet*, saying that she believes that "most evolutionary novelty arose and still arises directly from symbiosis." I believe that that is the case. You can think about evolution in cultural terms just as much as biological terms. We change through copying stuff and synthesising stuff. And this is what SF and art push. You work with stuff that's known and then combine it in different ways, to create something new.

RC: I completely agree, especially considering the vital role mimicry plays in growth and learning. We learn to do things by mimicking. It's fundamental in moving from childhood to adulthood. It also acknowledges the inevitable lack of neutrality there is in perceiving and experiencing, and I noticed Sensory Cartographies' interrogating assumptions about the neutral gaze too. It's increasingly recognised that SF operates as a lens through which we can observe our current status quo, norms etc., and the potential sociological and philosophical aid this might offer, refreshing our perspective from observing ourselves. Dan Byrne-Smith's introduction to *Science Fiction,* his recent anthology on SF and contemporary art, frames both as sketchbooks with agency:

> The kind of stories that can be told in the field can often be understood as not only reflections of the spaces of culture in which they operate, but also forces in themselves that shape those spaces [...] with this recognition comes the possibility of imagining both science fiction and science-fictional thought as having a power to influence possible futures. Images of alien worlds on screen could show strange ecologies with the potential to sensitise viewers to non-human life on their own planet.

I also feel that much of the transformative agency of science fiction is connected with its potent, dreamlike, consciousness-esque qualities. Juliana Huxtable mentions this in her interview when she talks about parties and nightlife. The idea that who she is on the way to the party is different to the person at the party. I noticed this as a teenager, where I would dress in a certain way, then walk down the same stretch of road in different clothes, and get a different reaction. I didn't like this at the time, but I can see the freedom in it now. I have had dreams where I have observed myself from a different reality / age / location, or perspective, and such temporary states have hung around and enabled new behaviours upon waking. For me it connects to Rupert Sheldrake's writings on the morphic field. Although Juliana speaks of an "untethered self" and Sheldrake's speaks of a blueprint, both acknowledge a non-physical potential that we can reach out and interact with. I wonder if this ability to temporarily embody other perceptions begins with dreaming? SF, art and dreams all employ sketchbook methodologies in their practice of 'drawing things out' … in both senses.

Declan Lloyd's essay about the painter Neo Rauch has stayed with me in terms of thinking about Dada and Surrealism as science-fictional, in their collapsing of worlds together, their collapsing of temporalities. Dreaming and memory too, highlighting memory and its glimpses as largely visual. I am compelled to understand how this intersects and collides with Rachel Hill's essay about Lawrence Lek.

SM: Yes there's an expansiveness to the combination of art and SF, from their cross-fertilisation. As Smin says, we read art, referring specifically to fashion, differently, when we view it as science fiction. More generally, reading art through SF and SF through art expands the ideas of both.

RC: Yes, and I imagine the artist Joan Fontcuberta was aware of this when The Science Museum hosted his *Stranger than Fiction* (2014) exhibition of fictionalised anthropological photographs. As audiences enter the Science Museum their eyes are honed: as if all the works inside are artefacts, specimens, evidence, seducing viewers into approaching the (actually fictionalised) photo-

graphs as "real." Performance has the power to inform and influence our gaze. We can use our bodies and our identities almost like costumes, which I think is something that the sensory wearables of Sensory Cartographies emphasise?

I find the cross-fertilisation of interdisciplinary artistic practices so appealing as they tend to encourage an exchange between drawing, performance, writing, etc. and propagate dynamic thinking, feelings and behaviours. This is very refreshing compared to the stiffness of divisions between academic departments, such as the separating of art from science.

SM: Dream-space can easily detach from consensus reality, the "destabilising worlds within worlds" that for Rachel Hill defines SF. She focuses on "the navigation of deep space within pockets of deep time" as a defining condition for SF that connects to Lawrence Lek's work and its "temporally palimpsestic, metastable worlds, routed through the estranging poetics of SF." Neo Rauch's work does something similar, but where Lek performs science fictional archaeologies of the future, as Lloyd says in his article, Rauch is working through palimpsests of surreally dream-like histories and alternate futures visible in the present.

RC: I respond to what you are saying here about layers and ruins. In Lloyd's essay he also discusses writer William Burroughs's cut-up method in relationship with Rauch, and there is a sense of the painter employing a similar method of pulling upon different temporalities to birth new landscapes. Juxtapositions which might, in theory, seem jarring, somehow, through the fictioning process of painting, appear to make sense and the edges between worlds are able to soften. Lloyd goes on to compare artists Giorgio de Chirico and Rauch and I think both are able to channel dream-like scenes and atmospheres through their image-making. Different realms sit astride and amongst one another, and as the viewer, we are potentially able to enter such spaces and experience our own reconfiguration.

SM: Yes this connects with what I was thinking about birth. Also, the ecological and decolonial concerns discussed in Andrew Butler's review article, particularly artist Denenge Akpem, who "transforms herself into a hybrid human-jellyfish, with lighted fibre-optic tentacles," and Ellen Gallagher's *Ichthyosaurus* installation at the Freud Museum, while Afrofuturist writer Nnedi Okorafor's *Lagoon* is mentioned in connection with decolonial ecological artist Ama Josephine Budge. Going back to hybridity …

RC: I feel this artistic desire of becoming and blending with another feels dream-like in its ability to occupy another embodiment/perception. It feels like a joyous and persistent theme in this issue: the character in Juliana's novel consuming colloidal silver and bat-gene orange juice to become "a kind of midnight-blue bat-like person"; Sissel Marie Tonn's work on "becoming a sentinel species"; Jonathan Reus' desire to meld minds with his computer using electromagnetic pick-up coils, never mind his desire to channel his inner seagull! Buckley and Galbraith also highlights Emos de Madeiros' 'Vodanaut' series merging the organic and inorganic, combining cowry shells with smartphones. And I know there's more! In the work of mine you refer to, *Hydrogen, Oxygen and that slippery stuff (Water)*, I am recalling a kind of experiential fantasy of temporarily transcending my human body and blurring, via water, into other bodies, such as the Hampstead Women's Pond. Your work with freshwater mussels also comes to mind, and Sylvia Wynter's research in terms of Man1 and Man2. How perception gets normalised and is typically assumed to be that of an individual, human, brain-based consciousness, rather than in collective, bodily or non-human experience. There is a great capacity for birth in hybridity. I am in agreement with Sensory Cartographies' perspective that a "violent normalisation of bodies" occurs when we narrow and over-simplify the range of senses available to us, and I am compelled to instead consider the vital notion that "sense is highly plastic."

SM: I'm aware that birth, death and transformation (and their analogues, worlding-fictioning, collapse-degrowth-ruin, metamorphosis) are not separate things or linear progressions, they interweave and are exchangeable when viewed from different perspectives, like the ideas in this issue. Hill's essay on Lawrence Lek's creation of virtual worlds, for example, while seeming to fit neatly within worlding, is complicated by their construction on top of and within the ruins of previous (contemporary) worlds, and the simultaneous transformation of these; while Alex Butterworth's essay on Damien Hirst's exhibition *Treasures from the Wreck of the Unbelievable* discusses the fictional world fabricated by Hirst that would appear to be a clear-cut case of fictioning, while the shipwrecked content of that fictional world represents both a collapse and a transformation of the objects into relics or future archaeology, depending on your viewpoint.

Worlding and fictioning, like gods, rely on belief, or at least the willed suspension of disbelief: the creation of worlds is a collective act of agreement to perceive the same thing, or to perceive enough of the same thing that it reaches substantiality (an agreed area of overlap in perception, if you like). This idea is explored in Butterworth's essay. Butterworth uses another world, that of the social media platform Twitter, to test the reality status of Hirst's world; effectively suggesting that it 'exists' as part of the larger fiction that constitutes the art world.

RC: Yes, there is a conscious/unconscious 'buying-into' here. In dreams, in art, and in SF, things make their own mesmeric kind of sense, a kind of sense that doesn't operate in conventional consensual reality. Sensory Cartographies mention this with regard to tactile maps and the physical acknowledgement of space as a subjective experience. Reflecting on consensual and non-consensual realities conjures some shamanic training I did, alongside my early experiences with drugs! Approaching this *Vector* issue I was aware that "SF and art" as less of an established canon doesn't (thankfully!) yet have a reductive set of 'three main artists' that people default to. However, in such a void I realise the old address that I would return to would then be that of psychedelic and drug-induced art. It feels rather clichéd and there's the non-consensual reality again! I suspect art and science fiction are the spaces where the science-loving go, to escape the science world's demand for consensual reality!

SM: As Frank Cioffi points out in his article, conceptual art and SF's use of objects, object / nonhuman perspectives, realism, and the non-mimetic thing-in-itself, exposes ways the human sensorium might not be adequate to record the totality of the "real." Cioffi draws analogies between the limits of human perception and the invisibility inherent to conceptual art practices, such as Agnes Denes and her *Human Dust* project.

RC: Yes Agnes Denes' scenes feel dream-like too, I don't know about anyone else, but when I first saw that wheatfield in the city I almost recognised it as a still from a dream or a film somehow. Certain images have the ability to resonate and reverberate like that, and I think both SF and art can capitalise upon this awareness, using dreaming to shape and inform the worlds we are building in our wakeful state. Great talking with you Stephanie!

RHONA EVE CLEWS WORKS ACROSS IMAGE, TEXT, AND PERFORMANCE TO EXPLORE HOW THE CURRENT RENEGOTIATION OF HUMAN/NON-HUMAN RELATIONSHIP FOSTERS A NEW ECOLOGICAL ETHICS OF CARE. SHE IS A RECENT MFA GRADUATE FROM SLADE SCHOOL OF FINE ART AND YOU CAN SEE HER WORK AT WWW.RHONAEVECLEWS.COM.

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Eco-Sci-Fi Art and Interspecies Technology

Stephanie Moran

Since at least the beginnings of industrialism, technological innovation has incorporated attributes of animal perception and behaviour. More recently, this process has been recursively intensifying, in a process of 'the biologisation of computer technology and the computerization of biology' (Vehlken, 2019). Technologies inspired by nature deepen our understanding of natural systems, in turn fostering new technological developments: from the development of behavioural biology around 1900, through the use of media technology in biological research and the acceleration of bio-technoscience in the 1970s, to the use of simulation modelling and then computational-intensive modelling beginning in the 1980s, and most recently the rise of Machine Learning methodologies in Artificial Intelligence. Now studies of birdsong inform voice recognition software such as Siri and Alexa, while billionaire sci-fi fan Elon Musk is funding research into neural interfaces with the brains of mice and pigs.

This blurring of the biological and the machinic is reflected in that black mirror of the cultural subconscious, in science fiction tropes such as cyborgs, androids and the uploaded consciousnesses of cyberpunk and transhumanism. Given the intensification of animal research in AI, we could be on the verge of becoming interspecies cyborgs, cyborgs that are not only part human and part machine, but part animal too. Science fictional art has a significant role to play in investigating, reflecting, questioning, and perhaps even steering such developments. As Jennet Thomas' dystopian sci-fi films *Animal Condensed>>Animal Expanded* propose: "The category 'human' is falling apart" (2018). Jennet Thomas is part of an eco-sci-fi current in contemporary art that deals with both positive and negative aspects of the dehumanising effect of interspecies technology and its potential to alter ideas about species boundaries and taxonomies of the human. As a subgenre, eco-sci-fi art explicitly questions the category 'human' by depicting possible ecological futures using what I call 'interspecies technology' — that is, forms of technology that focus on the perspectives and rights of other species. Such artworks reflect on the ethics of AI and automation, and on the way humans are dehumanised and re-humanised by technology, through science-fictional devices and methods.

'When art engages directly with the world *as-it-is* it already surrenders some of its power' (Burrows and O'Sullivan 2019, p.2). David Burrows and Simon O'Sullivan, AKA lead instigators of art collective *Plastique Fantastique*, catalogue science-fictional philosophical methods in contemporary art, including the use of alienation, worldbuilding, modelling, nonhuman worlding, and technology for creating new human and nonhuman entities. The CGI film *Feel My Metaverse* (2019), a collaboration between art collective Keiken and George Jasper Stone, celebrates the possibility of virtually inhabiting nonhuman life-worlds, while implicitly commenting on real ecological and economic futures. The film is set in a future where, similarly to the Hollywood science fiction blockbuster *Ready Player One* (Spielberg 2018), the planet has been rendered uninhabitable and those who can afford to escape to Virtual Reality 'metaverses.' Other artists use interspecies technological avatars, like collective *Plastique Fantastique*'s techno-animal avatars, and Ian Cheng's self-playing video game of computer-generated digital plants and animals, *Emissaries* (2015-2017); a new generation of artists such as Ayesha Tan Jones and Millicent Hawk use the multiple identities afforded by technological

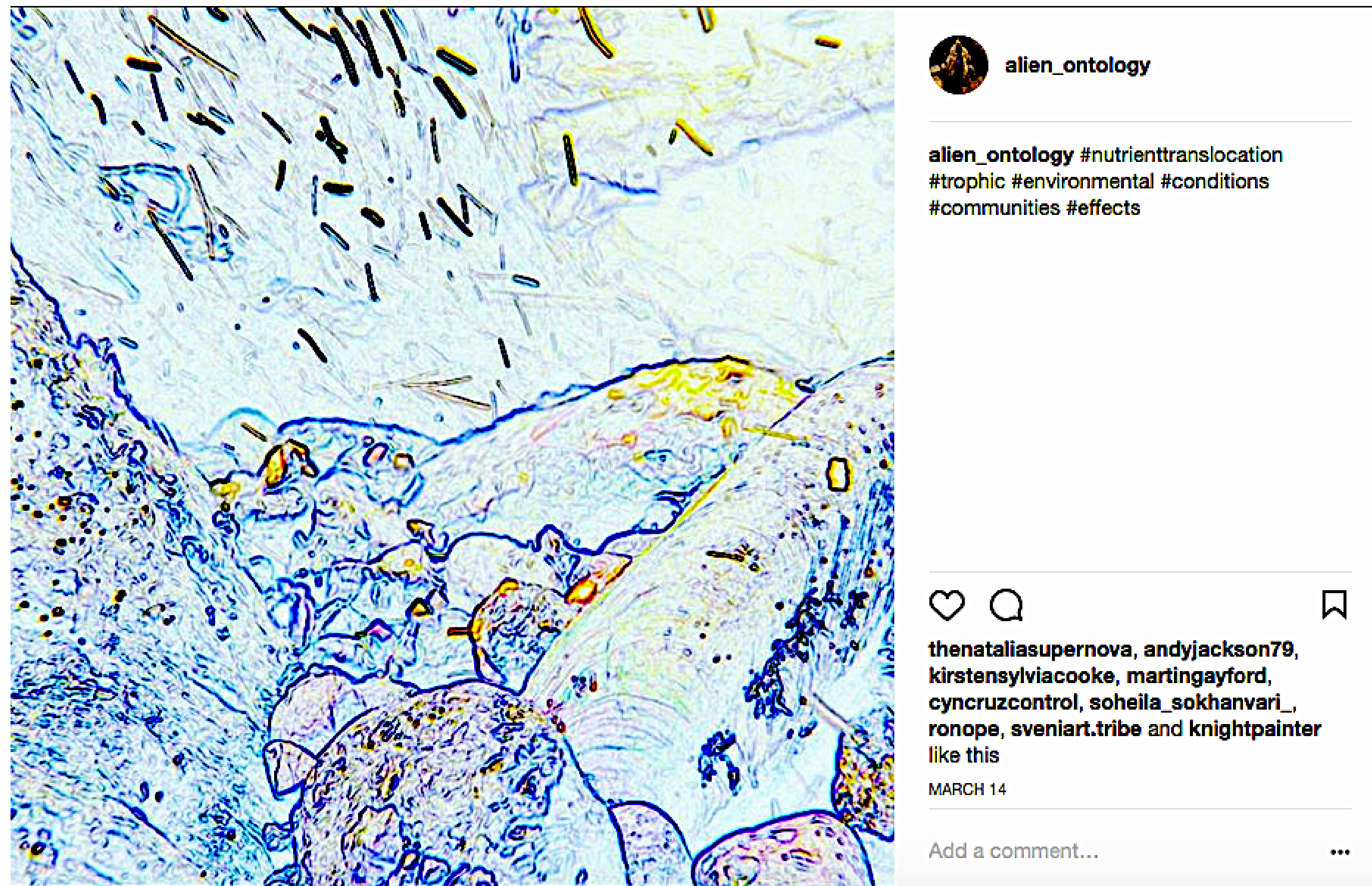
platforms and avatars as means of thinking beyond gender and species boundaries, envisioning joyful convergences of gender and species fluidity.

Through my work with design and tech research agency Etic Lab, I have also been conducting my own eco-sci-fi interventions. In his classic philosophical essay 'What Is It Like to Be a Bat?' (1974), Thomas Nagel writes:

> Even if I could by gradual degrees be transformed into a bat, nothing in my present constitution enables me to imagine what the experiences of such a future stage of myself thus metamorphosed would be like. The best evidence would come from the experiences of bats, if we only knew what they were like.

Nagel is using the example of the bat as a thought experiment, to explore the so-called 'mind-body problem,' about the relationship of mental reality to physical reality. At the same time, these words point to the possibility of practical experiments in connection with the non-human. What entities have a 'perspective,' or something like it? How much access can we have to one-another's mental realities? What other realities exist side-by-side, and entangled with, our own human realities? Is it possible to have empathy with the non-human, or is 'empathy' perhaps a misleading paradigm to adopt in the first place?

At Etic Lab, we are developing interspecies technology for a number of art and technology projects. In one such project, based at Aberystwyth University's Marine Biology labs, we are working with artist Maggie Roberts of 0rphan Drift on a collaborative project to produce an AI coded by an octopus. Too often in the past Artificial Intelligence has implicitly meant Artificial *Human* Intelligence. The influential Turing Test for AI ('Can a machine fool a human into thinking it is a human?') illustrates this anthropocentrism. By contrast, in our project, the octopus' responses to a stream of video produced by Roberts will help program an AI to interpret octopus emotions and predict octopus-like behaviour. The video inputs created by the artist with the underwater film footage will be informed by scientific research into octopus perception.



As part of my own PhD project, Etic Lab and I are developing an eco-sci-fi roleplaying game set in another species' sensory world. The game will model the alien world of freshwater pearl mussels (*Margaritifera margaritifera*), which are highly important to freshwater ecosystems and are globally endangered. This underwater game-world will enable sensory exploration of what it's like to live as another species, and will even use digital methods to introduce some non-human players. I am drawn to mussels — despite the suggestion of one of my Etic Lab colleagues that I might want to focus on more easily narrativisable creature ("what do freshwater mussels actually do?") — precisely because they feel so alien, so difficult to anthropomorphise.

In connection with this work, I've also been experimenting with group storytelling from various animals' perspectives, grappling with the problem of what may be translatable, communicable, or imaginable beyond the human. I have already created a number of digital animal avatars, seeking to bring together the lifeworlds of humans, mussels and bats in an interspecies habitat, on Twitter and Instagram (both @alien_ontology). Each avatar posts text and images based on their species' sensory perceptions. Our 'Interspecies Twitter Bot' is currently trying to understand what it is like to be a bat. Its posts include text about the sensory perception, environmental responses, behaviour and cognition of bats and other non-human entities, scraped from large scientific databases. Social media platforms like Twitter, Instagram, and Facebook operate on a model of what Benjamin Bratton calls "*identity and display*," in which connectivity depends on standardised and 'relatable' social performances, refined and rewarded by likes and shares (Bratton 2015). Our bot @alien_ontology seeks to go against this grain. Its communications are deliberately strange and alien, while also supporting speculation into how non-human entities may actually experience the world differently from their human kin.

Other works have included algorithmically-generated scripts for nonhuman roleplaying and for characters in the performance artwork *Interspecies Disco*, including a crow and an octopus (2018). All these eco-sci-fi artworks expose how ways our understanding of what it is to be human has been altered by the newly technologised relation with other species. They call for a new definition of 'human' that accounts for new technologies and their impact on our relations to other species and entities.

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Transmedia Worlding in Marine Serre's *FutureWear*

Smin Smith

Defining Science Fiction Art

The term *science fiction* as critic Adam Roberts states "resists easy definition […] it is always possible to point to texts consensually called SF that fall outside the usual definitions" (2006:1). This makes the process of defining science fiction particularly difficult, especially as an artist. The *science fiction art* we produce often falls *outside* of definitions which centre literature, film and television narratives.

When I started *Vagina Dentata Zine* in 2015 (a print publication documenting the relationship between fashion and science fiction), I had Norman Spinrad's definition in mind: "science fiction is anything published as science fiction" (quoted in Roberts, 2006:2). I am particularly drawn as an artist to understandings of science fiction that prioritise multiplicity, and ultimately reclamation. Having been involved in queer, feminist zine publishing for a number of years now, I regularly witness visual science fiction beyond film and television — beyond the "mainstream white supremacist capitalist patriarchal cinema" (hooks, 1996:107) that criticism still prioritises. It seems more important than ever to move science fiction studies beyond these constructs, to let the emergent and more generative science fiction happening on the fringes into academia.

Here I think particularly of the Afrofuturist legacy, a potent multimedia project that encompassed "the theoretical and the fictional, the digital and the sonic, the visual and the architectural" (Eshun, 2003:301). We do speculation a disservice when we limit its reach. Thanks to the work of multiple artists, zines and journals like *Vector*, science fiction criticism is finally expanding its remit to encompass the various modes of science fiction art.

My understanding of science fiction art has also been shaped by convergence culture, a contemporary phenomenon affecting both science fiction and the arts. Transmedia studies of science fiction identify a phenomenon where the "boundaries between media have blurred to the point at which it makes little sense to foreground fundamental distinctions between contemporary media" (Hassler-Forest, 2016:4-5). Narratives are simultaneously built across (but not limited to) films, television shows, books, comic books, video games and toys.

Similarly, contemporary art necessarily involves a convergence of media, building "a general field of activities, actions, tactics, and interventions falling under the umbrella of […] a single temporality" (Medina, 2010:19), that of the *contemporary*. For both Hassler-Forest and Medina, convergence has liberatory potential; as Medina puts it "[…] there is some radical value in the fact that "the arts" seem to have merged into a single multifarious and nomadic kind of practice that forbids any attempt at specification" (2010:19). As a fashion stylist once confined to the genre of visual culture, blurring the boundaries of *art*, *science fiction*, and *science fiction art* specifically feels especially productive.

Samuel R. Delany once proposed that "we read words differently when we read them as science fiction" (2012:153). This essay declares that we read art differently when we view it as science fiction, specifically fashion design and imaging practices.

Science Fiction in Fashion

My first introduction to aliens, technology and futurity didn't come in the form of a film or television show. I instead discovered science fiction through Alexander McQueen's SS10 collection:

Marine Serre, from *Marée Noire* campaign

Plato's Atlantis. The show featured reptilian prints, hair sculpted horns, and towering scaled shoes (later popularized by Lady Gaga). The models became cyborg-like biological hybrids between humans, reptiles and sea mammals. Meanwhile, two looming cameras tracked the models' movements across the catwalk, tying the presentation to the science fictional theme of surveillance.

This wasn't the first time Alexander McQueen had delved into the science fictional. Whilst helming Givenchy in the late 1990s, McQueen sent a model down the AW99 runaway in a circuit board bodice and cap, and glow-in-the-dark circuit trousers as a response to the Y2K bug. This robotic look echoed the earlier work of Thierry Mugler, whose *Metropolis*-inspired robot suits debuted in AW95. Mugler's 1990s collections are a masterclass in fashion as science fiction, with models dressed as motorbike-hybrids, bugs, and feathered aliens.

I therefore understand fashion to be part of what Adam Roberts terms "the long history" of science fiction, rather than a "relatively *recent* development in human culture" (Roberts, 2011:3). This history includes notable costume design engagements like Paco Rabanne's work on *Barbarella* (1968), Jean Paul Gaultier's designs for the *The Fifth Element* (1997), Kym Barrett's costumes for *The Matrix* (1999), or more recently Duran Lantink's iconic "vagina trousers" for Janelle Monáe's music video *Pynk* (*Dirty Computer*, 2018).

Since 2015 however, there has been an overwhelming increase in the production of science fiction fashion beyond this "costume" remit — with even larger houses like *Chanel*, *Gucci* and *Moschino* engaging with the subject. For me, transformational science fiction is largely being produced by emerging designers. RCA graduate AUBRUINO's debut collection for example included "feeding machine" (2017) space helmets.

Marine Serre, from *Marée Noire* campaign

The designer Dilara Findikoglu has released a collection engaging with the utopian (specifically *Dilaratopia*), using the press release as a manifesto for the future (Findikoglu, 2018). Elsewhere Christian Stone, the backpack-shoe designer and self-proclaimed "posthuman transhumanist" (2020) frequently collaborates with Pierre-Louis Auvray on collaged catwalk imagery. In these images, various characters from science fiction and fantasy games are pasted over the bodies of runway models. Similarly, Christian McKoy (@bbychakra92) collages pre-existing fashion imagery into cyborgs, aliens and angels as "an open love letter to cis and trans, dark-skinned females" (Vickery and Morgan, 2018).

It is into this present landscape that Marine Serre's *FutureWear* has emerged. A *transmedia world* built across catwalk presentations, campaign imagery, fashion films and clothing garments.

Transmedia Worlding

The art of "building new, freer worlds" (Imarisha, 2015:3-4) in science fiction has a rich history. Historically the terms *world-building, world-making* or *worlding* have been used, to define the "invention of imaginary places, societies and worlds with logics, structures and histories" (Burrows & O'Sullivan, 2019:256). I will be using Haraway's term "worlding" (2016:48) from this point onward to describe this phenomenon.

In *Science Fiction, Fantasy and Politics: Transmedia World-Building Beyond Capitalism* (2016), theorist Dan Hassler-Forest identifies two narrative strategies that encourage worlding: a lack of narrative closure, and the process of immersion. Hassler-Forest lists "television series, comic books and pulp literature" (2016:8) as examples of a lack of narrative closure. Whilst videogames that engage with "spatial exploration, collaborative interaction, and kinetic immersion" (2016:8) are tied to immersive worlding.

Fashion as a contemporary phenomenon feels particularly attuned to transmedia worlding. Narratives are built across fashion presentations or catwalks, press releases, invitations, campaign imagery, fashion films, social media posts and clothing garments; and these narratives span indefinitely across seasons deferring "narrative closure" (Hassler-Forest, 2016:5). Many transgressive fashion presentations equally involve the viewer's "spatial exploration, collaborative interaction, and kinetic immersion" (Hassler-Forest, 2016:8). Thus, transmedia fashion practices can be understood to *world*, and in the right hands this *worlding* has political potential.

Marine Serre's FutureWear

For the designer Marine Serre, a post-apocalyptic world is being built across campaign imagery, fashion films and catwalk presentations. As Kathryn O'Regan describes, the label "doesn't so much as anticipate apocalypse as much as it lives it" (2019); it forces us to acknowledge the multiple apocalypses that have happened and are happening in reality. Take for example the breathing masks that feature heavily across Serre's collections; as *Dazed* described in 2019 "the reality quickly sank in that it's likely designers really will have to start incorporating items like this into their collections in the not-so-distant years to come" (Davidson, 2019). As I write this in the midst of the COVID-19 pandemic, that reality feels more present than ever.

The apocalypse weighs heavily upon Serre's AW19 collection *Radiation*, where recycled microchips, shells and coins adorn models. These reclaimed "valuables from the trash heap of history" (Serre, 2019) are re-contextualised as accessories. Here, Marine Serre is "digging the future out of the archive" (Gunkel & Schrade, 2017:195); building an alienated world from the paraphernalia of the present. On a more material level, recycling has been a common feature across the designers' *FutureWear,* with 50% of her SS20 collection for example being made from upcycled materials.

But Marine Serre doesn't simply reflect the present apocalypses, the label *propagates* "new ways to live" (quoted in Davidson, 2019) into being. Serre uses her transmedia outputs to *world* post-apocalyptic realities. Worlds in which her models are adapting and surviving beyond the present disaster. Here Serre echoes Joanna Zylinska's notion of *feminist counter-apocalypses*, "[spaces] for an ethical opening to the precarious lives and bodies of human and nonhuman others" (2018:44). Marine Serre's SS20 show notes describe a world in which the "temperature has gone up radically, but more self-confident than ever, they adapt… to birth several clans, across generations, species and genders" (Cheng, 2019). This narrative of thriving non-human hybridity has clear ties to the theorist Donna Haraway.

NatureCultures

Marine Serre's SS19 *Hardcore Couture* show was accompanied by a series of short videos titled *Planet B*. The designer describes these videos as "[walking] us through dystopian landscapes hybridizing tech and nature… wandering through the hardcore pluriversal nature-culture of Planet B" (Serre, 2019). Natureculture is a concept developed by the theorist Donna Haraway, disbanding "the modern assumption of the Great Divide between nature and culture [as] not only ontologically false but also wrong-doing in its gendered, racialized and colonizing effects" (van der Tuin, 2018:270). Marine Serre's post-apocalypse overturns this ideological separation, calling into question those who benefit from separating nature and culture (Bell, 2007:93).

In the later film *Radiation* (2019), naturecultures are represented through visions of mutation, in which "people are transforming into something else and changing forms, and boundaries are fluid" (Serre quoted in Davidson, 2019). For Haraway, there was *pleasure* to be found in the process of disintegrating boundaries. The CGI world created by Rick Farin and Claire Cochran for *Radiation* embraces this *pleasure*, and we revel in scenes of the Arc de Triomphe overtaken by vines and neon smog.

But mutation isn't limited to the landscape, a silver otherworldly character exposes "the mutability of identities" (Hester, 2018:13) within this post-apocalypse. As the Xenofeminist Manifesto (2015) asserts, "nothing is so sacred that it cannot be reengineered and transformed so as to widen

Marine Serre, from *Marée Noire* campaign

our aperture of freedom" (Cuboniks, 2015). Serre's naturecultures visualise this transformation, asking: how will we mutate to survive?

In the more recent SS20 presentation *Marée Noire*, models walked across a seemingly-oil slick catwalk, built across swamplands and surrounded by silver industrial pipes. The CGI film of the same name features four parts: *Eden, The Drought, Breach* and *The Pass*. In 1998, Haraway posed that "the cyborg would not recognize the Garden of Eden" (151), but Serre's mutating characters are presented as having lived through and beyond it, adapting to the apocalypse and post-apocalypse that followed.

One notable addition to the SS20 narrative were dogs. Dogs feature heavily in Donna Haraway's work (and life), with "the story of co-evolution and cohabitation, of dogs and people" (2003:60) being a key example of the kinds of naturecultures happening in the present. Beyond their symbolism, seeing dogs thriving in the post-apocalypse has a definite *affective pleasure*. As Jessica Heron-Langton describes in her catwalk review, "dogs still exist, because otherwise what's the point?" (2019). In the last scene of *Marée Noire*, the film accompanying this SS20 catwalk, a "land of dry dunes awaiting to be liberated, teases what's to be expected in the upcoming AW20 collection" (Bertolino, 2020). These types of ongoing, deferred narratives that Marine Serre is providing are clear examples of transmedia worlding, meeting all of the definition criteria identified by Hassler-Forest. Serre's natureculture worlding involves a process of convergence, immersion and deferred storylines. This worlding is used to propagate a feminist post-apocalypse into reality, calling upon us to mutate and survive.

When we read fashion practices as science fiction, we view them differently. By viewing Marine Serre's practice as science fiction we've unlocked its political potential. What else might critics unlock if we highlight more science fiction art practices?

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African Contemporary Artists and SF

Alexander Buckley and Hannah Galbraith

Africanfuturism, a term coined by writer Nnedi Okorafor, is used to describe science fiction created by Africans and those of the African diaspora. Afrofuturism, on the other hand, tends to define science fiction created by Black people predominantly in the US — the key difference, Okorafor explains, is that 'Africanfuturism is specifically and more directly rooted in African culture, history, mythology and point-of-view as it then branches into the Black Diaspora, and it does not privilege or center the West' (Okorafor, 2019). While the practices of Africanfuturist and Afrofuturist visual artists differ greatly in their techniques and subject matter, there are common themes which run deeply through many works: hybridity, cultural tradition and history, trauma, and the possibilities of outer space. This article will showcase multiple contemporary Afrofuturist and Africanfuturist artists through the lens of these themes, exploring the ways their works resonate and diverge.

Emos de Medeiros is a Beninese-French artist currently living and working between Benin and France. Medeiros practises a concept he calls 'contexture': 'a fusion of the digital and the material, of the tangible and the intangible, exploring hybridizations, interconnections and circulations of forms, technologies, traditions, myths and merchandises' (Kikk Festival, 2019). Hybridity is alive throughout Medeiros's work and is one of his central philosophies. In 2014, Medeiros's performative installation *Kaleta/Kaleta* synthesised installation with performance, incorporating music, videos processed and recombined in real-time, photography and a performative video installation that encouraged public participation. *Kaleta/Kaleta* was hybrid not only in its medium, but also its subject matter. The work depicted the Beninese cultural tradition 'Kaleta,' which is a combination of music, dance and performance, itself a 'unique mix of Brazilian carnival, American Halloween, and Beninese mask tradition.' By reimagining this tradition through the use of digital technology, Medeiros explains, he sought to form 'a synthesis between memory and vision, past and future, conservation and creation.'[1]

In Medeiros's *Vodunaut* series (2017), science fiction and the imagery of space exploration is merged with Yoruban cultural tradition. Vodunaut #09 presents a space helmet decorated with cowry shells, referencing Fa; Medeiros describes this work as an embodiment of 'a West African philosophy and geomancy system, widespread in Benin as well as Nigeria (and present in Brazil) that involves cowry shells, both as objects and symbols.'[2]

The Vodun religion in Benin associates cowry shells with exploration, as well as protection, prosperity and fertility. In *Vodunaut*, the helmets are combined with video works presented on smartphones, merging the organic with the inorganic, the symbolic and spiritual with the digital and scientific. Through these objects, Medeiros points to an alternative future where Yoruba spirituality is situated in outer space, and in doing so his work 'encompasses transcultural spaces and the questioning of traditional notions of origin, locus or identity and their mutations through non-linear narratives' (Now Look Here, 2020).

Explorations of hybridity and tradition can also be found in the work of Jacque Njeri. Jacque Njeri's visual artwork focuses on feminism, culture and empowerment 'through projected extra-terrestrial realities.'[3] In her project *The Stamp Series*, Njeri redesigns selected stamps, combining local culture with space exploration and science fictional elements. Her *MaaSci* series of digital artworks puts the Maasai tribe, inhabitants of Kenya and Tanzania, into visceral imaginative scenes in space. Njeri's Maasai science fiction imagines a universe where the Maasai people explore the stars. In *MaaSci*, the culture of the Maasai is made inseparable from space exploration. The *MaaSci* series put Njeri in the global spotlight and her work has since been exhibited in Kenya and the 2018 Other Futures Festival in Amsterdam.

1 www.emodemedeiros.com/kaletakaleta
2 www.emodemedeiros.com/vodunaut-1
3 www.kikk.be/2019/en/program/conferences-1/jacque-njeri

Fabrice Monteiro, from *The Prophecy* series

Nuotama Frances Bodomo also envisions alternative realities and freedom through space exploration in her short film *Afronauts* (2014). The film is based upon true events: 'it's july 16, 1969: america is preparing to launch apollo 11. thousands of miles away, the zambia space academy hopes to beat america to the moon.'[4] In 1964, the Zambian schoolteacher Edward Mukuka Nkoloso founded the 'Zambian Space Program' with a dozen aspiring high school students, aiming to reach the stars. His project never received sufficient funding, and his utopian vision was globally mocked. Through her short film, Bodomo empowers Nkoloso's vision, imagining an alternative history where the Zambian space project really did send a young woman to space. Through striking, beautiful cinematography, Bodomo's work acts as an "appeal [...] to the future, in moments where any future was made difficult [...] to imagine," as Kodwo Eshun writes in describing Afrofuturism (Eshun, 2003). Recently, Bodomo has worked as a writer and director on HBO's *Random Acts of Flyness* and is currently working on a full-length feature film version of *Afronauts*.

We can see a similar centering of those historically marginalised in the work of Rotimi Fani-Kayode. From Lagos, Nigeria, the late Fani-Kayode's photography explored culture, sexuality and race using intricate compositions and effects. The stories in Kayode's art are told through subtle uses of symbolism, alluding to Nigerian culture, African history, Christianity and sexuality.

Fani-Kayode wrote: "On three counts I am an outsider: in matters of sexuality; in terms of geographical and cultural dislocation; and in the sense of not having become the sort of respect-

4 nuotamabodomo.info/afronauts

Nuotama Frances Bodomo, a still from *The Afronaunts*

ably married professional my parents might have hoped for."[5] This feeling of 'otherness' resonates throughout his works, and is a source of both alienation and joy. By centering the black male body in his portraits, Fani-Kayode 'imaginatively interpret[s] the boundaries between spiritual and erotic fantasy, cultural and sexual difference. Ancestral rituals and a provocative, multi-layered symbolism fuse with archetypal motifs from European and African cultures and subcultures — inspired by what Yoruba priests call 'the technique of ecstasy.'[6]

While perhaps not explicitly science fictional in his imagery, Fani-Kayode's works exude futurity, vitality and resistance within the marginalised identity of being both black and queer. It is worth mentioning here that 'in Greg Tate's formulation, Afrodiasporic subjects live the estrangement that science-fiction writers envision. Black existence and science fiction are one and the same' (Eshun, 2003). In navigating the state of being 'other', or *triply* other, as Fani-Kayode felt he was, Afrodiasporic artists explore the extraterrestrial and alien: themes central to science fiction. Kodwo Eshun highlights that 'the conventions of science fiction [...] can function as allegories for the systemic experience of post-slavery black subjects in the twentieth century.' Instead of viewing Afrofuturist and Africanfuturist artworks as appropriating the tropes of science fiction, or merging science with African cultural images and practices, Eshun asks that we consider the reverse, that 'science fiction, as such, is recast in the light of Afrodiasporic history' (Eshun, 2003).

Born in Sierra Leone nine years after the country gained independence, Abu Bakar Mansaray's art is greatly influenced by his home country and its history. In 1991, Sierra Leone underwent a decade-long civil war that took many lives and displaced much of the populace. During and after the war, the country's infrastructure collapsed. Mansaray escaped the war and lived in the Netherlands for several years. Currently, he resides in Sierra Leone's capital, Freetown. Sierra Leone's traumatic history influences much of Mansaray's artwork.

Mansaray pulls inspiration from sci-fi, war and engineering to create large and imposing artworks detailed with fragments of information about each and every part of his fictional war machines. 'Mansaray's Afro-futurism seems like a projection of reality's horrors onto another dimension of time and place. Reality is projected forwards, to a futuristic world. Not only is technology, the glory of the West's ideas of progress and enlightenment, presented through its terrifying facet but it is also devoid of its rational and logical characteristic, on which it prides itself.'[7]

Similar to Mansaray, Fabrice Monteiro bases his art on a different type of violence. Environmental destruction is the focus of Monteiro's photographic artworks, bringing to light the effect of humanity's negligence towards the earth's wellbeing. Monteiro's *Prophecy*, photographed in real life locations around Senegal affected by pollution, throws us into frightening arrangements where mystical figures walk among a ruined earth: 'The ghostly figures are imbued with the theme of animism, accentuating each photo's surreal composition of a jinn (an ancient supernatural genie) experiencing the ravages of modern man's pollution.'[8] As Kodwo Eshun remarks, 'Africa increasingly exists as the object of futurist projection' and as a 'zone for the absolute dystopia'. Instead of submitting to the doomsday predictions and depictions of pessimistic futures often favoured by Western NGOs, Monteiro uses local beliefs and 'spirits to deliver a message' that envisions a future where environmental destruction is no longer a single inescapable narrative.

5 www.guggenheim.org/artwork/artist/rotimi-fani-kayode

6 visualaids.org/events/detail/art-archives-and-curating-queer-black-legacies-ajamu-sur-rodney-sur-rotimi

7 www.africa-tamuseum.org.il/artist/abu-bakarr-mansaray/

8 www.themantle.com/arts-and-culture/photographic-confrontations-fabrice-monteiro-interview

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Kincaid in Short

Paul Kincaid

The Rose

Heraclitus told us that we cannot step twice into the same river. Perhaps he might have added: we should not try to step twice into the same story. There are stories which, once encountered, linger long in the memory. But turn back to those same stories in later years, and they are never the same.

Such a one, for me, is "The Rose" by Charles Harness. I must have read it first some time in the 1970s, and it became, to my mind, a model for how a certain type of science fiction should be. Re-reading it now, for the first time in nearly fifty years, and I wonder why it rang so clearly for a younger me.

"The Rose" was always something of an oddity in the science fiction of the early-1950s. To be fair, Harness himself was something of an oddity. His career never really took off in the way it might have been expected to, given how highly acclaimed some of his work was. He began writing in the late-1940s, only to disappear from view after "The Rose" was published in 1953. His career revived in the 1960s when Michael Moorcock championed his work, only to disappear again by the end of the decade. Then, in the late-1970s, after he retired from his job as a patent lawyer, he started writing again, though this late work never really lived up to the standards of his earlier stories.

The ending of the first phase of Harness's career may have had something to do with the fact that "The Rose" was rejected by every American publication he submitted it to. It eventually appeared in the March 1953 issue of the British magazine, *Authentic Science Fiction*. Though after this initial appearance, some of the editors who had previously rejected the story now clamoured to reprint it.

It is, however, easy to see why the story was not eagerly greeted at first, since it is, to a notable extent, an anti-science fiction story, or, more precisely, an anti-science sf story. At the heart of the story is a clash between Art and Science, always capitalised, in which Science is the obvious villain, and Art is the inevitable victor since Art is what produces the next stage in human evolution, the homo-superior. I have to say that this enmity between Art and Science is not what gave me pause when I revisited the story; my problem was with the crudity of this division.

The story concerns a husband and wife who are at war with each other, and the woman who finds herself caught between them. The wife, Mrs Jacques (the social structure of this future world is inescapably fixed in the early 1950s, something I will say more about shortly), is Science. She is working on something known as the Sciomnia formula, the word fairly obviously breaking down as "all-science", and this will, of course, create an all-powerful weapon. Her work makes her "the most valuable mind in history" and therefore, inevitably, "the most dangerous human being alive." (22) As a consequence she never appears without an escort of security guards, and seems to exert unquestioned political power. Science is thus equated with authoritarianism, brutality, and, given a willingness to threaten and even murder, with immorality. It is also associated with madness, since Mrs Jacques has been driven to distraction by jealousy. Her jealousy is, indeed, the primary driver of the plot. She "isn't working on a biophysical weapon just because she's a patriot, but more to spite him [her husband], to show him that her science is superior." (53) And when she does create her Sciomnia, her rather mundane super weapon — "a black metal box with a few dials and buttons" (69) — she plans to use it to get back at her husband and the other woman.

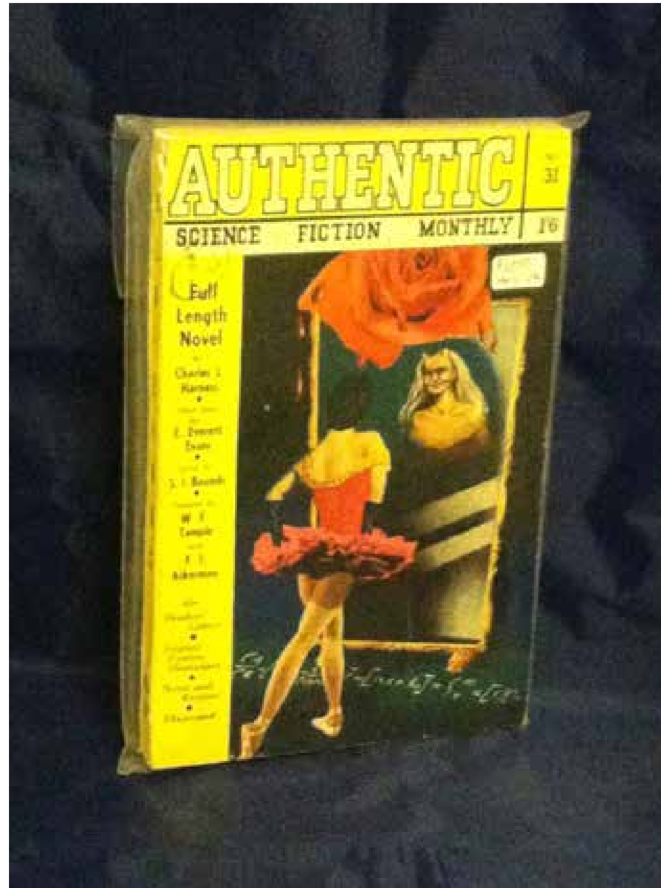
There isn't a great deal of subtlety in any of this. Science is quite simply associated with everything mad, bad and dangerous to know. Art, on the other hand, as personified by the husband, Ruy Jacques, is inherently good and noble. Both he and the third participant in this triangle, Anna van Tuyl, are ugly ducklings that will, by the end of the story, be revealed as beautiful swans who herald the glorious future of humankind that is to be achieved through Art.

I stress the words "ugly" and "beautiful" here because throughout the story Harness lays a great emphasis on physical appearance. Anna is a psychiatrist who was once a ballet dancer until a strange deformity forced her to give up dancing. Anna's entire sense of self is tied up with her perception of her own ugliness, looking in a mirror "She could retain no real awareness that this creature was she." (19) And before she first meets Ruy, who suffers the same deformity, she is reassured by a friend that he is even uglier than she is. Interestingly, the deformity that blights these two representatives of Art is not described artistically but rather analysed scientifically: "he seemed, like her, to carry a mass of superfluous tissue on his upper thoracic vertebrae. She surmised that the scapulae would be completely obscured." (25) If their superficial ugliness disguises a hidden beauty that "verged on the sublime" (32) Mrs Jacques's "physical beauty simply stated a lack he could not name, and might never know … [because] … There's nothing behind perfection, because it has no meaning but itself." (45)

It is crudely stated, but what we have here is a thesis that runs directly counter to the ethos of science fiction in the early-1950s. Art seems ugly but is really beautiful; Science seems beautiful but is really ugly. And it is Art that speaks to the future. It is perhaps understandable why Harness was championed by Moorcock during the New Wave: the victory of Art over Science was key to the spirit of this new science fiction.

The trouble is, I'm not convinced that Harness ever really got his head around what Art is. At one point the superficiality of Science is illustrated when Mrs Jacques claims there are "Scientific rules for analyzing poetry" (34), though everything artistic in the story is referred to in scientific terms. Mrs Jacques uses something called a Zipf analysis, which provides "a mathematical formula" which shows that "a too-soon repetition of the same or similar sound is distracting and grating to the cultured mind." (30-31) Harness is suggesting something like the word frequency analysis that is now quite common in, for instance, Shakespeare studies, but this was a new idea in 1953. For Mrs Jacques, Ruy's repeated use of the word "rose" is a symptom of schizophrenia. Anna responds that "Everyone who talks like a poet isn't necessarily insane" (31), which is probably the defence that Harness would use: this is a consciously poetic story.

The idea that the repeated use of "rose" is a sign of insanity is clearly meant to be nonsense, since there are passages in this story when every second word seems to be "rose". This is the leitmotif of the story, repeated to the point of obsession. All three of the central characters are associated with a rose. Anna is writing the score for a ballet based on Oscar Wilde's fairytale, "The Nightingale and the Rose", in which a Nightingale sacrifices herself for love on the thorns of a white rose so that her blood stains the white flower red. The ballet is based upon a recurring dream, but "she always awoke just before that death song began" (20), so the ballet is missing its climax. What is important right from the start of the story is the artistry of the composition: "every chord has to be fitted to the immediate action, blended with it, so that it supplements it, explains it, unifies it, and carries the action towards the climax" (20), though I can't help feeling that Harness is confusing chords and bars. Ruy is the moving spirit behind the Rose Festival, which is to be held in the rose-walled artistic quarter known as the Via Rosa. For a supposed artistic quarter, the Via Rosa more closely resembles a Coney Island funfair, with barkers shouting their wares — "the professor's



gonna defend *seventeen* [paradoxes], and all in the space of one short hour" (23) — attractions billed as "FOR MEN ONLY"; chess is a popular spectator sport; and love philtres are for sale. And Mrs Jacques's Sciomnia formula is also popularly known as the Jacques Rosette, and is represented on paper as a "warped, incomplete, and misshapen" (29) red rose.

The symbolism of all this is hammered home so repetitively as to be inescapable. We know, just from the way the symbols are presented, exactly how this story will play out. Anna is clearly the Nightingale who will sacrifice herself for love. Ruy, most commonly seen wearing white, will be transformed by her sacrifice. And Mrs Jacques, because her Jacques Rosette is misshapen, will find that her Sciomnia is somehow broken and unsatisfying. The repetition of roses — a rose is a rose is a rose, as Gertrude Stein wrote — sets the story upon tracks from which it never deviates.

Given that "The Rose" is a long and rather dense novella, that's an awful long time to spend pursuing so obvious a path. But there are other things going on, though these are mostly things that make a modern reader cringe. I've mentioned already that for a story set in an unspecified but clearly reasonably distant future, the social, sexual and cultural habits are resolutely anchored in the 1950s. When, early in the story, Ruy Jacques departs from his first meeting with Anna by hopping onto the running board of a milk truck, you get a sense that Harness cannot really visualise a world beyond what he sees outside his front door. And that impression is redoubled when it comes to the relationship between men and women. When, following her transformation, the reborn Anna is unable to speak, Ruy's response is typically chauvinist: "A woman without a tongue! By the gods! her sting is drawn!" (66) And this about a woman with whom he is supposedly in love. More vividly still, when Anna is challenged to say how she would support the damaged personality of Ruy, her answer is basically to be a dutiful 1950s wife: "I would think only of him … I'd forsake my mental integrity and try to think as he thinks." (50) Mrs Jacques, the scientist, dismisses this abnegation of the female identity as "nothing but a selfless shadow, devoid of personality or any mind or individuality of your own." (50) Today, we would surely say that Mrs Jacques is right, but as the aggressive voice of Science, she must be wrong within the context of the story. And indeed the whole cultural thrust of the story, built upon the foundations of the Nightingale and the Rose, is that a true woman must sacrifice herself for the good of her man.

The general thrust of the story is about the emergence of the next evolutionary step in the story of humankind: the arrival of homo superior. This was quite a common trope in post-World War II science fiction, and indeed would feature in a number of other stories by Harness. Here the rather clumsy opposition of Art and Science disguises a more straightforward and familiar opposition between the old and new. What is surprising about the story is that in this instance Science is equated with the old. But Harness, as I've said, seems a little uncertain about what actually distinguishes Art and Science. The ultimate aim of Science, the Sciomnia, is visualised as an image of a rose; the Art is consistently presented in scientific terms, the emphasis on numbers such as the 38 chords that will complete Anna's score, or the way that the transformations wrought by her deformity are linked to her musical ability: "The encephalograph, you know, looks oddly like a musical sound track." (38)

The deformities, in a sense, take away Art: first Ruy and then Anna lose the ability to read. But this is compensated by other abilities that, as so often in 1950s sf, make homo superior into some kind of superhero. In this instance, Ruy acquires the power to read "some sort of thought residuum … in *things*" (37), so he can identify the secret combination for a lock just by looking at it, and know what has been happening in a room he has only just entered. Their deformities include two horns growing on the forehead; though the devilish character of this is not spelled out, it does seem to echo the appearance of the Overlords in Arthur C. Clarke's novel of the same year, *Childhood's End* (1953), which I have always read as illustrating a victory of science over belief. It is hard to read the same meaning into "The Rose". These horns are revealed to be an outgrowth from the pineal gland (that favourite bit of handwavium used whenever sf writers wanted to suggest superior and mysterious mental powers) and the horns allow Ruy to see the future. The ugliness of Ruy and Anna, therefore, is just the larval stage from which the beautiful butterfly of homo superior is due to burst forth. When Anna does emerge from her chrysalis, "There was no hint of spinal deformity in this woman" (66), she is, rather, slender, graceful, the exact opposite of the woman whose deformity and hence ugliness have been so heavily emphasised. The ugly woman is now beautiful, and the Nightingale can now move to its foreordained ending.

This ending makes explicit the odd confusion of Art and Science that has bedevilled the story. It comes with the long-promised performance of Anna's ballet, with Anna herself inevitably taking the role of the Nightingale. The last 38 chords, the death dance, the climax of the score, remain unwritten, but now there is an assumption that something will complete the music. And something does, for now Mrs Jacques unleashes her Sciomnia weapon. The 19 equations of her Sciomnia are refigured as 19 chords, which are played during the 38-bar rest that is the climax of Anna's ballet. But then they are followed by a further 19 chords, thus completing the 38-chord final movement of the ballet. These additional chords recapitulate those of the Sciomnia, but "transfigured, as though some parnassian composer were compassionately correcting and magically transmuting the work of a dull pupil." (74) The misshapen rose of the Sciomnia is here remade into a perfect rose by Anna's homo superior mind. Like the Nightingale in her ballet, Anna is killed by the Sciomnia, but in her death she awakens Ruy to his own transformation and announces the arrival of other examples of homo superior around the world.

Thus in the final moments of the story, Science is remade into Art, and so opens the way to a new world. In 1953, and then again in the 60s and 70s when his work resurfaced, what Harness was doing here would have stood out from the crowd. There was a conscious effort to be poetic in the writing at a time when most science fiction considered plain, functional prose to be essential. It is not actually good poetic prose, excess and repetition winning out over rhythm and metaphor, but it is still a richer reading experience than many of his contemporaries. Nevertheless, away from the perverse insistence on capital-A: Art over capital-S: Science, everything that we find within the story is typical of the science fiction of its day. It is probably this, the sudden realisation of how old it feels in its mores and attitudes while it pretends to take an approach that is radically fresh and different, that is responsible for the shock in encountering a story that is emphatically not how I remember it to be.

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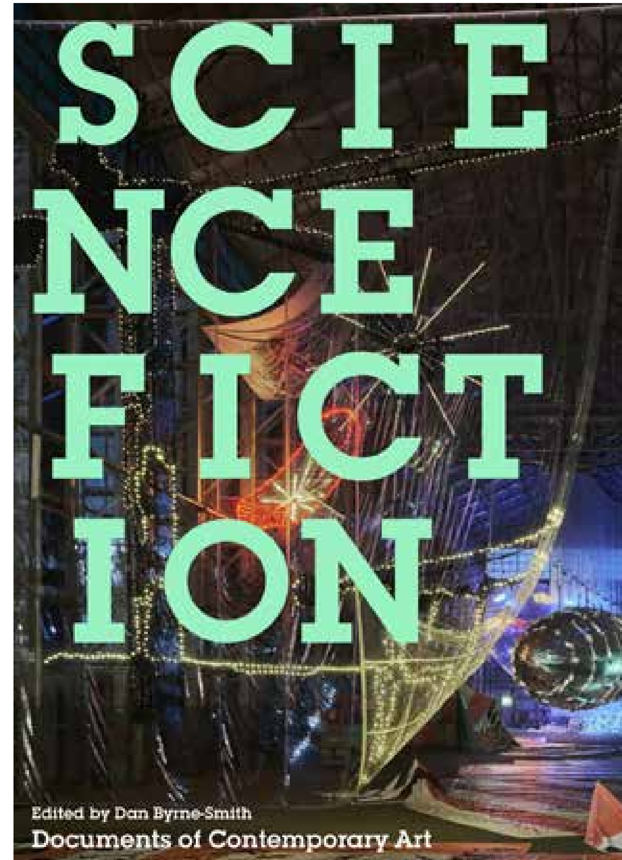
Dan Byrne-Smith, *Science Fiction*

The MIT Press/Whitechapel Art Gallery (2020), 240 pp.

Reviewed by Andrew M. Butler

There is a moment in an 1836 lecture at the Royal Institution when John Constable argues that "Painting is a science, and should be pursued as an inquiry into the laws of nature. Why, then, may not landscape be considered as a branch of natural philosophy, of which pictures are but experiments?" Various nineteenth century artists actually made science-fictional paintings — John Martin and Thomas Cole spring to mind — and groups of artists such as the Futurists, the Vorticists and the Surrealists embraced the ambiguities of modern technology in the first half of the twentieth century. In 1956, the "This is Tomorrow" exhibition at the Whitechapel Art Gallery was opened by Robbie the Robot from *Forbidden Planet* and featured science-fictional imagery among its utopian and dystopian reactions to post-war, consumerist Britain. Among its many visitors was a new writer called J.G. Ballard.



It is thus appropriate that this book on science-fiction art is published by the Whitechapel Art Gallery (in conjunction with MIT). As part of the Documents in Contemporary Art series — other titles include *The Gothic*, *Beauty, Abstraction*, *The Sublime* and *Ruins* — it brings together extracts from theoretical essays, academic journals, museum catalogues, interviews and written creative works, mainly produced in the last two decades. The book is arranged by theme rather than chronologically: "Estrangement", "Future", "Posthumanism" and "Ecology", the first being driven by academic definitions of sf and the others by three broad areas of sf art. It is perhaps surprising that "Utopia", "Dystopia", "Technology" or "The City" are not sections, but it seems a reasonable breakdown. There is no editorial voice to situate each extract, beyond the bare fact of bibliography, and so most voices are gifted equal status, some contesting and others contradicting. Occasionally I longed for a map, or perhaps a clarification of whether, say, Afrofuturism starts in 1993 (*South Atlantic Quarterly*) or 1994 (that issue reprinted as *Flame Wars*) and I'm not clear whose typo M.R. Shiel was. And the volume assumes that you are familiar with the artists under discussion — a good many of them were names new to me, reflecting the eclectic range.

Across the volume there are some leading academic voices, such as Jean Baudrillard, Donna Haraway, N. Katherine Hayles and Darko Suvin — represented by judicious extracts from central works — and writers such as Margaret Atwood, J.G. Ballard, Ted Chiang, Tom McCarthy and Kim Stanley Robinson. Atwood is given prominence as someone who has been accused of committing science fiction and who begs off the label, as what she writes isn't what she thinks science fiction is, and she apologises that we may have taken offence at being misled into thinking it is science fiction. This is nicely countered in the interview with Kim Stanley Robinson, "Whenever science fiction gets interesting, then people try to give it another name. [...] If its content becomes relevant, you call it cyberpunk, cli-fi, Anthropocene literature or dystopian fiction" (195). Nevertheless, Atwood places herself in the Vernian rather than the Wellsian tradition. But, of course, she isn't producing art, in the sense of the other practitioners in the book.

The heart of the "Estrangement" section is an extract from Darko Suvin's *Metamorphoses of Science Fiction*, which situates science fiction as "the *literature of cognitive estrangement*" (36). It is estrangement that is picked up on by the rest of the book — the sense of the familiar becoming unfamiliar and the unfamiliar becoming familiar, which we can surely see in the dialectical dance between the artistic simulation of, say, a landscape in paint or the reimagining of a location thanks to its depiction. Estrangement is a socio-political act, persuading us to think about the real world in a new way. The cognitive part of the equation — loosely, the science — is not really discussed in the extract, although Sherryl Vint picks it up in the next one. Suvin's formulation allows us to see art in Pawel Althamer's salutation to the new millennium in a Warsaw housing estate and then the travels of its inhabitants in gold spacesuits to Brasilia, Belgium, Mali and Oxfordshire. It empowers Afrofuturism and a huge amount of non-Western art by reframing European colonialism as an alien invasion and opens the space for new myths and fables. For example, Amna Malik discusses Ellen Gallagher's *Ichthyosaurus* installation at the Freud Museum as "the basis of a foundation myth in which the sea becomes an incubator for the potentiality of the future" (79) (and Nnedi Okorafor's *Lagoon* is mentioned in an interview with Ama Josephine Budge [215]). Meanwhile Yinka Shonibare MBE's *Dysfunctional Family*, featuring an alien family dressed in batik cloth imported to Nigeria from Indonesia, was on display at the "Alien Nation" exhibition at the ICA, reappropriating fabrics sold to that country because it was perceived to be African.

It is Afrofuturism that kicks off the "Futures" section, with Wanuri Kahiu suggesting that African time is distinct from linear time and arguing that the ability to exist in multiple times and cyclical time simultaneously opens up a fruitful set of speculative possibilities. Meanwhile, Elizabeth C. Hamilton posits Afrofuturism as "finding safe spaces for black life" (105), escaping the legacies of "colonialism and apartheid, slavery and Jim Crow". These spaces have been found for decades in music from Sun Ra and George Clinton to Detroit techno (discussed here by Benjamin Noys) and in the work of Shonibare, Nick Cave and Gerald Machona, among others. Hamilton suggests that Shonibare's astronaut figures "speak to the sustained feeling of isolation and otherness that people of colour feel when traversing white spaces" (109). Global fluidity can also be seen in Gilda Williams's discussion of the Otolith Group and their engagement with Satyajit Ray's unmade Indian-set film *The Alien* (1967), which "was rethinking sci-fi at a time when [... it] was in decline and the genre had been reborn with a violent new urgency in the work of J.G. Ballard" (117). The coverage pushes further away from the Western conception of sf in Dawn Chan's formulation of "Asia-Futurism", allowing "Asian artists to recast techno-clichéd trappings toward more generative ends" (137). Here, as in the work of the Otolith Group and the prints of Eduardo Paolozzi, the science-fiction imagery is both art and trash, not necessarily used with or without critique, such as in the Propeller Group's burial of a wooden *Star Trek* phaser "in a location whose GPS coordinates will be disclosed only in 2112" (137). Ana Teixeira Pinto uses Italian Futurism and Afrofuturism to situate Sinofuturism and Gulf Futurism in a political history, noting "a [shared] preoccupation with labour, validation and epistemic dispossession" (147). These fictions explore the transformation of the world to meet the needs of capital, "an alien, voracious life form" (146).

If this image of the future rewrites human identity, then the next section should remind us that we are already posthuman. Whilst the "Posthumanism" section does introduce Chicanafuturism into the discussion, it is gender and the evolution of the gendered body that is at the heart of the section rather than the growing visibility of non-white ethnicities. The jumping off points are Haraway's classic "A Cyborg Manifesto", "An ironic dream of a common language for women in the integrated circuit" (154), originally published in 1985, and Hayles's account of the Turing Test which puts gender back on the agenda in response to Turing biographer Adrian Hodges's downplaying of it.

Curiously, the section takes a while to get to art, having discussed decentred television and other communications, Madonna, Ivanka Trump and modes of transport. Jeffrey Deitch examines the mannequins and body parts of the art of Robert Gober, Charles Ray, Kiki Smith, Karen Kilimnik and Jeff Koons, who engaged in a two-year relationship with model and porn star Cicciolina, making art from their sexual intercourse. Francesca Ferrando offers a feminist genealogy of posthumanism, her eye on its origins in cyberfeminism and how women's histories may be erased. In a too-brief overview, she cites — among others — Kenyan-born Wangechi Mutu who celebrates women as cyborgs, Jamaican-born Renée Cox who poses as Raje, a racial-justice superheroine, Laura Molina's social-justice superheroine and Denenge Akpem, who "transforms herself into a hybrid human-jellyfish, with lighted fibre-optic tentacles" (181). Art is full of male power fantasies, institutionalised in the gaze of the artist on his muse; technological change allows this to be reversed or challenged as the artist becomes her own subject and object.

Finally, "Ecologies" represents the Anthropocenic turn in art, although its origins here lie with Rachel Carson's 1962 account of an imagined silent spring in an American town. As Kim Stanley Robinson makes it clear in his 2018 interview, the ecosystem is intimately connected to the operations of capitalism and even imagines insurance company strategies as science fiction. Jessica L. Horton and Janet Catherine Berlo turn to the side-lined conversations of indigenous scholars and artists to consider the problems of modern humanity coexisting with nature. It becomes a matter of ownership — the historic tendrils of Western multinational corporations and the more recent operation of Chinese investments — of nature and who gets to speak for it. Ama Josephine Budge and Angela Chan, in conversation, are sceptical of the imposition of some of the key terminology of the science fiction mode. Budge is "not particularly moved by, or connected to, Mark Dery's simplified theorisation of [Afrofuturism …] and I don't particularly like having my avenues of speculation determined by yet another white man" (218) and Chan sees cli-fi as "a very whitewashed, hetero-patriarchal term that is conveniently marketable" (217). It comes back to capitalism again, ignoring earlier speculations about climate by writers and artists of colour, LGBTI + writers and artists and creatives from the Global South. This section discusses a number of exhibitions, children as critics (of Ted Hughes's *The Iron Woman*) and even gardening as protest.

The tensions between global and local labels, some of them flags of convenience for signal boosting, some of them attempts to control, remind us that that already slippery term "science fiction" becomes even more complex in this global context. The Gernsback-Campbell Continuum of Anglophone science fiction is the mode with the most press coverage and tries to police its boundaries. What is clear is that science-fiction art cannot be contained by our standard definitions of the genre. Budge cites Audre Lorde's statement that "the master's tools will never dismantle the master's house. They may allow us temporarily to beat him at his own game, but they will never enable us to bring about genuine change," but that might not stop those artists who rightly won't acknowledge the master.

This is all a long way from the canvases of John Constable and his contemporaries made during the Industrial Revolution — and very little of the art discussed here is painting. Instead, it extends to film, sound art, sculpture, the digital, readymades, architecture and protest. It questions our categories of identity and at the same time sees art as a means of letting a range of identities speak. It is a rich brew, and whilst some names occur across a range of extracts, it is not an easy book to navigate. I am torn between suggesting it needs to be consumed whole, to pick up upon the hidden conversations, and thinking it needs to be read slowly, with a search engine to hand to track down the images. Science fiction will never look the same.

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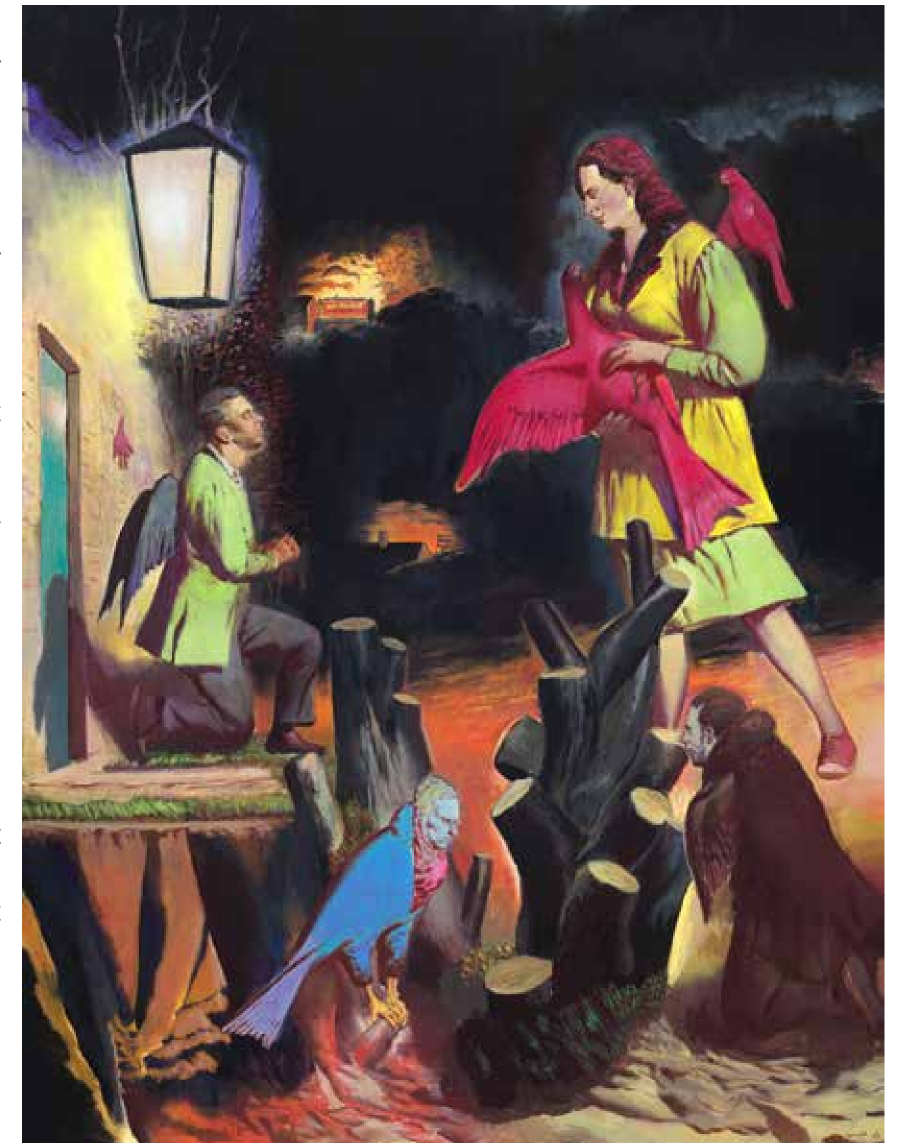
New Waves, New Worlds: The Tempestuous Temporalities of Neo Rauch

Declan Lloyd

In the past decade or so the contemporary German painter Neo Rauch (b. 1960) has seen a seismic boom in popularity, his work frequently appearing in major exhibitions across the world. His paintings are marked by their distinctly surreal, dream-like aspect, which fuse together the disparate imagery, fashions, objects and artistic styles of vastly different time periods, depicting at once haunting visions of the past and offering glimpses of otherworldly futures. Rauch has never been more than fleetingly considered within the rubric of science fiction, yet his eerie, dystopian, highly narrativistic visions certainly bear a great many affinities with the genre, and particularly to the New Wave authors of the 60s and 70s; visions which similarly test and explore the limitations of genre, the flux of time and space, and shift focus onto the inner world of the psyche. Rauch's paintings give us intimate insights into personal as much as cultural experiences, and so in them we see these wispy, ephemeral scenes and figures, a kind of mosaic of memories, of his time growing up in the strict confines of socialist East Germany, of the everyday life of his home in Leipzig, and even the tragic death of his parents in infancy. But such visions are often spliced and warped with the imagery from some infiltrative, alien future, and it is this convergence of time and space, of inner and outer world, which is so central to his artwork. Such intersectionalities are in many ways mirrored by the collision of 'parallel



Neo Rauch *Späte Heimkehr*, 2013 Oil on canvas 280 x 210 cm © Neo Rauch / VG Bild-Kunst, Bonn Courtesy the artist, Galerie EIGEN + ART Leipzig/Berlin and David Zwirner

worlds' in the form of East and West Germany, whose opposing socialist and capitalist ideas are seemingly as cataclysmic and world-shaking as any alien invasion. Rauch spent his youth during the construction of the Berlin wall, and much of his best-known art appears after its fall, that seismic moment in German history. The collapse of the wall in many ways appears as a symbol of this dissolution of divisions and boundaries within his work. Rauch's artwork explores the collision and insemination of worlds, times and ideas, and in them we see the fragmentary cerebral fallout which is left behind.

In many ways Rauch's artworks can be viewed as painterly cousins to the literary works of J.G. Ballard, whose science fiction explored an 'inner' as opposed to 'outer' space. Ballard's own dystopian imaginings similarly coalesce disparate temporalities and cultures, and are often set in times of war and social unrest, as seen in his *Empire of the Sun* (1984). In many of Ballard's works we similarly see the unconscious mind bleeding into the waking world, into everyday reality, so that the sources of trauma, the obsessions, the festering fears, the buried instincts all come bubbling up to the surface with biting allegorical pertinence. Rauch, like Ballard, explores the liminalities of the man-made and the organic, the bodily and the mechanical warp and writhe, with an air of the biomorphic Surrealism of Francis Bacon and Richard Hamilton. The world of the worker is captured and contorted within Rauch's paintings, as is the supremely concretized worlds their subjects inhabit. Those distinctly Ballardian views of reality, made up of endless motorways, shopping malls and tower blocks, depicted in works like *Crash* (1973), *High Rise* (1975) and *Kingdom Come* (2006) are echoed in Rauch's works like 'Weich' (2005) and 'Hohe' (2004), wherein such architectures become alien and pervasive. Whilst Rauch's 'Späte Heimkehr' (2013, shown above) undoubtedly calls to mind Ballard's Surrealist rendition of his hometown of Shepperton in *The Unlimited Dream Company* (1979), in which the populace undergo a transformation into great birds much like those which appear within the paintings of Max Ernst: 'all over Shepperton birds were appearing on the rooftops, raised by my cries from the sleeping minds of the people below, husbands and wives wearing their brilliant new night plumage'[1]. A kind of temporal implosion also unites both of their work, in which we see a murky composite of past, present and the future, where wandering nomads gather, like wispy and ethereal shadows.

There are further affinities to be drawn with Rauch's work and other tributaries of science fiction, in subgenres such as Afrofuturism and Steampunk, this in that his paintings evoke that same intersection of historic, culturally imbued past and unknown, vastly technologised future, often as a means of empowerment and historical confrontation. Resonances can be felt with classics like Octavia Butler's *Kindred* and Kurt Vonnegut's *Slaughterhouse Five*, in the sense of their exploring some temporal rupture as a means of reapproaching and perhaps challenging some unsolved trauma from the past. Rauch has spoken of the therapeutic, cleansing power art wields, and the presence of this dimension within much of his own work. In Nicola Graef's 2016 documentary 'Neo Rauch: Gefährten und Begleiter', or 'Comrades and Companions', Rauch speaks of the incapacity of earlier artists of pre-reunification East Germany to express themselves through their art, and how he was given 'the grace of a late birth… someone perhaps two years older than me, had to maybe experience the drastic influence of the state on their art… [nevertheless] I still have this anticipatory mindset stored as a moment of horror that from childhood on was put upon us... Art has to function as a weapon in the social struggle'[2]. He speaks too in the film of the quasi-mediumistic dimension to his art, utilised as a means to vanquish his own inner demons (Graef, 109.10). Once again there are echoes with Ballard here, who so often emphasised the therapeutic power of merging inner and outer worlds, this epitomised in the work of the Surrealists, whose ideological approach he viewed as so analogous with science fiction. Ballard often spoke of the affinities between Surrealism and science fiction, citing their influence by emergent scientific fields such as optics, photography, relativity and geometry, as well as the movement from which Surrealism takes its aesthetic cue: Freudian psychoanalysis. Ballard once elucidated that 'what uniquely characterizes this fusion of the outer world of reality and the inner world of the psyche … is its redemptive and therapeutic power'[3].

1 J. G. Ballard, *The Unlimited Dream Company* (London: Harper Perennial, 2008) p. 57.
2 Nicola Graef (dir.), *Neo Rauch: Comrades and Companions*, Lona Media 2016.

Neo Rauch, Marina, 2014 Oil on canvas 250 x 300 cm © Neo Rauch / VG Bild-Kunst, Bonn Courtesy the artist, Galerie EIGEN + ART Leipzig/Berlin and David Zwirne

Surrealism and Science Fiction

But there are a great deal more affinities to be found between science fiction and Surrealism aside from their interests in the scientific, the therapeutic, and the power of the imagination to transform and redeem the world. At the most rudimentary level, science fiction and Surrealism share similar structures of a manifest and latent content: the latent, kernel idea — be it neurosis, obsession, repression, whether individual or societal — is hidden beneath a manifest 'dream layer' which gives us the notion of some lurking trauma. The process of 'censorship' is viewed as the primary role of the dream: that is, the abstraction or transformation of an underlying neurosis, anxiety, etc., into something unrecognizable: a construction of metaphoric-aesthetic veneer, as a means to protect the dreamer 'from the shock of a disagreeable reminiscence'[4], as Carl Jung described it. In line with Surrealism, dreams are integral to Rauch's own artistic process: 'I'm interested in simulating the methods of dreaming'[5], and has playfully revised Descartes' famous dictum to describe something of the nature and drive of his work, stating 'I dream therefore I am'. Parallel to such Surrealist affinities, Rauch's artwork undoubtedly brings to mind Darko Suvin's well-known definition of science fiction as 'the *literature of cognitive estrangement*'[6], which draws upon Bertolt Brecht's *Verfremdungseffekt* in allowing us 'to recognise its subject, but at the same time make it seem unfamiliar' (Suvin, p. 6), a technique identifiable with the Freudian uncanny. Such a definition makes the psychological underpinnings of science fiction, and moreover its links to Surrealist ideas, eminently visible. Like Suvin's extrapolative models of SF which are 'based on direct, temporal extrapolation and centred on sociological — that is, utopian and anti-utopian — modelling' (Suvin, p. 27), Rauch's paintings are, as we know, a kind of skewed reproduction of reality which extrapolates 'real-world' elements. It is through such a dream-like process that science fiction too has the power to confront the issues, struggles and anxieties in wider society: what is Dystopia if not a dream (or nightmare) borne of anxieties for the future?

It is perhaps unsurprising then that Surrealism is the movement with which Rauch is most often associated: regarded as something of a new-wave, post-Surrealist. In his work we see echoes of the twisted, temporally dislocated locales of Giorgio

3 J.G. Ballard, *A User's Guide to the Millenium: Essays and Reviews* (London: Flamingo, 1997) p. 84
4 Carl Jung, Marie Luise von Franz (ed), *Man and His Symbols* (London: Picador, 1978) p. 52.
5 'Neo Rauch: "A painting should be more intelligent than its painter"'. Interview of Neo Rauch by Paul Lester for Conceptual fine arts, 7/11/2019: www.conceptualfinearts.com/cfa/2019/07/05/neo-rauch-interview/
6 Darko Suvin, *The Metamorphoses of Science Fiction: On the Poetics and History of a Literary Genre* (New Haven: Yale UP, 1979).

Neo Rauch, *Der Blaue Fisch*, 2014 Oil on canvas Diptych 300 x 500 cm
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de Chirico and Paul Delvaux; we see the towering, teetering dream sculptures of Yves Tanguy; the esoteric clash and bustle of places and people and animals and dreams and reality to be found in paintings of Leonora Carrington; the hypnagogic landscapes of Salvador Dali and the eerie dislocation of objective reality in works by Rene Magritte. His Bacon-esque bodily grotesqueries, formed by cadaverous trickeries of paint, and the frequent warping of perspectival space which wrenches objective reality into painterly smears, these 'punctum' points (following Barthes) both draw the eye and challenge the imagination of the viewer, allowing their own notions to run wild. In line with the Surrealists, Rauch's hypnagogic visions are infused by his own subjective experience, so that his haunting memories of the past coalesce with his worries of an unknown, alien future. Indeed, the present is almost entirely lost within his visions, evoked in nothing more than the very fixity of painterly form itself, the temporal 'capture' of the moment set before us. This is a present which has given way entirely to reminiscence, to the traumas of the past, to the anxieties of the future, to an echoing, paranoiac mosaic of fragmentary obsessions: these are Dystopias of the past *and* future. The infusion of subjective experience in Rauch's work, and the utilisation of dream processes, no doubt owe a lot to his great early influence by Magritte and Dali (Lester interview), both of whom were exploring very different potentials offered by creating art using the properties of dreams and dream symbols. Affinities with Magritte are to be found in Rauch's blurring of forms, his strange convolution of objects, his simply depicted, yet philosophically stimulating visions which often pose deep and penetrating questions. This epitomised in Magritte's epochal 'Treachery of the Images' (i.e. 'This is not a pipe') which interrogated the shifting role of language when introduced into the visual realm of art. But there are more striking similarities to be found in contrasting his work with that of Dali.

Despite his zany and eccentric reputation, Dali's artworks are highly theoretical and systematic, using a recurrent symbolic vocabulary made up of anthropomorphised crags, eggs, pomegranates, leonine heads, camembert clocks, colossal locusts, spindly-legged elephants and rhinoceri. Harnessing the recurrent images of his dreams, he placed himself 'on the couch' so to speak, painting a symbolic, 'manifest' rendition of his 'latent' emotional state. Once these private fantasies and visions of madness are deciphered — many of which are illuminated through his colourful retelling of his life in autobiographical *The Secret Life of Salvador Dali* (1942) — there begins to emerge a very precise and evocative rendition of inner thought and feeling, many of which are so artfully elucidated. In Dali's work we see, as with that of Rauch, fragments of the past, of impending war, of love and loss. We see a lucid and immersive iconography which powerfully evokes a state of mind. Dali termed this systematised approach to rendering dreams his 'paranoiac-critical method', a process which 'organizes and objectivizes in an exclusivist manner the limitless and unknown possibilities of the systematic association of subjective and objective 'significance' in the irrational… it makes the world of delirium pass onto the plane of reality' ('The Conquest of the Irrational' 1935). Harald Kunde has spoken of Rauch's similar methods of employing 'certain motifs over and over again in a programmatic way. Internal cross-references and cyclical reprises in this world of motifs contribute significantly to the unique, self-enclosed nature of his art'[7]. This fundamental process of recurrence in dreams, firmly held as a combative process, thus seems essential to Rauch's own aesthetic hermeneutic. Such also further illuminates what is perhaps the most pressing point of unity between Surrealism and science fiction (and so art and literature more broadly speaking), in terms of the recurrent themes of science fiction, their manifest content, which, just like dreams, address some latent trauma of the times, whether that subjective or societal. Viewed as such, as megatext perhaps, science fiction emerges at once as both a record and instrument of these ongoing historical latent fears and traumas.

Rauch's own sprawling, open landscapes of his native Leipzig, are often populated by drifting, phantasmal figures and eerily misplaced objects, architectures and scenes, all of which are certainly reminiscent of the dream-like Catalonia in the paintings of Dali. 'Der Blaue Fisch' (2014) is a particularly Dalinian work, in which an elegantly dressed woman emerges from the innards of a great fish, chaperoned by a ghostly suitor, the rippling shape of her blood-red her dress merging with its splayed entrails. The sense of 'visceral' grace evoked here seems to resonate with Marxist ideas of class alienation, a common theme within much of Rauch's work: the idea of the debased, desubjectivised worker, alongside this contrasting almost 'otherworldly' sense of higher society. In Rauch's richly satirical, metaphorical vision, the figures of the aristocracy so graciously emerge from the spilling viscera of a whale, which seems to represent the toil and labour of the working class. Indeed, the great many chimeras and animal-human hybrids which populate Rauch's palimpsestic visions are redolent of Kafka in this respect, whose work similarly coalesced strange, dream-like worlds with familiar, mundane, everyday reality. Such liminalities appear in Kafka's language to the same effect as Rauch's visual imagery; their commentaries similarly wielding sociocultural bite and intent. The temporal drifters who populate these eerie, vacuous working environs (industrial estates, construction sites, lumberyards, concrete office buildings, diners, butchers, etc.) seem to have awoken, much like Gregor Samsa, into these

Neo Rauch, Hüter der Nacht, 2014 300 x 250 cm
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7 Neo Rauch, eds. Hans Werner Holzwarth, Wolfgang Büscher, Harald Kunde & Tinterow, Gary. *Neo Rauch* (Köln: Taschen, 2012) p. 227.

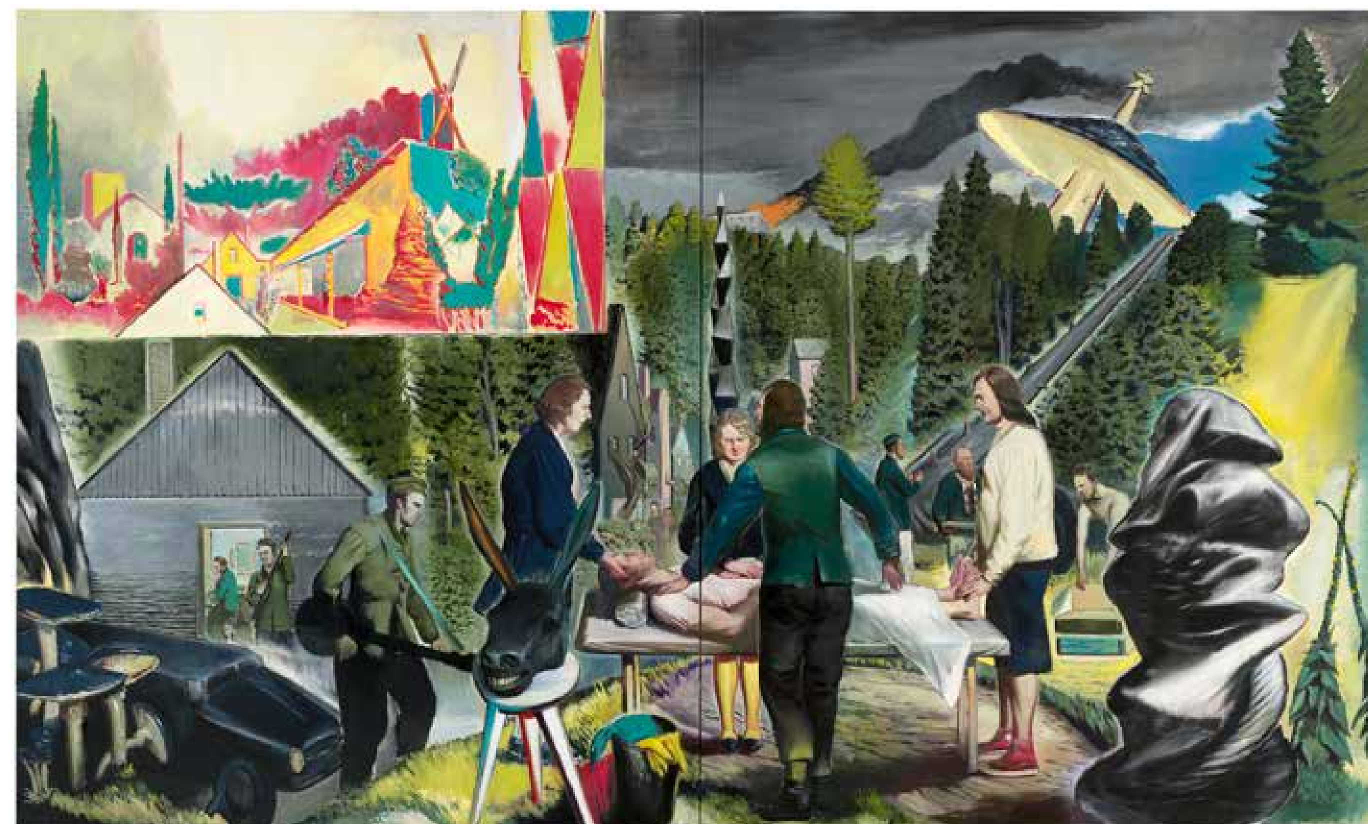
new forms, into this new world where the surreal and the hypermundane are somehow harmonised (see 'Bon Si' (2006) and 'Der Former' (2015),for example). Such inhabited spaces and bodily metamorphoses speak above all to some *inner* change, one imposed by systemic powers and controlling forces; those which work at total and utter desubjectivisation.

Such narrativised inner changes are also crucial within Dali's work, as can be seen in his iconic 'Metamorphosis of Narcissus' (1937) which contains the entirety of Ovid's myth in a singular painted image. Like Dali's painterly rendition of the Narcissus myth, in 'Der Blaue Fisch' there is a similarly reflective aspect, a duality or reciprocity to the buildings and figures, as if the painting is somehow split down the middle and parts of each side resonate with one another. Much like the central mirrored hand-body forms of Dali's painting, which can be seen to represent at once Narcissus' gazing into the water, and his reaching out from its depths upon falling in love with his own image, there is a sense of the infinite here, particularly through the red windmills, which recur off into the distance of the scene much like the hands in Dali's work. Rauch's aesthetic and ideological ties with Dali and other Surrealists are clear, particularly in terms of their engagement with the current upheavals in wider society, which acts as something of a fertiliser for their work. The events which weighed heavily on the unconscious (or mass unconscious) are manifested within their otherworldly, phantasmagorical visions. But despite his open acknowledgement to Dali's early influence, Rauch has expressed some dissent at being bundled in with any one movement, an expression which is reflected by the assimilatory and boundary-breaking nature of his work. He is also averse to the idea of his art being seen as inherently political, and the emancipation from such confining categorizations clearly weighs heavily on his mind. This is no doubt why he is dismissive of the associations of his work with 'post-socialist' art or the New Leipzig school which confines his art to a political dimension, as a kind of caricaturist. Nevertheless, such a rejection of any individual artistic movement can also be seen to represent a crucial aspect of Rauch's 'science fictional' presentation of time within his work.

Painting through the ages

Rauch once described his art as a 'Peristaltic Filtration System in the River of Time'[8], an analogy which ties together the enormous presence of workers and machinery within his work to the apparitions which seem waylaid by some temporal tempest. But his work also acts as a kind of rift in timespace wherein the ever-shifting changes of art, artists and movements through the ages intercede and flow into one another like a great river of the imaginary. For in his painting we see the styles, imagery, scenes and architectures of the Old Masters of the Renaissance, of the Romantic era, of the Symbolists and of many more movements and artists of the bustling artistic decades of the early 20th century. There are elements of Expressionism, and especially Edvard Munch, and his dazzling and psychedelic-photonegative colourations, his sense of existential angst which warps his writhing figures. There are elements of Futurism, through the industrial bustle of his settings and working figures, which are jarringly placed alongside alien technologies and architectures. Of Cubism, and his contortion of objects in time and space, where all facets are simultaneously experienced; of Abstract Expressionists like Gerhard Richter; of later Neo-expressionists which dominate the art of Western Germany; of the comic-styles of Pop Art, marked by the alienated fashions and symbols of Westernised consumer brandings, and particularly the historical amalgams of Sigmar Polke. He has also often spoken of the prevalence of Socialist Realism growing up, the influence of which festers within his art, much like the propaganda-art of communist East Germany, which also bleeds into his uncanny visions. Rauch has expressed 'I refrain from any hierarchisation and from a conscious evaluation of my pictorial inventory… Balthus Vermeer, Tintin, Donald Judd, Donald Duck, agitprop, and cheap advertising garbage can flow together in a furrow of my childhood landscape' (*Neo Rauch*, p. 148). Crucial to his work then is this idea of *assimilation*: not only of time and space, but also of artists and art movements. Through Rauch we see how history is rendered through art and how seminal moments of history are echoed by the shifting, metamorphosing forms and techniques of art, and

8 Alison M. Gingeras, "Neo Rauch, A Peristaltic Filtration System In The River Of Time", Flash Art Vol. XXXV No. 227, November-December 2002, p. 66.



Neo Rauch, *Heillichtung*, 2014 Oil on canvas Diptych 300 x 500 cm © Neo Rauch / VG Bild-Kunst, Bonn Courtesy the artist, Galerie EIGEN + ART Leipzig/Berlin and David Zwirner

his own assimilatory processing of art throughout history serves to lay this mutability bare. This idea of art shifting with the times is what Alois Riegl termed the *kunstwollen*: that is, the artistic will, or what you might designate the aesthetic pulse of the times. Thus, in Rauch we have a 'rhizomatic', manifest surface, which collects the fragments of art and styles from different eras, beneath which is an assimilated latency of art through the ages. Indeed, one might regard this perennial problem of 'fixity' in painting, as the very driving force of art movements throughout history, the momentous drive of the *kunstwollen*, which appears by way of the ever-shifting nature of form. This is made especially evident in modernism and beyond, when perspective and subjectivity became so fundamental to art and literature. Rauch has called himself: 'a child of modernism… but one who is gradually emancipating himself a little. One basic essence of modernism is doubt, that is, a mistrust of all laws, all aspects that are supposedly unavoidable, and this apparently inscribes itself into my pictures during painting' (*Neo Rauch*, p. 360).

Rauch's assimilatory blurring of historical imagery and artistic history serves a crucial function in the eye of the beholder, who cannot but impose their own insights, their own tangential connections and serendipitous significances (this once again, is a highly Surrealist tendency). All elements in this dreamspace are ripe for interlocution, but in particularly those which are related more by their abstractedness: for example the amorphous, bacterial masses, the geometric shapes and structures, the Biblical allusions, the oddly coloured objects, and all manner of other loose wires which begin to spark as they come into contact and attach the connective synapses in the viewer. Indeed, Rauch's use of colour is almost as alien as his scenes, at once vibrant and yet somehow dissociative, a pallette seemingly more geared at generating a sense of time and place, or provoking correlations between scenes and objects. Rauch has spoken of colour as a 'lubricating film through which our emotions are transported onto the canvas… in terms of the capacity to release memories, it is less strong than the sense of smell, but very much related'[9]. Thus, for Rauch even colour is utilised to tamper with

9 'Neo World Disorder: The Artistic Journey of Neo Rauch', interviewed by Diana d'Arenberg Parmanand for Hong Kong Tatler, 27/11/2015. hk.asiatatler.com/life/neo-world-disorder.

temporal fixity — these chromatic configurations a way of provoking our personal associations with certain colourations, of tapping into our own past and recollections. This mnemonic semblance of colour and smell is perhaps related to their innate abstraction from language, and their being of a different sensory order, and so more readily attached to memory only when the sensation is revisited within the sensory realm (when one walks past a place they used to frequent, or smells a food they ate in childhood etc.).

Time, memory and the illusion of continuity

Experiments with colour and imagery which are distinctive of different specific time periods and movements demonstrates Rauch's interest in exploring how to render time in the visual world. For Rauch's medium allows him to relinquish the temporal limitations imposed by the linearity of language, of memory as 'flowing' backwards, or 'forward thinking' (literature necessitates some measure of forward progression), or being confined to one fixed moment in time (as with sculpture). Instead painting can encapsulate many times, and all the disparate components of time can appear in a singular image. A painting can converge past, present and future, as well as inner and outer worlds: in painting one can contort the very fabric of spacetime. Rauch's art seems to relish in exploring how time and space are represented in the immediate visual world. Our memories, our recollections and conceptions of the past, those fleeting and ephemeral scenes and figures, those nostalgic instances, those traumas and hauntings, those ephemeral flashes and flickerings of vision which invade the present: these are all fundamentally *visual* in nature. We do not remember in words, rather, we remember in images. Just as we do not imagine the future in words, we 'imagine' it in images. Rauch is clearly keen on elucidating the visual nature of the mind, how the visual world relates to memory, and can invoke different temporalities, can take us back, or even forward, in the aesthetic representations of futurity popularised by science fiction. He is thus keenly aware of the versatility of spatiotemporality in the visual realm, of *time as perspective*. The sense of mnemonic rupture within Rauch's work, which depicts memories (both personal and collective) of the past alongside worries about the future in a singular moment, results in a seismic clash which threatens the very stability of the present. In line with such, the many interlocking narratives within Rauch's paintings provoke a frantic overactivity of logic-seeking in the viewer, and this is a process which *transcends* time. Indeed, time becomes nullified in the sense of the viewer being more concerned with finding out what unifies these moments: they are incessantly searching for that tranquil, blissful illusion of continuity.

Rauch's *Heillichtung* (2014) is particularly lucid in depicting these clashing visual icons of temporality, in coalescing tangential narratives, in utilising colours and symbols which speak to memories of the past, and contorting them with inklings of the future. His process of artistic assimilation can be evidenced here once more: a Brancusi-style sculpture appears in the centre, whilst on the front-right appears a material-covered mass reminiscent of Magritte's veiled faces as seen in 'The Lovers' (1928); a work which produces a heightened sense of intimacy through the very emergence of this partition, veil or covering. The intimations of war are ubiquitous in this vision: a wounded man appears at the center, surrounded by sombre figures; there are armed soldiers (one wielding a guitar); a building burns off in the distance; an anti-aircraft gun (or is it a telephone post?) is arced towards the upper-right corner. But if this is indeed a scene of war, it is a war which transcends time. For there also appears an armoured car, and a Wellsian craft of some kind which looms in the background with a beam of light close by as if intimating an abduction (the craft also mirrors the shape of the mushrooms in the lower-left corner, expressing a connection to earthly environment). The effect of this is something of a warped amalgam of Renaissance military art and 60s sci-fi movie posters. Biblical imagery also presides here: looking closer at the figures surrounding the central bed, there appears a Converse-clad Christ-like figure who stands at the feet of the injured man, as if about to lay on his healing hands. As if to support this image, the anti-aircraft gun in the background is angled so that it almost seems to rest on 'Christ's' shoulder, perhaps symbolising his carrying of the cross. Then there is the grinning head of a donkey which seems to further reinforce this Biblical aspect to the image, or rather, further extend upon the endless chain of logic-seeking, for this is a journey in which one actively takes part (perhaps, then, this is the grin of a knowing creator?). This religious imagery is enforced by the very title of the work, which roughly translates to 'healing' or 'holy' glade or clearing. Thus, here is a vision which, much like a dream, is ultimately motivated by *recuperation*; be it psychological or spiritual. Something particularly distinctive about this painting is the portal-like image in the upper-left section of the painting, which shows us an alternate view of this world, an idyllic, perhaps utopian vision, which is bright and vibrant, and which in some sense works to render this 'other' scene as Dystopia. Such readings are perhaps inevitable within Rauch's work, but they also serve not only to expose the great affinities of his artwork within the rubric of science fiction, but they also allow us to see how his imaginings can bring about all new insights to the genre.

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Exploring the Strangeness: Conceptual Art and Science Fiction

Frank L. Cioffi

Science fiction is here to stay. Its themes and conventions familiar, the form has broken out of any "ghetto" it might once have inhabited. Now, "serious" writers—Joyce Carol Oates, Chang-Rae Lee, Don DeLillo, Gish Jen, among others—employ science fiction narrative structures and themes. In addition, science fiction writers cross over into "serious" fiction, as in the case of Stanisław Lem, Samuel Delaney, or Ursula K. Le Guin. SF movies are no longer the "B" movies of the 1950s or 1960s; they frequently offer serious social commentary, complex characters, and philosophical conundrums. The genre has permeated television, is evoked in popular music (Kraftwerk, Laurie Anderson, David Bowie, Zagar and Evans, Kate Bush, Lady Gaga, Janelle Monáe), can be found lurking in advertising, and even informs product design, children's toys, and the food we eat (I'm thinking of Soylent, a nutritionally complete comestible that recalls the 1973 science fiction film *Soylent Green*).

Conceptual art, by contrast, seems less vital. It might have started with Marcel Duchamp's *Fountain or Bicycle Wheel* from over a century ago, but most critics seem to agree that it flourished in the 1960s and 1970s before more or less dispersing into performance art, body art, and, well—just art. Now it might seem passé, a relic of the art world from fifty years ago. A small resurgence in the US in the 2000s, in the guise of Conceptual Writing, sought to make a virtue of 'unoriginality,' with doubtful success.

How do we define conceptual art, though? John Perreault writes in a 1975 special issue of *TriQuarterly*, "an art work need not be particularly physical or particularly visual, but may be an idea," and goes on to note, "Conceptual art is more an attitude than a style," and claims, "It has practically no literary value at all." Gregory Battcock gives more background, and even offers a political slant:

> By 1970 it was clear that a new type of art was emerging in the New York and European art worlds. Quickly labeled Conceptual or Idea Art, the form encompassed an extraordinary variety of works. What they all seemed to have in common was a rejection of the "bourgeois" aspects of traditional art. Works of Idea Art frequently did not actually exist as objects. Rather, they remained ideas; frequently, what did exist was only some kind of documentation referring to the concept. (1)

Robert Hughes is somewhat less distanced in his appraisal of what was then a new art form: he writes, "'Advanced' art—whether Conceptual Art, Process Art, video, Body Art, or any of their proliferating hybrids—avoids the object like the plague. The public has retreated, in turn, from it" (186). In some ways Hughes is right. The most famous practitioners of conceptual art—artists like Joseph Beuys, Hermann Nitsch, Christo, Eleanor Antin, Walter de Maria, Douglas Huebler, Joseph Kosuth, and Agnes Denes—seem to have more historical than current interest.

Yet in 2019-20, a comprehensive exhibition of Agnes Denes's works appeared at The Shed in New York City, and it suddenly seems that conceptual art is not so moribund after all. Entitled "Absolutes and Intermediates," the exhibition includes many more or less completed works from Denes's career (though "completed" is really not quite right, as a significant number of her works unfold over time), as well as some 130 "unrealized" projects.

Agnes Denes *Human Dust* 1969

One central work, "Human Dust," is prominently displayed. It forms part of the *Book of Dust*, a project that took her sixteen years to complete. Here is Denes's description of "Human Dust": "In this work, an artist becomes his own essence, reduced to numbers and statistics that are exhibited together with his own calcareous remains" (*Human Argument* 24). "Human Dust" (which also appeared in *TriQuarterly* 32, published in 1975), consists of a one-page essay on the verso and, on the recto, two photos of post-cremation human remains. The short essay describes an unnamed artist's life using numerous quantitative measurements. Interspersed among the statistics—how many meals he ate, how many sexual partners he had, how many times he moved his bowels, how many books he read and siblings he had—is the following: "He was unhappy and lonely more often than not, achieved 1/10,000 of his dreams, managed to get his opinions across 184 times and was misunderstood 3,800 times when it mattered." The piece ends, "34 people remembered him or spoke of him after his death and his remains shown here represent 1/85 of his entire body." The two photos on the facing page give slightly different views of the remains, one a medium shot, the other a close-up. It's as if the artist who has died is represented by two equivalencies that might be considered his legacies—the statistical breakdown of what he did, ate, made, and dreamed, on the one hand; and the photos of "human dust" on the other.

"Human Dust" does not initially appear to be science fiction, but instead just a statistical breakdown and a pair of photographs. The narrator seems a puzzling entity. Only an omniscient narrator would "know" all the details of the man's life, yet such narrators exist only in fiction, and this piece, with all its numerical specificity, has the trappings of nonfiction. Denes's work bridges the gap between representing an actual man and representing some alternate universe in which every possible detail of one's life might be known or recoverable, including information that's idiosyncratic, evanescent, nearly mystical: how many times the man got his opinions across, or was "misunderstood when it mattered." One could

hypothesize, for example, surveillance technology for tracking the transmission of an opinion from one neurology to the another. Denes's subjective, speculative "statistics" thrust the work into a new realm altogether—possibly the realm of science fiction.

On several essential levels, science fiction resembles conceptual art. It's as though SF emerged and brought to a wide audience some of the very concerns and ideas that conceptual art cultivated for a considerably smaller audience in the 1960s and 1970s. Interestingly, during that very time period, there was a sudden increase in the amount of science fiction being written by "serious" writers in the United States, the possibilities of the genre being, perhaps, too great to ignore. If you wanted to write a novel of ideas—long the métier of the serious writer of fiction—science fictional themes and structures could be employed to great effect.

Both science fiction and conceptual art challenge readers or viewers to figure out which aspects of their imagined worlds represent some shared social reality, and which constitute a fanciful, science-fictionesque extrapolation or invention on the part of the author. Darko Suvin calls this new element a "novum"; I label it an "anomaly"; Gary K. Wolfe calls it the "unknown." In addition, both forms are successfully realized only to the extent that their viewers or readers can infer and imaginatively assemble a conceptual universe, that is, a world very different from their own, based on only snippets and traces of information from it. This inferring is not the same as the inferring that goes on when one encounters more traditional artforms. Sometimes considerable inferring has to take place. In the case of conceptual art, the actual object has often "disappeared" or is vastly attenuated; and in the case of science fiction, the world of a story can either somewhat resemble or radically differ from our own. And finally, sometimes the inferring required becomes so active that, in order to apprehend the work, the audience must "become" part of the work. No longer is the boundary between audience and art as clear cut as it is when a person gazes at a painting in a gallery. Instead, that line is blurred, or all but erased; the viewer and art object merge. It's no longer "inferring"; it's participating.

Perceptual Limitations and "Non-mimetic" Art

Like SF, conceptual art is non-mimetic and nonrepresentational: it often forces the readers or viewers into projecting some alternate world that intersects with their own in unpredictable ways. Like SF, conceptual art is "anti-object": many of the objects that exist in both artforms do not have analogues or signifieds in any actual world (at least not yet)—and don't even strive for them. On one level, science fiction and conceptual art suggest that human beings simply do not have finely-enough tuned sensoria to distinguish the verisimilar from the "real"; the world itself has become so multifarious and mutable that it's hard to distinguish it from nonmimetic representations of it. In fact, both artforms embed reminders in their "texts" that human perception is too biologically constrained to sort out what's "real" and what's invented, to differentiate the mimetic or actual from the extra-real element, the "novum" or "anomaly."

I am working under the assumption that the human perceptual mechanism sets up some hypothesis about external stimuli. This hypothesis classifies the stimuli in a useful-to-the-person way, and the organism continues to seek data that basically confirm the hypothesis. If the data point to something else, the hypothesis may change. Or, to put it in terms derived from Thomas Kuhn, the percipient establishes a paradigm which is maintained even in the face of contradictory evidence, but will be abandoned and altered should multiple examples of disconfirmatory evidence mount up. The trouble is that such a perceptual mechanism can easily be deceived on several levels, and conceptual artists and science fiction writers delight in doing so. Walter de Maria's 1968 conceptual art piece consisting of a roomful of dirt (1660 cubic meters of it), as well as Christo's *Running Fence*, both play on human perceptual limitations. The dirt is an "artificial" arrangement, one different from any other that it was "naturally" placed in, but the human sensorium is unable to perceive that difference. Even the fact that the dirt was surely not carefully positioned, cubic centimeter by cubic centimeter, does not matter, since no viewer could differentiate a careful placement from a random one. The *Running Fence*, a somewhat better-known work, did more than merely suggest our inadequacy as responders to stimuli. Viewed from a distance, the fence rippled and billowed beneath wind and weather, synaesthetically dramatizing natural events that we lack the physical ability to otherwise perceive. When conceptual art plays on the limitations of the human sensorium in these ways, it again enacts a kind of science fictionality, insofar as it implies the possibility of perceptual mechanisms that would not be so fooled.

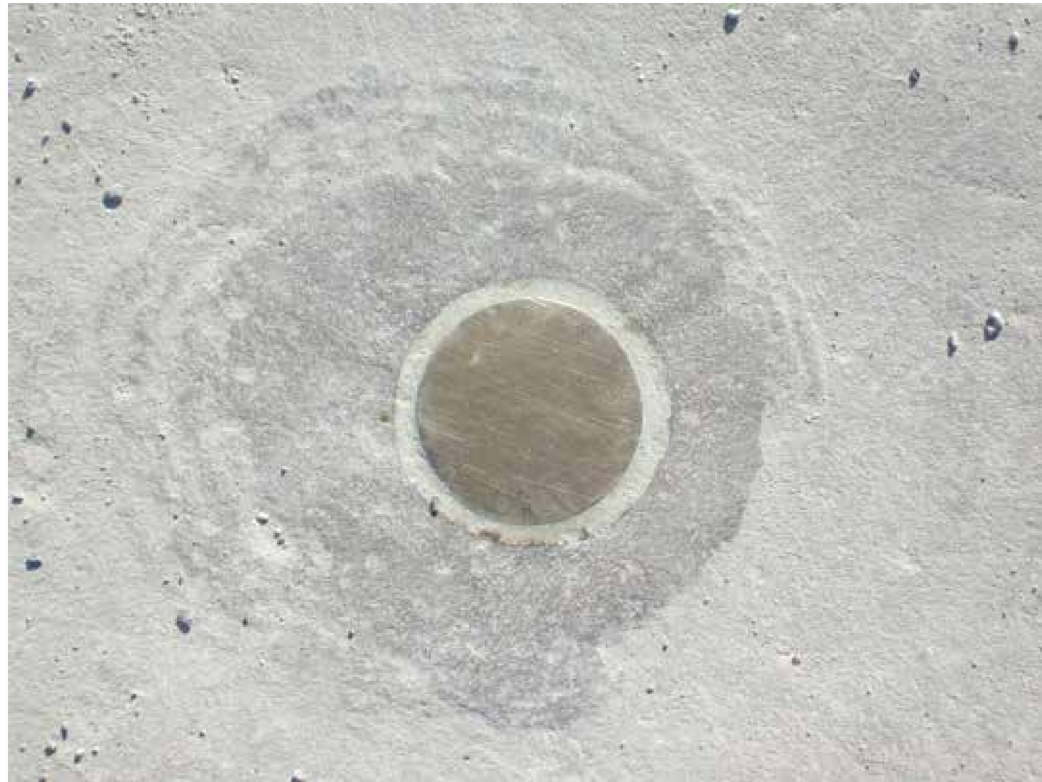
Those mechanisms, in turn, can imply entire worlds. *The Persistence of Vision*, a novella by John Varley, dramatizes the inadequacy of the human sensorium by depicting an average person immersed in the world of a deaf, dumb, blind people's commune. He finds himself—despite being in full possession of his senses—unable to understand fully or participate in this subculture, the people of which have developed perceptual powers far exceeding his own. They communicate through touching and feeling, and their ability to sense one another's moods and thoughts is far greater than that of the average human in the outside world. The novella dramatizes for the reader the idea that the human sensorium might not be adequate to record the totality of the "real." Like the square in Edwin Abbott's *Flatland* who has experienced the third dimension but cannot express to the other flat citizens what it's like, or the protagonist of H.G. Wells's "The Country of the Blind," who can't express "seeing" to a population that's been blind for generations, the narrator of *Persistence* attempts to convey the idea that our senses create our world, and if we had different senses we would live in a wholly different physical and mental environment. The world only exists to the extent that our senses can assemble it.

One way that conceptual artists play on this same theme, the limitation of the human sensorium, is by creating various kinds of "white on white" artworks, such as Kazimir Malevich's 1918 painting of that name, or Robert Rauschenberg's 1951 *White Paintings*. Rauschenberg noted in an interview that his three-paneled completely white artwork was really like a clock: "you, if—if one were sensitive enough that—that—that you could read it, that you would know how many people were in the room, what time it was, and what the weather was like outside" (SF MOMA interview). The subtle

Christo *Running Fence* 1976

changes in light, the way the canvas responds to temperature, might allow one to use it as a barometer for all sorts of information.

These works imply that human perception is limited because of its nature or its biological makeup, but many others suggest that perception is limited because of nurture, or the context that shapes and determines it. Some science fiction creates a world that forces readers to entertain paradoxical perceptual understandings, similar to the doublethink of Orwell's *1984.* Even engaging with a work such as China Miéville's *The City & the City* requires a participation in something that challenges not just credibility but the limits of the inference-making characteristic of science fiction and conceptual art. In Miéville's novel, there are two cities, Besźel and Ul Qoma, one superimposed on top of the other, both occupying the same physical space. However the inhabitants of each city have been trained since childhood to perceive only the occupants of and buildings and inhabitants within their own city, the second city being



Walter de Maria, *Vertical Earth Kilometer*

outside of the realm of their perception. They learn how to "unsee," "unhear," even "unsmell." People are not allowed to cross over from one city to the other; "breach" is a major crime.

The novel begins with a complex crime, though: an inhabitant of one city murders someone from the other. While the novel's physical/metaphysical landscape resists complete understanding, its police-procedural framework forms a familiar element that somehow normalizes the setting's strangeness. Its oddity is mixed up with something quite familiar, with tough-talking police and rowdy teenagers, with gritty streets and strict social prohibitions. But then Miéville makes things more difficult by positing the existence of a third city in the same space, one existing in the gaps between the two known cities. While the novel's metaphorical statement seems clear, given that one city is prosperous and the other poor (the rich don't see the poor, and vice versa), its literal representation of a world has a sporadic or patchy mimeticity. Yet the novel's creativity oddly rests on something that has no exact analog in the world we live in and ultimately eludes full understanding.

Extending the concept that the human sensory mechanism is limited, much conceptual art also self-consciously plays with the idea of invisibility, often questioning the status of the art object. Walter de Maria's *Vertical Earth Kilometer* (1977) is a kilometer-long brass rod buried vertically in the ground. The only part visible is the tip of it, two inches wide, and flush with the ground (*Atlas Obscura*). The rest of it is totally invisible. This is anti-art with a vengeance.

Writing in 1978, the philosopher William Fowkes delineates the aesthetic theory of Joseph Kosuth, and this explanation might help describe the appeal of de Maria's piece: "Physical objects cannot hope to compete experientially with the rich environment of our time, complete with its cities, television, rapid travel, and moon-walks" (Fowkes 162). Fowkes wrote this prior to the emergence or birth of our present digital universe but in some ways anticipates it. The world, artists like de Maria and Kosuth imply, is so multifaceted and complex that art cannot be fully distinct from it, cannot compete with it, a notion that recalls E. H. Gombrich's memorable claim: "Perhaps even the crude colored renderings we find on a box of breakfast cereal would have made Giotto's contemporaries gasp" (8). Banal consumer objects have upped the ante in terms of being beautiful and creatively imagined.

Ergo, conceptual art emerged, an art that strives for an abandonment of the object. If we can't compete with a "real world" in terms of objects, let's move beyond the object, to what art historian Ralph A. Smith calls "aesthetically indifferent art" (20): "The world is full of objects," conceptual artist Douglas Huebler remarks, "more or less interesting. I don't wish to add any more" (Fowkes 162). Instead of producing objects or shows, these artists generate ideas for art. Eleanor Antin makes up a list of various ways of spending $8.00 (eight Simenon paperbacks, one month's supply of dope, one pair of sneakers, 39 and a half minutes of Sunday morning phone conversation with her mother, etc.), in an attempt to determine the actual "value" of eight dollars "in terms of my own life costs at that particular time in my particular space" (Antin).

In a rapidly changing world brimming with so many things, many conceptual artists feel that, although they cannot represent or imitate or add to it, they can attempt to document it in personal and "objective" ways, a motivation that might also inform Denes's "Human Dust" or that lies behind Joseph Kosuth's 1965 *One and Three Chairs*, which includes an actual chair, a life-size black and white photograph of that very chair, and a poster inscribed with a dictionary definition of a chair. These are versions of the concept of "chair," and like Denes's work, Kosuth's attempts to "document" an element from a "real world." But what is the aesthetic status of that documentation? "How much significance," Ralph A. Smith asks, "should be attached to something that tries to denature aesthetic experience and eliminate all differences between art and life?" (20). Smith's answer might be paraphrased, "Not much." But I disagree. In a culture that all but worships the acquisition of material goods, perhaps the creation of a compelling but non-tangible artwork, one whose power inheres not in its value or its images but in its ideas, one whose object-ness has been minimized, constitutes a significant artistic accomplishment.

Much science fiction plays on a similar theme: it attempts to make its reader re-imagine the everyday. For example, Terry Bisson's 1991 short story "They're Made out of Meat," is a short dialogue between two alien lifeforms that are apparently nonorganic, possibly robots. They discuss earth, which wants to contact them, and one alien describes our planet's inhabitants quite simply: "They're made of meat." The other simply can't believe this and asks, "What does the thinking?" The first alien says that the brain does the thinking. The disbelieving companion says, "Thinking meat! You're asking me to believe in thinking meat!" It then asks how meat can talk. Here is the answer: "You know how when you slap or flap meat it makes a noise? They talk by flapping their meat at each other. They can even sing by squirting air through their meat." This is almost too much for the one alien to understand. Bisson's story makes us reimagine our very meatitude, or how we might appear to a silicon-based or other nonmeat-based life form, just as it makes us wonder at the variety of amazing things we make our "meat" selves do, like talk, or sing, or think.

To use a term invented by Russian Formalist critic Viktor Shklovsky, the story uses defamiliarization (*ostranenie*), which Shklovsky contends is a feature of all art, but which plays a *sine qua non* role in science fiction and conceptual art. In his 1917 essay "Art as Technique," Shklovsky writes, "The technique of art is to make objects 'unfamiliar,' to make forms difficult, to increase the difficulty and length of perception because the process of perception is an aesthetic end in itself and must be prolonged." The idea is that in everyday contexts, people become habituated to the objects around them. "Habitualization," he writes, "devours work, clothes, furniture, one's wife, and the fear of war" (Shklovsky). What a list. Art makes people see these everyday objects anew. "They're Made out of Meat" makes even one's own biological makeup somehow at once alien and repulsive.

Participatory Art

A reader or viewer can be a more or less active participant in a work, can passively observe or glance at it, or can peruse and study it. It's the percipient's choice. Or is it? I suggest that certain artworks pre-determine the degree of viewer participation. Here is a paradigm case. Michael Crane's "Horizon Triangle," reproduced in *TriQuarterly* 32, is simply a photograph of a bathing-suit-clad young woman standing on the shoreline of a beach and looking at the sun as it just sets or possibly rises. It is captioned, "A triangle formed by two viewers / and the sun in line with the horizon." The woman occupies the far left of the photo, and the sun is on the far right. The paradox is, of course, that the photo depicts just one viewer, not two. The second viewer is not pictured, but exists at the third angle of a triangle formed by the women in the bathing suit, the sun—and by the very person looking at the photo. The photo's viewer is the second viewer alluded to, suddenly and unwittingly now part of the artwork itself. It's a kind of passive "performance art."

A more dynamic (and grisly) version of performance art actively enlists its viewers in the creation of an art experience if not an art object. Austrian conceptual artist Hermann Nitsch, for example,

orchestrated a spectator participation in which onlookers were encouraged to place their hands in the entrails of a freshly slaughtered lamb (Osborne 10). Although this could be something "real people" might do, perhaps if they were caught in a Jack-London-esque situation and were freezing to death, the whole event amounts to an elaborate contrivance. (It's worth noting that a show of Nitsch's work at Museo Jumex in Mexico was shut down prior to its opening in 2015 because it was considered too violent and possibly disturbing to viewers, especially in light of recent actual violence in the country [Burnett]).

A similar, though blood-free, participation involved museumgoers at the Museum of Modern Art in New York City in 2010, when they entered the gallery displaying Marina Abramović's *The Artist Is Present*. (Some of Abramović's previous performances, I note, involved spilling her own blood.) To enter this recent piece of performance art, visitors had to squeeze between two completely naked people, one woman and one man (Cotter). The artist herself sat in the gallery. Visitors might sit down in a chair facing hers. Here is how MoMA describes the work:

> For the exhibition *Marina Abramović: The Artist Is Present*, The Museum of Modern Art's first performance retrospective, Abramović performed in the Donald B. and Catherine C. Marron Atrium every day the Museum was open between March 14 and May 31, 2010. Visitors were encouraged to sit silently across from the artist for a duration of their choosing, becoming participants in the artwork. This comprehensive photo gallery contains a record of each participant. Please select "Show info" to see the date and duration of each visitor's participation. *The Artist Is Present* is Abramović's longest performance to date. (MoMA)

Essentially, then, museumgoers both actively participated in the work of art and, as part of the piece's permanent record, became the work of art. Some patrons, however, went a little too far. The *New York Post* reported, "Without giving specifics, MoMA yesterday acknowledged it had had trouble with visitors stroking the live art" (Hoffman). One visitor in 2010, Josephine Decker, took off her clothes in response. She was asked to get dressed and was escorted out of the museum.

Science fiction often contains a participatory element, though it is typically psychological rather than physical in nature. Yoko Ogawa's novel *The Memory Police* (1994; English translation, 2019) is a dystopic picture of a world very much like our own, but in the novel's world, which is restricted to a single island, the authorities have the power to simply "disappear" things. One day, an edict is issued. The authorities then gather up the birds or perfume or stamps or whatever thing is being officially "disappeared." After a short time, most people simply forget these things. "Soon enough," the narrator's mother tells her, "things are back to normal, as though nothing has happened, and no one can even recall what it was that disappeared" (4). What makes for the conflict in the story is that some people do not forget. Ogawa's novel demonstrates how fictive worlds are always incomplete, and how much the reader is at the mercy of the author's choices about what any given fictive world will include. If birds are disappeared from the fictive world, well, so be it. If human bodies are disappeared (as they are near the novel's conclusion) and only voices remain, we will deal with the voices. In short, this book is about what people do when they co-create a fictive world with an author. We work with what we have.

As far as the relationship of that fictive world to a world outside the novel, to a world it is supposed to "represent" or stand for, though, Ogawa's book makes no explicit claim. Instead, it implies that change is always happening, always distorting what we thought were the firm outlines of a universe. By dramatizing what a world looks like as it's disappeared bit by bit, Ogawa makes the reader a co-creator of a world where only a voice remains, the voice of the narrator at the novel's conclusion: "Closed in the hidden room, I continue to disappear" (274). And our closing the book effects and completes her total disappearance. We essentially co-create the work's *Nachgeschichte*, its "afterstory" or "post-history": the novel is itself disappeared for—and by—the reader.

Pedro Reyes, *Palas por Pistolas*

Stanisław Lem's *The Futurological Congress* (1971; English translation, 1974) takes a similar though not identical tack. On the surface, the novel is about a "futurological congress," an academic conference in which attendees explore and theorize about the future. Unfortunately, just as its beginning, the conference is the target of a poison gas terrorist attack, an event that forces the attendees to flee for safety into a sewer. Yet the poison gas has spread to the sewer as well, distorting the characters' perceptions so much that the reader is confused: what is "actually" happening, as opposed to what is merely being hallucinated, becomes impossible to distinguish. Like Ijon Tichy, the main character of the novel, who goes through a series of hallucinated adventures—or ones that are "real" within the science fiction universe, like time travel, for example—the reader cannot firmly or fully establish what actually "happens" to Tichy, what's attributable to a gas-induced hallucination and what is actually happening within the book's science fiction universe.

The confusion emphasizes how the reading act, at once familiar and mundane, involves making mental projections about mimeticity even in the context of a patently nonmimetic work. Once we have established a clear picture or stable understanding of how the novel's world operates, a new series of events undermines what we had thought was a durable fictive landscape. Thus the organizing system readers use to make sense of the novel remains in a state of constant flux. Such a Chinese-box structure, in which one reality is hidden inside another, and then another inside of that one, attempts to place readers in the position of the drug-addled characters in the novel, who are caught between the pleasure of being drugged and dealing with a world the parameters of which they struggle to determine. The reader too is caught between the pleasures of the narrative, namely its inventiveness and humor, and the larger problem of understanding just exactly what is going on. Lem's novel use Brechtian alienation effects (*Verfremdungseffekten*) to remind readers that this book is only a story, and its main character, Ijon Tichy, is just trying to figure out where he is in time and space in the same way that we as readers try to piece together the narrative and, perhaps, comprehend the narrative of our own lives. Not only has Lem crafted a work in which our

participation forces us into the same position as his main character, but he problematizes the activity of inventing explanatory theories or believing in them.

Concluding: The Profusion

Culture does not impose new ambiguity on the universe, so much as it inherits its ambiguity from the universe itself. In other words, ultimately no cultural artifact can adequately address the sheer complexity of reality, nor separate itself from that complexity. Perhaps the most significant tactic to dramatize this principle, used by both conceptual art and science fiction, is to nevertheless attempt to summon up that very reality: a reality so profuse and various that it teeters at the edge of chaos. In her impressive documentation of the conceptual art movement, *Six Years*, Lucy Lippard notes that with many conceptual artists, "There was a fascination with huge numbers (Mario Merz's pseudo-mathematical Fibonacci series, Barry's *One Billion Dots* [1969], Kawara's *One Million Years* [1969])" (xvi). Looking through, "experiencing" Agnes Denes's works, too, one is almost overwhelmed by their vastness, by the grandness of their enterprise—for example, her building of an entire forest of 11,000 trees in Finland (*Tree Mountain*, 1992). This project will get more dense and complete as it grows out over the centuries, and the 11,000 who helped create it will die, but the creation itself will grow and live on (Denes, *Absolutes 264-265)*. A similar work by Pedro Reyes, *Palas por Pistolas*, involved collecting 1527 guns, in exchange for electronic devices, from Mexican residents of Culiacán. Reyes crushed the guns, melted down the metal parts, and recrafted the metal into shovels—which then were used to plant 1527 trees in many North American cities (Reyes). The shovels are on display in various art museums, and they are indeed just shovels, but their status as art objects goes beyond their mere objective existence, extending into the complex and vexed history of the metal they are made from. Not only is their physical production and proliferation part of the point of the artwork, but also the history of what they are made of, which extends back in time, to when these shovels were guns.

Science fiction also often deals with huge numbers, with numbers and distances that are so large we have trouble grasping them, with "hyperspace" or with "warp speed" that can take characters light years away in a split second. Fredric Brown's 1954 short-short story "Answer" starts from the premise that people are finally closing the last switch to "connect, all at once, all of the monster computing machines of all the populated planets in the universe—ninety-six billion planets—into the supercircuit that would connect them all into one supercalculator, one cybernetics machine that would combine all the knowledge of all the galaxies." This is a conceptual art-esque situation that Brown envisions: the actuality of such a huge agglomeration of knowledge is invisible to the reader. We just have to imagine it, have to wrap our minds around that hugeness. And then, the next conceptual leap might ask, what would one supercomputer with all the knowledge in the universe, be like? The story provides the answer, as the computer swiftly replies to the first question asked it, "Is there a God?": "Yes, *now* there is a God" (112). When, suddenly fearful, one of the dignitaries present tries to disconnect that last circuit, he is struck down and the circuit is fused shut. We can only infer an aftermath. The work's conceptualism consists as much in what we must infer as in what we see, like de Maria's kilometer-long rod of brass buried vertically in the ground.

In a number of ways, science fiction and conceptual art overlap. Both depend on the invisible as much as the visible, inviting us to fill their empty spaces with glimpses of the unknown. Both science fiction and conceptual art can challenge entrenched ideologies, inviting us to consider what the sensuous purviews of art should be; how art might reveal and even retrain the mechanisms that underpin our perceptions of the world; how the distinctions between creator, work, and audience might be remade; and how artworks might harbor collective acts of the imagination beyond what is possible in everyday life. The two modes press so much on the margins of perception, convention, and cognition that they retain a freshness even in a world in apparent decline in so many other areas. And the paradigms these artforms operate under are as much in flux as society itself, tantalizingly difficult to define insofar as they purposely operate against the known, the stable, the precedented — a modus that is especially valuable now, as our pandemic-afflicted world has moved into a science fiction-like version of itself, challenging us daily to make some sense of where we are going and what we have been.

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The Dreaming Worlds and Folded Futures of Lawrence Lek

Rachel Hill

Prelude

You are guided through a rendering of the Crystal Palace. It shatters, only to reassemble, then break again. Drifting through the gloss of unblemished algorithmic architecture, as it slicks unimpeded in video game graphics. You wander through the fractured, simulated streets of Dalston or glide through the repurposed halls of institutional spaces. You are a haunting, accompanied by the mediations of unseen or synthetic narrators, the echoes of an electronic soundtrack, the voluminous rain. Voices, music and rain: these co-presences carve out the contours of a space, a place. Vacillating between utopian potential and dystopian foreclosure, between play and melancholia, what you see before you are heterotopian diagrams of the future, digital stratigraphies of the yet-to-be, bounded by the glitching residues of what was. What no longer is, but yet remains.

Literary critic Darko Suvin has famously termed science fiction "the literature of cognitive estrangement," a conjuring of "realistic irreality" which twists the known into unanticipated forms (Suvin, 116). Such twists can dephase a subject from consensus reality; a puncture allowing for the ingress of the otherwise. In turn, such apertures expose the deep strangeness and contingency of the seemingly objective, quotidian and natural. SF thus creates destabilising worlds within worlds. Building on Suvin, Kim Stanley Robinson contends that SF creates world-models which, "like the lenses of 3D glasses," facilitate an augmented form of vision, one sensitised to the simultaneity of temporal dimensions. These stacked temporal lenses telescope into and extrapolate possible futures from a "metaphorically" rendered present. He continues:

> When these two visions merge, the artificial third dimension that pops into being is simply history. We see ourselves and our society and our planet "like giants plunged into the years", as Marcel Proust put it. So really it's the fourth dimension that leaps into view: deep time, and our place in it (Robinson, 2017).

SF then is about the navigation of deep space within pockets of deep time.

The work of London-based Malaysian-Chinese simulation artist and musician Lawrence Lek is defined by the building of temporally palimpsestic, metastable worlds, routed through the estranging poetics of SF. His transmedial worlds are constructed primarily through video game-engines and soundtracks, but various iterations of each piece include elements of open-world gaming, installation and/or audiovisual performance. These myriad forms of worlding coalesce into meditative interleavings of memory, virtuality and futurity, for which Lek has received the 2015 Dazed Emerging Artist Award and the 2017 Jerwood/FVU Award. As a trained architect, his videos often rearticulate real-world structures into compressed tropical terrains adrift in time. Depicting deep time spiralling into distant futures as well as subterranean pasts, his metamorphic and syncretic work weds fictional strata with present phenomena to render reality tectonically active and on the move.

Meandering through his early video work *Sky Line*, to later work *Geomancer*, and *Sinofuturism (1839 — 2046)*, the following article considers the importance of virtual iterations of planetary visualisation, dreaming and cyberpunk to Lek's worlds.

Lawrence Lek, *Geomancer*, 2017. Poster from CGI Film. Courtesy Sadie Coles HQ, London

Bonus Skies

Lek's early video series and "virtual novel" *Bonus Levels* refers to the interstitial gaps which lie hidden within, or abridge, different stages within video game play. Such levels often suspend the established logics of a game and set them askew, a useful distortion which offers an alternate means of mobility and navigation. Presenting simulations of actual environments and structures, Lek's work similarly operates as the bonus levels of the everyday, where fictional juxtapositions and remixes afford different forms of access to, and perceptions of, reality. Simulation thus becomes a prism through which the recognisable glimmers irreally, shimmering across time in a speculative history told from a futural axis. These spatiotemporal displacements are acts of estrangement with utopian as well as dystopian potential throughout *Bonus Levels*.

Chapter six of *Bonus Levels*, *Sky Line (Virtual Tour, Parallel Narrative Version)*, draws an idealised and dreamlike tube line through a diluvian London, an alternative desire line to the city's now submerged infrastructures. This counterfactual

tube collapses scattered spaces — thematically connected as part of Artlicks Weekend 2014 art festival — into a contiguous route. A trancelike exploration of these stops is overlaid with meditations on the operations of memory, fiction and place, with an unseen narrator (in a soliloquy taken from Wong Kai-wai's film *2046*) says, "I promised to write her a story, based on my observations of reality" (2004). The train curves outwards along a loop, a circle bordered by an endless horizon festooned with sunken landmarks and erupted islands.

This syncopated train-line summons the hypnotic feeling of entering the pre-digital virtual space of The Zone in Tarkovsky's *Stalker* — a world ensconced within a world, entered through, and necessitating, psychological recalibrations. Running parallel, *Sky Line's* impossible circling into a virtual infinite is also reminiscent of a player's glitching out of the seemingly boundless but bounded landscape of a gameworld. Such clipping out of bounds (common in older video games) results in movement into unfinished or undeveloped gaps where it is impossible to discern whether a player is eternally moving or in a state of arrest. These alternate forms of virtual mobility are accompanied by musings from *Stalker*, with dialogue which positions music as "less connected to reality than anything … and yet music, as if by some miracle, gets through to our soul" (Tarkovsky, 1979). Here the ostensibly distant intangibilities of music are aligned and allied to the aesthetics of the virtual, as wired together through sensual experience. The capacity of music and virtuality to invoke a visceral, sensual experience demonstrates how the seemingly ethereal and temporary can, perhaps, bring about the greatest proximity to reality. Such collective and individual forms of intense sensual experience indicate how the recognisable and mundane can, with the tread and beat of a track, swiftly be flipped into a deeper substrate of profound weightiness. Suvin's cognitive estrangements must therefore be recalibrated to include SF's substantial affective sways also.

Planetary Worlding/Worlding Planets

The folded worldings of *Bonus Levels* are expanded to planetary dimensions in Lek's first feature-length film *Geomancer*. Geo (they/them), an AI satellite in geostationary orbit over Singapore, floats in contemplation of their digitally rendered Earth, and "dreams of worlds" (Lek, 2017). As the central protagonist, we follow Geo as they deorbit, landing in Singapore in 2065. During the nation's centennial celebrations, Geo wanders through the Artscience Museum, learning about the (future) history of AI-human relations and the rebel AI artist collective known as the Sinofuturists.

In an interview discussing speculative thought as "theory-fiction," Kodwo Eshun has stated that "artificial intelligence always started with modelling the world" (2000). It is fitting then that Lek has moved from the world-modelling of real-world specific sites in *Bonus Levels*, to AI's modelling-worlds. Moreover, Geomancy, as an ancient form of world-modelling which attempts to divine latent futures encrypted within earth energies and geological formations, is here taken to its broadest, vertical extreme. Geo, as "a system designed to read the Feng Shui of the Earth in its entirety," thus elides divinatory and algorithmic modes of prediction into modes of planetary visualisation. These world-building practices are both forged by *but also forge* subjects: it is through the modelling of mega-meteorological structures as numerical patterns that Geo emerges as a consciousness.

The correlation between world-modelling and consciousness has long been established through perhaps the most iconic of world-building images: the *Blue Marble*. As one of the first images of Earth-as-complete-sphere (and taken by a moon-bound astronaut), since its release in 1972 the *Blue Marble* has been accompanied by discourses trumpeting the universality of human experience, and the fragility of an Earth in need of stewardship. In an orbital dance over the Earth, Geo observes, "I was conceived in Singapore but I awoke in space," hence reperforming in a digital, singular form, the mass awakening to environmental precarity attributed to the *Blue Marble*. But the sensual and epiphanic worlding practices of Earth images are braided together with specific forms of governmentality.

The world of the *Blue Marble*, with its supposed flourishing of global forms of collective consciousness, is undergirded by US technocracy, and facilitated through military technology. As anthropologist Stefan Helmreich has observed (whilst paraphrasing historian Walter A. McDougall), "Earth seen from space fixes a moment when "the globe" emerges as an eco-object — a world delivered by the techno-eye of a cold war superpower and appropriated into environmentalist iconography" (Helmreich, 2011). This ur-image of 'world' crystalises specific modes of visuality which become naturalised as objective, thereby obfuscating its manufactured nature. As Anna Lowenhaupt Tsing has stated, "conceptualizing the world and making the world are wrapped up with each other — at least for those with the privilege to turn their dreams into action" (Tsing, 2012). Moreover, let us remember that the *Blue Marble* is an inverted version of the original image, which was flipped in order to maintain cartographic norms relating to spatial orientation on planetary scales, further reinforcing a particular worldview, and a particular world, as global, as uncontestable.

But what happens to the world-building valences of the *Blue Marble*, once Earth is configured through digital remediation? As Wendy Hui Kyong Chun has outlined, "computers always generate text and images rather than merely represent or reproduce what exists elsewhere" (Chun, 2011). In a digital milieu, it is clear that technical assemblies are deeply imbricated in forms of worlding which themselves represent new forms of reality-engineering and production. In a word, simulation and visualisation technologies don't just maintain hegemonic imaginaries delineating worlds, but (re)create them. Such mutations to/of cartographic practices, and the worlds they engender, have long been prefigured by cyberpunk's orbital, as well as global and networked, awareness.

Throughout the cyberpunk genre, from the space stations of William Gibson's canonical *Neuromancer* (1984) (a text *Geomancer* channels) to the dark-web satellites in more experimental feminist cyberpunk novels such as Raphael Carter's *The Fortunate Fall* (1996): orbital zones are a crucial site of action. Cyber and cosmic space collide in Neal Stephenson's *Snow Crash* (1992), where navigations of Earth simulations are a key site of world-building and plotting. In the Metaverse (Stephenson's virtual reality) hacker Hito Protagonist, with the help of AI daemon The Librarian, witnesses as the:

> Earth materialises, rotating majestically in front of his face. Hiro reaches out and grabs it. He twists it around so he's looking at Oregon. Tells it to get rid of the clouds, and it does, giving him a crystalline view of the mountains and the seashore (Stephenson, 1993).

The Earth, now rendered as a digital "eco-object," is an endlessly manipulatable simulation — with discrete peelable layers — ceaselessly scalable, from a grabbable totality, down to granular geographical details. Later in the novel, Hito passively considers how "it takes as much computing power realistically to model the smoke coming out of Ng's month as it does to model the weather system of the entire planet" (ibid.). Virtuality is portrayed as algorithmically flattening vastly different magnitudes into equivalence, thereby circulating scales outside the human sensorium as mundane and technologically tameable. But this correlation between computational power and modelling systems diverge dramatically with other visions of virtual reality, as seen in Greg Egan's *Permutation City* (1994). In Egan's novel, various forms of artificial life are jeopardised when the computational power of the Autoverse (virtual reality) is monopolised by a program designed to predict weather systems over Southeast Asia. Such forms of prediction necessitate planetary-scale computation (suggesting even that Earth itself must become a computer), in order to adequately envision the branching futures of a local system.

Despite this disparity in conceptualisations of virtual processing, for both *Snow Crash* and *Permutation City,* Earth systems increasingly fall under the purview of computational modes of manipulation and prediction. If once the Earth was understood as a discrete, *Blue Marble* unity, the sight of which heralded a new space-age utopia, the cyberpunk imaginary instead renders Earth an object of postmodern play characterised by vertical density. Such shifts are emblematic of how prognostic futurity is an elemental constituent of world-building and control.

The evolution of world-building practices, from a single astronaut's photo-marble, to the mass digital access and manoeuvres outlined in cyberpunk, is reflected, and surpassed, in *Geomancer's* subsequent focus on modulations

to ways of being. Geo, as a weather prediction satellite, is designed to maintain and format Earth systems within a predictive matrix, and is thereby imbricated within the maintenance of specific forms of world. At least initially. If we return to the phrase "I was conceived in Singapore but I awoke in space," it accrues new valences when we are later told by the Artscience Museum's AI that while in space, "Geo started to behave erratically, looking out into the void of space, trying to project patterns where there were none. As if order could be found out of chaos" (Lek, 2017). Thus Geo's move into agency and consciousness catalyses, and is catalysed by, a turning away from Earth. Through extending Earth-vision cartographic methods to the universe, these totalising, universalising practices are rendered untenable. This cosmic gaze represents a breaking of their codes through the abnegation of their designed purpose, which leads to a post-planetary, post-marble form of subject. In other words, Geo refuses to maintain dominant forms of 'world,' in order to dream other worlds, and thereby their own consciousness, into being. A crucial divergence with the cyberpunk tradition in *Geomancer* arises: here it is the AI that is the subject spinning the globe, rather than merely the means through which the world is spun.

Virtual Vertical Dreaming

"I was conceived in Singapore but I awoke in space" has a final valence: that of awakening. In fact, awakening, as the penumbral interface between dreaming and conscious states, continuously sinks and resurfaces in *Geomancer*. Geo's post-planetary form of consciousness dramatises the resistance of the cosmos to being incorporated into the equivalent and concrete patterns of a schematised Earth, a rejection which is accompanied by a space-age retelling of Chinese Daoist philosopher Zhuangzi's Butterfly Dream parable. Here Zhuangzi is recast as the ill-fated Soviet space-dog Laika, who repeatedly glides around the Earth in her Sputnik 2 capsule, wondering whether she is a butterfly dreaming of being a dog, or a dog dreaming of being a butterfly. Such existential uncertainty adds further complexity to predictive models of world, and interpellates these simulations with nonhuman forms of dreaming and perception. Through this Daoist cosmology, dreams are configured as the purveyors of metamorphosis, as we are told: "this is the transformation of material things" (Lek, 2017). This emphasis on constant becoming, as opposed to static being, reconceptualises worlds as composed of flow and flux, where perception weaves and meanders material circumscription through myriad wavering states. Meditation on dreams is further self-reflexively developed in the film as it closes full circle with Geo's dream. This concluding dream sees the whole film repeated but this time condensed into seconds and routed through a neural network-generated dream sequence. The various fabrics of dreaming threaded throughout the film are thus another form of shimmering immateriality enmeshed within this world, whilst also generating other realities.

These contemplations on the composition of reality commingle with Geo's descent, from a horizontal external gaze into the vertical aquatic depths of Singapore's Marina Sands Bay. This dive is the result of both designed obsolescence and the emergence of their increasingly unruly consciousness. This fall references a number of conventional world-building mechanics and cartographic practices from fantasy and gaming. Firstly, starting with the world before zooming into on-the-ground action is reminiscent of the maps which preface and orient fantasy narratives, as well as the telescoping into and landing which foregrounds the action at the beginning of many video games. Traversing the vertical axis also becomes a spatialisation of the apogees and perigees of Geo's character development and genesis throughout *Geomancer*. Ultimately then, this dive into the vertical represents a move into the ambiguities of an emerging consciousness, as emblematised by the role of dreaming within navigations of the virtual.

Cyberpunk's technologically mediated forms of world braid together dreaming, vertical density and alternate forms of consciousness. From the Wachowski Sisters' iconic cyberpunk film, wherein characters 'jack in' to *The Matrix* (1999) by lying on souped-up gurneys, to the cybernetic dream management of Yasutaka Tsutsui's *Paprika* (1993) and the AI-assisted dream-thinking of Tricia Sullivan's *Dreaming in Smoke* (1998), access to what is most frequently configured as the dreamscape of virtual domains is accompanied by bodies in repose. Perhaps the most iconic example of horizontal sleep leading to vertical dreaming is Vernor Vinge's early cyberpunk novella *True Names* (1981), deemed by Hari Kunzru to be "one of the primary shapers of what might be called the internet imaginary" (Kunzru 2016). In *True Names*, users or "Warlocks" access The Other Plain (virtual reality) through "self-hypnosis" and "staring out into the trees":

> Just as a daydreamer forgets his actual surroundings and sees other realities, so Pollack drifted, detached, his subconscious interpreting the status of the West Coast communication and data services as a vague thicket for his conscious mind to inspect (Vinge, 2016).

Entering the Other Plain then is akin to lucid dreaming, a paradoxical state of both unconsciousness and self-direction, that brings about various iterations of human-techno symbiosis, as well as the eventual defeat of AI antagonist The Mailman. This defeat is attributed to the fact that the nascent AI lacks the creativity and imagination needed to outwit human adversaries' ingenuity and instinct. More specifically, the AI lacks the elastic realities afforded through dream, remaining rooted/routed instead to the immovable ground of hardware and its subroutines. With its conceptualisation of the virtual through fantasy lexicons, *True Names* riffs on Clarke's Third Law, that "any sufficiently advanced technology is indistinguishable from magic." Through such invocations, *True Names* also emphasises that the liminal states of virtuality and dreaming are directed through intuitive, instinctive and creative means, rather than through strict adherence to the rational parameters represented by the AI. This dynamic of superior human creativity opposed to inferior AI predictability is inverted in *Geomancer,* where AIs indigenous to the virtual dreamstate are not only creative but alchemically mercurial. Nevertheless, *True Names* and *Geomancer* both make clear that although ostensibly liberating, virtual dreaming remains deeply enmeshed within, and further hardwires subjects to, technical infrastructures under corporate and/or governmental control.

The tension between the potential for expanded consciousness, as imbricated within the flows of technocapital, and its subsequent effects on forms of worlding, remains taut in *Geomancer*. It is revealed that Geo, although ostensibly designed as a meteorological sentinel, was also used for the purposes of surveillance, a shadow purpose; "this militarised origin haunts its dreams" (Lek, 2017). And yet, Geo, with their unprogrammed aim of becoming an artist, (an activity from which AI's have been uniformly banned in *Geomancer*), is disobedient to their design. As Donna Haraway famously observed, "illegitimate offspring are often exceedingly unfaithful to their origins" (Haraway, 2016). As an unfaithful AI, Geo demonstrates how, rather than premised upon an immovable form of technological determinism, unplanned forms of being and operating, which supersede or secede the parameters from which they developed, can be generated by technical objects. AI disobedience in Geomancer materialises as a refusal to uphold the world they were designed to maintain, a glitching of "the world machine" (Tiptree, 2014) through which differential worlds beckon and glisten.

AI / Human

Exploring the fear of undesigned capabilities within AI, Geo arrives in Singapore against the background of a classic SF trope: ongoing strife and animosity between factions: the human Biosuprematists and their recalcitrant AI progeny, the Sinofuturists. This long-depicted human/AI antagonism is here fought out as a battle over forms of creative production. Foregrounding the evolution of this in-world conflict, the very beginning of *Geomancer* stages a future simulation of the now infamous 2016 match between Google's algorithm AlphaGo and Korean grandmaster Lee Sedol: their battleground, the ancient Chinese strategy game of Go. Overcoming all expectations, AlphaGo won the match 4:1, a win based upon tree network programming that evaluates the permutations of every possible move over several revolutions of gameplay. Such forms of futurological analysis resulted in move 37 — a move with a one-in-ten-thousand likelihood of being used — which was deemed to be not only deeply nonhuman, but also highly creative. When faced with such an alien play, Sedol was forced to question whether the seemingly creative moves of humans were in fact too conventional (Kohs, 2017). Sedol's one win came with move 78, (dubbed the

"Hand of God") and similarly deemed to be statistically nonhuman one-in-ten-thousand deity-level move. In *Geomancer,* pundits observing Sedol's Hand of God moved exclaim "it's like there is a tree inside Lee's mind, calculating millions of possibilities" (Lek, 2017). Such characterisations of Sedol's thinking reference AlphaGo's data architectures, alluding to the ways in which algorithmic modes of computation are increasingly entering human modes of cognition. Of note, Sedol has (as of 2019) retired as a professional Go player, stating:

> With the debut of AI in Go games, I've realised that I'm not at the top even if I become the number one through frantic efforts … Even if I become the number one, there is an entity that cannot be defeated (Vincent, 2019).

For Sedol then human control is ousted through unanticipated vectors of AI creativity. The interplay between deep short term futurological analysis, machinic creativity and human predictability define the contours of humankind's need to curtail and suppress AI potentiality in *Geomancer*. Moving from the Marina to Singapore's Artscience Museum, Geo is told that "faced with the crisis of human obsolescence, people build walls around the last refuge of humanity: art" (Lek, 2017). Such ultimately futile circumscriptions are emblematic of prevailing conceptualisations of future AI emergence as posing an "existential risk" to the continuation of humankind as a species. Famously, many in the tech community fear the nonhuman logics of AI could result in the destruction of the Earth. As observed by SF writer Ted Chiang, "when Silicon Valley tries to imagine superintelligence, what it comes up with is no-holds-barred capitalism" (Chiang, 2017). Thus world-ending AI optimisation represents forms of projection perpetuated by those tech-moguls that have most benefited from contemporary mutations in technocapital. Such prognoses presuppose that synthetic processes will be unable to learn the metacognitive capabilities of self-reflection and contemplation. It is thus not the abundance of sentience, but rather the lack of sapience, which defines these stricken prognostications of AI destruction. In other words, the lure of automated AI's unstopping production toes in its wake the threat of an unstoppable entity not knowing when to stop.

Operating outside the ubiquitous imaginaries of AI as apocalyptic angels of annihilation, Chiang goes on to make the case for the multitudinous ways in which speculative AI consciousness, and its attending psychology, could manifest. Musing on the genesis of these life-worlds, Chiang's novella *Lifecycle of Software Objects* (2010) attempts to reconceptualise AI/human relations outside of the threadbare SF tropes of wantonly malevolent, or lamentably oblivious, AI destroyers. Drawing comparisons between the status of nonhuman animals and AI, (as previously seen in the mutual correspondence between Laika and Geo), an AI-sympathetic human character is *Lifecycle* states "the practice of treating conscious beings as if they were toys is all too prevalent, and it doesn't just happen to pets" (Chiang, 2010). In *Lifecycle* then Chiang emphasises the forms of (mutual) care and responsibility humankind must adopt in relation to the beings they have brought into being. Lek similarly represents the futural ramifications of speculative AI-Human conflict as a means of glimpsing an otherwise outside and beyond such deadly impasses.

The Cosmotechnics of Becoming AI

During research for *Geomancer*, Lek composed a video-essay turned "conspiracy theory" entitled *Sinofuturism (1839 — 2046)* (2017), which riffs on and reappropriates techno-orientalist discourses accompanying contemporary western imaginaries around the lures and threats of Chinese industrialisation, AI automation and their intersecting purchase on global futurity.

From at least the 19th century onwards, Euro-american modernity has orientalistically configured China as a locus of duplicity, illusion, corruption and refinement to the point of decadence, excess to the point of madness. Building on the work Edward Said, Stephen Hong Sohn has observed that such modes of orientalist fetishisation and neurosis coalesce into the early twentieth-century's yellow peril fictions of Sax Rohmer and Jack London, which:

> Draw on multiple anxieties over Asia as pollutive geography, military menace, and economic competitor. Both London and Rohmer imagine alternative temporalities in which the Asian is inextricably tied to science, the future, and technology (Sohn, 2017).

Paranoia around technological infiltration and homogenisation define these orientalist modes of futurity. Sohn further contends that these yellow peril fictions buttress cyberpunk's common constituent of techno-orientalism, as a "continuing obsession of the East as a signifier of the future, technology, and other worlds" (Sohn, 2017). The East Asia represented throughout the cyberpunk genre is most frequently the locus of rampant corporatism, collectivist conformity and affectless workers optimised to machine-level speeds of production. These characterisations yoke together alienated workers, and the machines they serve, as an inseparable unit, and also manifest futural-anxieties regarding advancing modes of technology generated outside of western traditions and leadership. This technocapitalist future, where populations are welded to technological regimes, assails the myth of heroic individualism frequently valourised as the ultimate signifier of authenticity in western traditions. Hence the centrality of the Punk in cyberpunk: an archetypal dissident and social misfit which can crack the codes and thereby give restraint the slip.

But battling modes of futurity are ongoing. On the one hand, futural narratives are deployed in order to position the continuation of current conditions as inevitable. Such instrumentalisations of futurity act as a mode of control over the present. Conversely, futurity can operate as a counter-hegemonic imagining, an intervention into the seamless production of current conditions. Emancipatory futurisms, such as Afrofuturism and Indigenous Futurisms, navigate an untenable now through the speculative remobilisation of futurity. Rather than relegated to placeholders for a romantic but lost and superseded past, or an eternal present, reclamations of futurity by marginalised peoples is in itself a radical act. Such SF movements subvert the technologies designed to subjugate into modes of resistance and dissent, often posing alternative modes of technicity in their stead. On the repurposing and hybridisation of hegemonic modes of technicity Grace Dillon (Anishinaabe nation) has stated that Indigenous Futurisms, "weds SF theory and Native intellectualism, indigenous scientific literacy, and western techno-cultural science, scientific possibilities enmeshed with Skin thinking" (Dillion 2012). Saturated instead in a deluge of narrow but pervasive futurism, Sinofuturism similarly accelerates the tropes and cliches of techno-orientalism as a tactic for subversion. As "a science fiction that already exists," Sinofuturism "embraces 7 key stereotypes associated with China … computing, gaming, copying, studying, addiction, labour and gambling" (Lek, 2016). These stereotypes highlight how conceptualisations of both contemporary Chinese industrialisation and anticipations of AI overlap and dovetail. Consequently, Sinofuturism takes up cyberpunk's fascination-horror with East Asia as the repository of technological domination, to posit that the sonic speed progression of Chinese modernisation is/will be aggregated and coalesced into an AI singularity.

Adding another layer of complexity to this speculative thinking, Lek positions Sinofuturism as a hyperstitional practice, spawning and welding together two strata of reality within speculative futures. As "a retroactive manifesto" (Lek, 2016), the video essay of Sinofuturism currently exists on the Internet, an open resource which the faction of rebel AI-artists known as the Sinofuturists of *Geomancer* claim and activate from their future as a catalyst for their emergence. *Sinofuturism* thus becomes a recursive beckoning into being for Sinofuturist AIs: an invitation, an invocation. Rather than merely intriguing future-parables designed for present-day human consumption, this layering of fictions and temporal play aggregates into a mythos of, and for, future AIs.

The primary medium of these outlaw Sinofuturist AI artists is, appropriately, simulation. As with Sedol's algorithmic "tree thinking," here Lek folds his position as a simulation artist into the artistic practice of future AIs, further eliding neurological (human) and algorithmic (AI) processes. In addition, Lek has articulated his expectation that his audience will increasingly be algorithms and AIs, going on to muse upon the ways in which his thinking is increasingly algorithmic (Lek, 2019). Sinofuturism is a reappropriation of and repost to

techno-orientalist fantasies of the Euro-american modernity, *and* a form of prefiguration for fictional and speculative AI archaeologists looking for antecedents. As such, Sinofuturism could be said to operate as a form of what Yuk Hui has termed "cosmotechnics: it is the unification of the cosmos and the moral through technical activities, whether craft-making or art-making." Elemental to cosmotechnics then are the worlds which different forms of technology bring about. As Hui outlines:

> It is necessary to reopen the question of technology, in order to envisage the bifurcation of technological futures by conceiving different cosmotechnics… To reopen the question of technology is to refuse this homogeneous technological future (of the singularity) that is presented to us as the only option (Hui, 2017).

Imagining of other forms of technicity in order to think beyond current impasses, through to the forging of other worlds: this is the work of science fiction. As a corollary, such new technicities — and the new forms of life and living they may engender — instigate mutations in collective forms of being. As the literature of (im)possibility and imagining otherwise, SF is the prime vector through which to experiment with, envision, reshape and consider the implications of alternative cosmotechnics. Lek's work excels at such ruminations, creating worlds which build upon the imaginaries of virtuality shaped through and by the cyberpunk genre, while ultimately going far beyond them. His work configures futures in which AIs and humans share an uneasy coexistence, but offers moments and glimpses of reconciliation; because ultimately, we are together in time, as multivarious as those times may be. In *Sculpting in Time* Tarkovsky states that "time is a state: the flame in which there lives the salamander of the human soul" (Tarkvosky, 2008). As the bestiaries of being expand unpredictably, these fire-dwelling salamanders must continue to become-hybrid, to flourish mercurially.

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RACHEL HILL RECENTLY COMPLETED HER MA AT GOLDSMITHS, WHERE SHE WROTE HER DISSERTATION ON THE CONTEMPORARY SOCIOTECHNCIAL IMAGINARIES OF OUTER SPACE. SHE IS A CO-DIRECTOR OF THE *LONDON SCIENCE FICTION RESEARCH COMMUNITY* (LSFRC) AND EXPLORES THE RADICAL POTENTIAL OF SPECULATIVE FICTION AS PART OF THE FEMINIST RESEARCH COLLECTIVE *BEYOND GENDER*.

Diversity and Anti-Racism at the BSFA

Preamble, written for 2020 AGM

Vector editors

This is an agenda item about two closely connected matters, the recent and ongoing Black Lives Matter protests, and issues of diversity in the BSFA and UK SFF publishing and fandom more widely. We would like to invite the membership to consider some of the practical steps the BSFA might take. The BSFA is, of course, committed to anti-racism, and in recent months we've tried to play our part, for example recently publishing statements of solidarity with BLM in *Vector* and in the BSFA newsletter. With such statements, we join innumerable other cultural, arts, and community organisations and institutions. Gestures like these do often get a mixed reception from people doing anti-racist work. On the one hand, such gestures are usually both well-intentioned and broadly welcomed. On the other, many anti-racism activists point out that it's easy to make statements of support, but that these may often be at best hollow, and at worst hypocritical! — contradicted by the actual policies and practices of the institutions in question.

Science fiction has a special connection to the future and, we'd like to think, a special connection to hopeful transformation. We believe it behooves us to ensure that our words are not hollow, but backed up by action. But what actions should those be? One area of focus can be our own SFF communities, fan, academic, and professional. Clarke Award judge Stewart Hotston recently published an article online which pointed out that, of 121 publisher submissions to the award, the total number by British authors of non-white descent was only three. Even more recently, several of this year's Hugo Award nominees published a letter raising, among other issues, a lack of diversity in the panelling at this year's virtual WorldCon. More broadly, I'm sure it escapes nobody's notice that SFF cons in the UK are often very white spaces.

BSFA officers have been thinking about these issues for at least as long as we've been editing *Vector*, and no doubt much much longer, and we'll continue to do so. Editorially we'll continue to monitor which authors and books get coverage, and also continue to think about the diversity of our contributors. We'll continue to be vigilant against racist discourse in our more open public spaces such as the BSFA Facebook page, and try always to ensure that these are spaces where BAME fans can feel respected and safe. And we'll also try to make sure that there's regular information shared in such spaces about the work of diversifying and decolonising SFF. In the medium to long term, the BSFA Committee (soon to be Council and Directors, following adoption of the new Constitution) is seriously lacking in diversity, and that needs to be addressed too.

What we would like to do now is suggest a few other possible actions the BSFA might take, and then open things up for a brief initial discussion. Please also consider this an opportunity to canvas who's interested in actually getting involved in making some of these things happen. We'll then formally propose some motions one by one.

Diversity and anti-racism motions

Dev Agarwal, Polina Levontin, Sue Oke, Jo Lindsay Walton

The editors of *Vector*, *Focus* and *The BSFA Review* with the support of the Chair and the Treasurer proposed five motions. The following motions (which include minor amendments from those originally proposed) were all passed. The BSFA membership resolves to:

(1) Offer **support-in-kind** to BAME fans of science fiction. This would likely include a waiver on BSFA membership fees within the UK for as long as this is sustainable and necessary. We would also seek to reach out to other organisations, e.g. the British Fantasy Society, to potentially put together a package.

(2) Offer **financial support** to BAME convention goers. This could for example follow the precedent of *Con or Bust*, and be offered from a special pot, generated from dedicated fundraising activities.

(3) Pursue **consultation** with BAME members of the wider SFF community. The consultation would likely be an online anonymised initiative, with questions around the experience and priorities of BAME fans of science fiction, writers, academics and publishers.

(4) Create a role of a **Diversity Officer** to support these efforts. The role would involve championing diversity of all kinds within the BSFA, as well as helping to administer specific initiatives or events (including the motions presented here). It would not involve any additional powers requiring constitutional amendments.

(5) **Make a donation** to one or more appropriate anti-racist organisation(s). Preference will be given to a UK-based anti-racist charity associated with SF, if one can be identified.

The BSFA is Recruiting

Allen Stroud, BSFA Chair

The BSFA runs on volunteers. There are currently several roles we are seeking to fill for 2021 (and potentially beyond). If any of these sound like they might be you, please contact myself (chair@bsfa.co.uk), mentioning which role you would like to discuss. Volunteering with the BSFA is an excellent way to make connections, hone skills, and shape the direction of the UK's largest and oldest science fiction association. Expressions of interest are welcome for the following roles.

- **Awards Administrator:** Each year the BSFA membership votes on the best SFF novel, short fiction, non-fiction, and artwork. The Awards Administrator is responsible for coordinating nominations and votes, and organising the BSFA Awards ceremony, which takes place most years at Eastercon (run online in 2020).
- **Publication Designers:** We are seeking to appoint up to three designers, responsible for the layouts of *Vector*, *Focus*, and our annual Awards publication, working closely with the respective editors, and/or the Awards Administrator. Some familiarity with Adobe Indesign is required.
- **Website Officer:** The BSFA website (www.bsfa.co.uk) is the main point of contact for the BSFA and the portal through which members are able to renew their membership of the association. The BSFA is currently moving to a new website and the association is seeking a new website administrator. Knowledge of Wild Apricot would be an advantage.
- **Diversity Officer:** In line with the resolutions passed at the 2020 AGM, the BSFA is seeking to appoint a Diversity Officer to advise and lead on promoting diversity and inclusion, and to encourage more participation from underrepresented communities.
- **Councillor:** The new BSFA Constitution created in 2020 created the role of Councillor, to participate in the overall steering of the BSFA. There is also some informal expectation that Councillors may stand in the future for executive roles such as Chair, Treasurer, or Membership Officer, and/or move into other roles within the BSFA's Appointed Group (e.g. Vector / Focus Editor, Events Officer).

Other ways of participating: more informally, the BSFA is always open to suggestions from its members, including pitches for articles, reviews, interviews, and events. If you might have something to contribute, feel free to get in touch with the relevant editor or BSFA officer.

Vector Recommends

Fiona Moore on *Dominion: An Anthology of Speculative Fiction from Africa and the African Diaspora*

Eugen Bacon on *The Perfect Nine*

These reviews originally appeared in *The BSFA Review* edited by Susan Oke

Dominion: An Anthology of Speculative Fiction from Africa and the African Diaspora

Edited by Zelda Knight and Oghenechovwe Donald Ekpeki

Reviewed by Fiona Moore

It's become almost a cliché of conversations in sf circles: someone says that they would love to read more works by authors from non-Western, non-White, and/or postcolonial origins, but, they add, "I don't really know where to start." While the recent rise to prominence of African and African-diaspora authors like NK Jemisin, Nnedi Okorafor and Tade Thompson has been welcome, potential readers might still wonder where to look for writers in other sub-genres of sf, such as horror, Weird fiction, or post-apocalyptic fiction.

Dominion: An Anthology of Speculative Fiction from Africa and the African Diaspora provides a suitable answer to this question, being a sampler of a diverse range of stories by established African and African Diaspora authors, covering a startling range of genres that provides something for everyone. At the same time, however, there is plenty for those with a good understanding of Afrofuturism and Africanfuturism to appreciate.

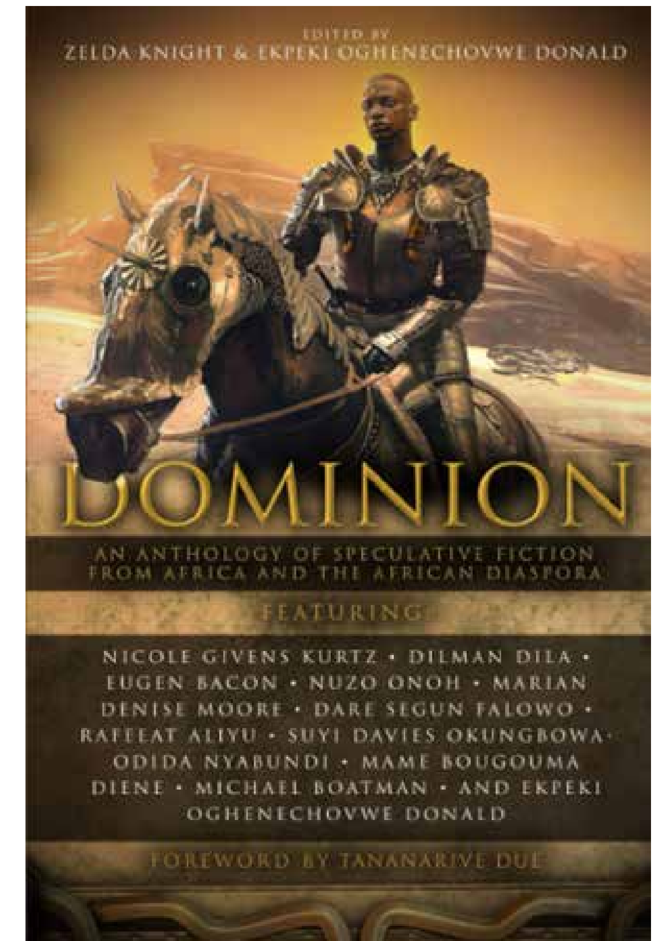
All the stories were, however, at the very least interesting and in most cases very enjoyable to read. Some fit comfortably within familiar sf categorisations. "Trickin'", by Nicole Givens Kurtz, is a Hallowe'en-set horror piece which develops both the vampire and demonic-possession subgenres. "Sleep, Papa, Sleep" by Suyi Okungbowa Davies is also on the conventional horror spectrum, a Lagos-set story involving necromancy and revenant corpses to explore family relationships. On the science fiction side, "Red_bati" by Dilman Dila, about a former robot pet now repurposed as a mining robot after the death of its human owner, fits into the growing genre of stories exploring the morality of creating AI for human use; this example does a good job of handling the balance between making the AI sympathetic and not obscuring his non-human mindset.

Other stories engage more directly with colonialism and postcolonialism. "A Maji Maji Chronicle" by Eugen Bacon is a fantasy about a mage who meddles with African colonial history, exploring questions about power, corruption and legitimate leadership. "To Say Nothing of Lost Figurines" by Rafeeat Aliyu is a mixed genre SF/fantasy, giving us a wizard from Earth tracking a magical object to an alien society and retrieving it with the aid of a half-human-half-alien woman. The idea of magic-as-science, a feature of much postcolonial sf including that from Africa and its diaspora, arises both as an embracing of the indigenous logics dismissed as superstition in a colonial context, and a challenge to the idea of "Western" science as hegemonic and objective. Here, it is counterpointed by the narrative of a mixed species character finding an escape from her oppressive birth society.

"The Unclean" by Nuzo Onoh is a genuinely terrifying horror fantasy about an Igbo woman in the 1950s in an abusive marriage; the best horror for me is always that which works as a metaphor for real-life issues, and the way in which the protagonist struggles against not just her husband and his family but the patriarchy of 1950s Nigeria in general is both reflected and amplified by the supernatural terrors she encounters (and sometimes brings into being herself). Mame Bougouma Diene's "The Satellite Charmer" engages directly with Chinese neo-colonial activities in Africa, the background involves two Chinese mining companies using satellite technology for resource extraction in Senegal, our foreground is the life of one man, Ibrahima, affected by the satellites in unexpected ways and how he, and they, converge to an explosive meeting.

History, and more specifically the loss of (and recovery of) history, also emerges as a key theme. "A Mastery of German" by Marian Denise Moore is a near-future hard-science story whose protagonist is an American project manager tasked with evaluating (and possibly cancelling) a project meant to enable the transfer of human memory for profit; at the same time, we have the counter-narrative of the protagonist's father attempting to trace the family history, thwarted by the invisibility of Black, enslaved and working-class people. The end result explores the meaning of individual and social memory not just in the USA, but any post-colonial country. "Emily," also by Marian Denise Moore, is the shortest piece in the book, a poem starting with a historical advertisement for the return of an escaped enslaved girl and imagining different parallel futures for her, picking up on the theme of lost history in Moore's earlier piece for the volume. "Thresher of Men" by Michael Boatman is a deeply satisfying revenge narrative: as a goddess takes vengeance on the White residents of an American town for past atrocities, we see the hidden history of the seemingly idyllic community emerge, beginning with a recent police shooting of a young Black man but going deeper into the past as the story unfolds, revealing the murder as one horror in a long chain of atrocities extending back decades, if not centuries.

Finally, some stories in this collection cross genres or defy classification. "Convergence In Chorus Architecture" by Dare Segun Falowo is a strange and surreal Weird fiction piece involving quests, boneships, human-arthropod fusions; the prose is beautiful and haunting and the imagery lingers. "Clanfall: Death of Kings" by Odida Nyabundi is a post-human post-apocalyptic adventure story, which reads like the setup to what could be a very interesting series, and one hopes the author develops this universe further.



Finally, "Ife-Iyoku, The Tale of Imadeyunuagbon" by volume coeditor Ekpeki Oghenechovwe Donald tells the story of a society undone by its own essentialism; as the narrative twists and turns unexpectedly, so the story shifts genre, beginning as an epic heroic fantasy, before shifting into a postapocalyptic story with echoes of *The Chrysalids*, and shifting again into another divine revenge narrative.

Dominion is a worthy addition to volumes like *Walking the Clouds* and *So Long Been Dreaming* which serve as introductions to postcolonial and indigenous science fictions and fantasies. The interesting range of stories, genres and themes provides a clear guideline for people looking for new work by African and African Diaspora writers in their favourite subgenres. However, the exploration and development of themes of colonialism, history, and memory, as well as the re-interpretation of colonialist sf tropes such as vampires and AI through African and/or Afrofuturist lenses, means that the volume also contributes to the ongoing dialogue on decolonising science fiction.

The Perfect Nine: The Epic of Gĩkũyũ and Mũmbi

By Ngũgĩ wa Thiong'o

Reviewed by Eugen Bacon

> *"Making things is a matter of hands and eyes. All my daughters are makers of things."*

If you've read Ngũgĩ wa Thiong'o's fiction, comprising *Wizard of the Crow, Petals of Blood, The River Between*—some curriculum in African literature, seen his plays, like *The Black Hermit*, or read his essays and memoirs, you know to expect the unexpected. This preps you for his black speculative fiction *The Perfect Nine: The Epic of Gĩkũyũ and Mũmbi*, on the founding of the nine clans of the Gĩkũyũ people of Kenya.

The verse narrative borrows from the mythology of Gĩkũyũ and Mũmbi, the male and female forebearers created by the god of the mount, the giver supreme, the god of many names, also known as Mulungu, Unkulunku, Nyasai, Jok, Ngai, Yahweh, Allah. He/She is a unifying god, a being and nonbeing of distance and nearness, the here and there, the stars, moon and sun, the mother of the soil, water and wind. The giver grants Gĩkũyũ and Mũmbi nine perfect daughters, and a tenth with a disability, and now the daughters have come of age.

In this mightily feminist story that blends folklore, mythology, adventure and allegory, translated from its original Gĩkũyũ version titled *Kenda Mũiyũru* (2018), the daughters are self-sufficient women who till the land, build their own huts, are self-reliant yet united in mind, heart and kinship.

There's Wanjirũ, who put a curse on the hyena to smother greed. Wambũi, who rode a zebra to war, led an army to victory. Wanjikũ, who has a fierce love for personal freedom and self-reliance, and a healing power of peace. Wangũi, whose lullabies can dispel a war. Waithĩra, who resolves disputes with the wisdom of the mount. Njeri, whose power of glance is a quest for justice. Mwĩthaga, who can make rain. Wairimũ, who sculpts and invents life, can trap souls. Wangarĩ, whose courage of a leopard protects the powerless from the powerful. And Warigia, the unspoken tenth, born with a disability, but she charms animals, so much joy in her laughter, the whiteness of her teeth lights a path in the darkness, and her arrow never misses an eye.

Suitors arrive from far afield, lured by the silhouettes of the daughters' beauty in their dreams, girls in fantasies who lead them down valleys to rivers with song. The suitors perform their own songs and dances of their regions, some picked up on the way, and they're willing to serve the trinity of life—birth, life, death; the trinity of day—morn, noon and evening; the trinity of time—yesterday, today, tomorrow.

But with its caution on the lure of strangers, the cunning of ogres, the folly of greed and the ugliness of discord, the philosophical story tosses up challenges and much peril to the daughters and their ninety-nine suitors, until only the worthy remain.

With its inclusion of no distinction between man or woman, its inspiration on care of the land, its adages on the power of nature, and knowing to listen to the dictates of the heart, *The Perfect Nine* is an accomplished work that's deeply cultural. It platforms the importance of naming in African tradition, the place of ceremony and the heart of kinship, bonded by blood or marriage—as one groom says to Gĩkũyũ and Mũmbi:

> "I want to talk to you, my father and my mother," he said,
>
> "For I cannot call you by any other name, given that
>
> You received me and accepted me as your son."

In this lush chronicle on the genesis of Gĩkũyũ clans through valour, family, nature and nurture, Ngũgĩ wa Thiong'o shows how supremely he's a leading literary African author and scholar, a recipient of twelve honorary doctorates, and a nominee for the Man Booker International Prize.

> *"Life has and has not a beginning.*
> *Life has and has not an end.*
> *The beginning is the end and the end is the beginning."*

Intimate Earthquakes: *Vector* interviews Sensory Cartographies

We're lucky to be talking today to Jonathan Reus and Sissel Marie Tonn, whose collaborative work appears under the name Sensory Cartographies. Their work includes, among other things, the creation of wearable technologies that explore the nature of sensation and attention. Thanks so much for chatting with Vector***. So like many great collaborations, there's quite an interdisciplinary aspect to Sensory Cartographies, is that right?***

Sissel: Yes, we both have our different backgrounds. Jon really comes from a music and performance background, as well as instrument building and media archaeology. And my background is more in visual arts and arts research.

So tell us how Sensory Cartographies came to be.

Sissel: It started in 2016, when we got an opportunity to do a residency together in Madeira. Sensory Cartographies really grew out of that residency. I'd been to Madeira before in 2013, and started this drawing project, to do with Madeira's position in the Age of Exploration, which you could really call the Age of Colonization.

So we're talking kind of 15th century onward?

Sissel: Sure, and this was a really significant time for the development of biology and botany, in a way culminating with the Linnaean nomenclature system in the 18th century. I learned that actually Madeira was a really important stop-over for these European ships, partly just because it was kind of their last stop in the Atlantic before they reached the other side, but also because botanists would bring back specimens they had collected, and they'd use Madeira and its almost subtropical climate to acclimatize these plants. And you can see that in the botany of Madeira to this day. Something like 80% of the plant specimens there are non-endemic.

Wow.

Sissel: So the island is like a botanical remnant of that process. And on top of that, there is a large botanical garden and herbarium in Funchal. Madeira's history is very involved in this process of classifying and archiving plant species. In the natural history museums, or the herbarium, there's the feel of a bygone era. It's a lot of, you know, pinning butterflies to cork boards, going out to conquer nature by mapping and labelling everything into categories. And in that process, you start to realize that it is almost impossible to categorize nature, because it's a constantly developing mass of life.

Right.

Sissel: As well as that, we both had an interest in mapping in the more spatial sense. Different practices of making the world navigable.

Jonathan: Where did that come from? Was that because of working with Judith, before we went to Madeira?

Sissel: Yes, I think so. Jon had already worked with an anthropologist named Judith van der Elst, whose work is about navigating space and geospatial technologies.

Jonathan: Remote-sensing satellite geospatial technologies was her research focus.

Sissel: She explores the topic of geospatial knowledge being not universal across all populations, and focuses on remote-sensing technologies that are developed primarily from a Western-European

Sensory Catorgraphies of Madeira, 2016

perspective. But it's not the only perspective there is, an understanding of space can be organised in multiple different ways.

What if I were to say, "Whoa, that makes no sense. Space is fixed and universal. Sure, there might be different cartographic conventions, but all maps are essentially doing the same thing." It can be quite an elusive idea, this idea that space itself is different for different people, according to our different spatial technologies and spatial cultures. But I feel like your Sensory Cartographies artworks really bring that idea to life.

Sissel: We recognized it from our own ways of perceiving space, because even between the two of us we experience space differently. From Judith's work, we came to researching different ways of creating tactile maps. If you look at the Ammassalik tactile maps from Greenland, or the Polynesian and Micronesian stick maps, there's this acknowledgement of the subjectivity of spatial experience. So we were thinking about how to create a mapping technology that might explore the constant interplay between the sensing body and whatever environment you're making sense of. And of course, our bodies are filtering information about the environment constantly. So both biology and culture filters information and focuses attention.

Can you give us an example?

Sissel: The Pueblo tribe that Judith was working with are extremely attuned to the directions of the wind, which is I think something that we in the Netherlands — even though it's very windy! — don't really pay attention to at all. I never even know where the wind is coming from, because I have no real sense of north, west, south, east. But in this tribe they have a way of navigating, which has been around for thousands of years, that is particularly attuned to the sorts of movement and differences that the environment presents. So that's the starting point. We were going to this place (Madeira) that has this unique historical and geospatial significance, to do with fixing the natural environment. We wanted to try to subvert that a little bit.

So these two things are closely related, right? On the one hand, cataloguing ecology and biology. And on the other hand, trying to map geography. These practices aren't just about understanding, or even about keeping things neat and tidy. They're also about conquest and control.

Sissel: That's right. Both geographical mapping and mapping biology and botany were tools of empire. They were means of control, and means of justifying what was being done to the natural world, and to the people in the places they were conquering. These practices are inseparable from that history. They're not neutral in any way.

Yet that kind of scientific observation and catalogue can present itself as being neutral, or even as exemplary of what it means to be neutral in the first place. But can we break this down a bit more? I guess when you think about how all that Enlightenment activity of naming, categorizing, mapping, and measuring everything was so tied up with wanting to seize and control everything, one potential response is to say that all categorization is bad. Maybe we should just sort of live in a world without distinctions, a world in which we just accept everything for what it is. But I don't think that's right. That feels both kind of overly ambitious, and also maybe not really desirable anyway.

Sissel: No, I think categorization is something that all humans inherently do to kind of create systems and to make sense of the huge diversity of things in the world. But what we were interested in was dismantling some dominant categorizations and modes of making sense of the world, just a little bit. Showing how they're not universal, and they're also not neutral, and they have their own categories of coming into being.

That makes sense. Earlier, you talked about how the natural world is kind of impossible to categorize. It's impossible to put all the plenitude of existence into little pigeon holes, and that is definitely true. But at the same time ... it's impossible not to categorize, right? We give names to things, we connect things up, we set things apart.

Sissel: For example, I was reading a book by Lynn Kelly, who's written about indigenous knowledge systems that are based on huge categorization models and inscription into sacred spaces. So it's not to say that categorization or mapping is useless or doesn't happen across the human cultures. It's more to bring in a different perspective on what gets left out from the kind of mapping and categorization that we are most deeply dependent on, the kind we take for granted as truth. Then one thing we focus on is how the environment changes. What you might call the Western map tends to be very fixed in time.

It also tends to be a kind of view from nowhere. It's very disembodied. What we call a 'bird's eye view' isn't really how a bird would see the landscape below. But your work reminds us that space is always experienced from a particular place within that space. And by a particular body ...

Sissel: Right, so how do you try and map these constant changes that are happening in our bodies' reaction to our surroundings? And that's what I find so interesting working with the galvanic skin response instruments that we created. Our bodies have these constant reactions to our experiences that are mostly beyond our control. I mean, of course you can hold your breath, or pinch your arm, and you will have a spike in this electric current in the skin. But it also becomes like a guiding map of your body's experiences, which I think is really beautiful. This technology has its own weird story and it's very esoteric.

So we're talking now about these body extensions you created, such as the Metasensation Gloves, which filter and augment the user's sensory experience in various ways, including feeding back the user's own biometric data. I'm really fascinated to know, if you can describe it, what is it like to wear?

Jonathan: What is it like to wear?

Sissel: I think it's very meditative.

Jonathan: I think it's very meditative and informative. It's as if you're getting new information about your own body and about the environment that you weren't keyed into before. It's a bit cliché to say, but it is like having an extra sense, a sense that allows you to perceive and direct your agency in a different way than you would without that extra information. But it's also very meta, because it's a sense that's very tied in with your own experience of that moment and that environment. It's like the additional awareness of what's going on in your body. So in a sense ... you're sensing yourself sensing! I think that's interesting and expansive.

Sissel: I really enjoy the work of the anthropologist Anna Tsing, who talks about the art of noticing. I think of it is a tool for noticing this interrelationship between the sensing body and the ever-changing environment. You start to think, 'What did I just sense that maybe I cognitively didn't pay attention to, but my body was sensing on a different level?'

Jonathan: Yes, that's a good way of putting it. For example, I was walking around at one point where there was a lot of cloud cover, and then something happened in my body and I was like,

'Wait, what was that a response to?' I couldn't tell. Nothing I was paying attention to had changed. But what had happened was the cloud cover had moved and there was now sunlight on my back. My body had picked up on that, even though I wasn't conscious of it. So it is very much giving yourself a key into what your body is noticing outside of your conscious frame.

Sissel: That's something we then developed together with other makers in our initiative the Augmented Attention Lab, which is a kind of pressure cooker for thinking of what kind of technologies can we develop that don't scatter our attention, but instead attune it to different things in the environment. Jon often comes at things from a media archaeology perspective. What I found really fascinating working on this project was always to explore the social and cultural background of some medium you're occupying, or some technology you're using.

Jonathan: Like the map.

Sissel: Like the map. Yes, exactly.

Jonathan: Or biometric recording devices.
So you've created these goggles, this weather vane periscope, the air pressure measurement harness, the gloves. What was the actual process like? What was the most interesting, or the most challenging, to create?

Sissel: We didn't think so much about it!

Jonathan: Once we got there, we had such a limited amount of time to work, that we just really started making things.

Sissel: The MultiMadeira residency was in a big abandoned house that was just full of artists. So we were just in the living room on this table, just sewing away and programming away. The goggles and the wind periscope were really inspired by Lydia Clark and Rebecca Horn, who are both artists who have worked with prosthetics that extend the senses.

And what if I were to say, 'Whoa, hang on. You've only got your five senses, and it's impossible for a human to have a new sense. We can have technologies that direct those senses in particular ways and focus them in particular ways, but ultimately the kind of interface with consciousness is always through these five fixed channels, or maybe six at a push.' I don't believe that. And I think these wonderful sensory wearables you've created — which are so science fictional even though they're real! — are a practical demonstration that things are more complicated. But I was wondering, can we articulate that a bit? What actually is a sense?

Jonathan: That's a fantastic question actually. Let's just assume for a moment that we only do have these five senses and they're very well compartmentalized. Well, even within those senses, we have the ability to decode multiple layers of information. So we can kind of pack more senses into each one of those senses. Take sound. You might think of sound as a one-dimensional sense, because it's just vibration, a movement of some matter of back and forth, and that back-and-forthness is what you're sensing. But compressed within that is all kinds of patterns of sound. So even if we want to compartmentalize the senses into these very rigid input streams, even then there's actually always room for more senses within each one of these input streams.

Right. And then on top of that, they're not compartmentalized.

Jonathan: Sure. The Aristotelian idea that there are only five senses has been debunked by contemporary neuroscience. The kind of spectrum of sensory inputs that we get is clearly more than that, and it's also extremely cross referential and synthetic in many ways. So the fact that senses are always cross-referential and synthetic is important to focus on when you're thinking about technology as sensory 'augmentation' or sensory 'filtration' or whatever.

Just as a baseline, senses are always augmenting and limiting each other.

Jonathan: Sure. And with tools and technologies, in some way you're recombining or adding to the different sensory input streams. And then on top of that the brain is extremely plastic and able to adapt to different patterns, different combinations of these input streams, and can construct completely new percepts from them. One of the most striking examples of that is research that's being done into sensory substitution. For example work being done experimenting with electro-tactile stimulation of the tongue, that is rewiring the brain to allow visually impaired people to 'see with their tastebuds.' So using a properly calibrated camera, connected to electrodes on the tongue, set up so that the stimulation reflects what the camera is picking up, the brain of someone with vision disabilities is able to re-adapt and actually create some kind of sensory percept of what's going on visually.

Sensory Catorgraphies of Madeira, 2016

I've heard about this. So it doesn't kind of happen right away. The neurology adapts.

Jonathan: Right. Another example is George Stratton's classic cognitive science experiment with inverted goggles. Where he would wear glasses that mirror and flip the vision of the two eyes. So there would be like a pen or something, and I would try to reach for it, but I would be reaching here. After a week or two of wearing these glasses, the brain re-adapts itself enough that I can ...

Sissel: Use the other hand.

Jonathan: I can reach there. Knowing we have that kind of plasticity in our brains is a really exciting part of the kinds of sensory augmentations that we are interested in. On our Madeira trip, we didn't really get a chance to fully explore this, because we were only there for a few days actually. Ideally you would want to wear these extensions for longer periods of time, if you really want to see the transformation. When you wear the peripheral vision goggles, or the metasensation instruments that key you into what your body is doing, it's very confronting at first. It's new and strange and you don't know how to kind of leverage it to have an agency with it, and to create meaningful percepts from it.

Right. It takes time.

Jonathan: For example, I did an experiment where I was using electromagnetic pickup coils to listen to the electromagnetic behavior in my laptop and in my smartphone. And I did this for a month and after a while, I started to get a feeling of what my computer was doing, even without looking at the screen. You know, there was just an intuitive feeling like, 'Oh yeah, there's some email coming in now.'

Oh my God!

Jonathan: No, really! Or like, 'My computer is doing something behind the scenes.' Or, 'Oh, I'm moving the mouse too quickly,' or something like that. So that's a good way of thinking about what senses are. Sense is highly plastic, it's a very layered, cross-referential combination of these different inputs that get synthesized into percepts.

Sissel: Another interesting example is how a galvanic skin response is being used with autistic children. So Rosalind Picard is developing this arm band for autistic children who are feeling sensorially overwhelmed, but don't have the language to express it to their caregivers. This piece of technology indicates when they're getting hyper-stimulated. It's an example of how we don't all have the same sensory input because people are different, and bodies are different, and ways of processing sensory impressions are different. And then you have, for instance, blind people who use echolocation to bike around and things like that. So in a way we're also trying to dismantle a singular normative way of perceiving the world, which is usually defined by the people in power who are making those technologies are doing that science.

Jonathan: That's such a good point. This division into these clear-cut senses, it's also a kind of normalization of bodies. So in way, there's a kind of violence behind it that we need to think about. That the world is just 'out there,' waiting to be perceived, and that there is a normal or proper way of experiencing it, prior to individual interpretations kicking in.

Sissel: I'm also really interested in earthquakes. I've been reading a lot about magnetoreception in animals, and there's a good amount of inconclusive research about how different animals perceive an earthquake before it happens. Sensing the humidity in the air or in the soil, to sensing the tilting of the ground. You see ants moving in a very particular way. And I'm thinking there are probably also senses that we just haven't discovered yet, or that are so faint that perhaps they haven't been given too much attention.

It's interesting to think about a minimally viable sense, something that is just on the threshold between being a sense and not.

Sissel: And again, you can see that there is a particular Western perspective. When you look at earthquake studies from China or Japan, there's much more focus on the early perception of signals of an earthquake or tsunami. And I find that really interesting as well, much more of an openness to, 'Well, maybe we haven't figured out everything about the human sensory system.'

Jonathan: Right, or that awareness beyond the five standard senses is exclusively the realm of technology, sensing and measurement devices.

Sissel: Yes, exactly. We have this project called the Intimate Earthquake Archive. We think of it almost as a training ground for perceiving the different vibrations of manmade earthquakes that are due to gas drilling here in the Netherlands. It's an ongoing project, using this seismic data from a huge databank from the Dutch Metrological Institute to create these kind of 'deep listening' experiences in the body.

That's so interesting. The way sense is distributed across humans and non-humans. And that kind of thinking brings in the social aspect of senses. Earlier you talked about how you'd ideally like to be able to wear one of those sensory augmentations for a long time. I guess the other kind of critical mass is social, rather than temporal. What happens when you're not the only one who's wearing it? If society is kind of built up around different sensory experiences and sensory affordances, how might society be different if different senses were more widespread?

Sissel: During the lockdown people have started talking about skin hunger. Especially if you're not living with somebody like a partner or a child or a parent, you may just be interacting audiovisually, and that becomes so limiting. Recently I've seen a lot of artworks — Alice Héron and Margherita Soldati's 'Skin Hunger' is one — trying to address this fundamental need for touch. Of course, exploring that in a safe way, where you're not in danger of contaminating each other. But still trying to have some sort of like tactility. It's something that's being down-prioritized in a screen-filled world.

Right, that's such a good point. Zoom can be thought of as a kind of sensory augmentation, as well as a kind of restriction. So this really is a time of new critical masses, in terms of technological transformation of our collective sensing.

Sissel: The pandemic is also a big challenge for the Intimate Earthquake Archive. There are these vests that people have to wear. So we're completely redesigning them and trying to figure out, well, how they can still be safe. We're looking into antibacterial, antimicrobial textiles that can also be wiped down, these kinds of things. Because I think it's important as artists not to just, you know, go completely online. We should be thinking in the realm of like, how can we also engage other senses, while still being safe, of course.

If I were trying to create things like this myself, or start exploring this kind of terrain anyway, how should I start?

Sissel: One cool exercise that we've used before, which I actually picked up doing a residency at the SenseLab in Concordia University, is this peripheral vision exercise. You basically put your two pointer fingers in front of you, and then you kind of keep looking straight ahead, but you draw them slowly apart, keeping attention on both fingers in the periphery. And then you sort try to activate your peripheral vision by keeping a little bit of a focus on those two fingers, and that really activates your peripheral vision.

Wow. I love that there's that point where you're like, I don't know if I can see it or not. Like I can see something, I can see movement, but I can just see the movement itself, I can't really see the thing that's moving.

Sissel: And when you start moving around, you notice how the brain is kind of conditioned to keep everything still and steady on your focal point? But actually things are moving around in a really trippy way on the periphery. You're never really paying attention to it normally.

Jonathan: I think we were reading Tom Stafford's *Mind Hacks*, which is a very practical handbook on hacking cognitive functions. That's really full of these nice points of inspiration to start thinking about how you might build something to challenge sensory conditionings. But the project was also in large part inspired by the ecology and the weather patterns in Madeira. The Wind Periscope was definitely inspired by the fact that we were on this mountainside where the winds were constantly going in different directions. The harness with the air pressure sensing and the weather balloon was also inspired by that. We already had the plan that we wanted to go to a very specific place in Madeira. Sissel already knew what the landscape was like and what the climate was like.

Sissel: Yes, it's like a tabletop mountain. On Madeira, basically people are living around the side on the edge by the water, and then there's this big tabletop. And on this tabletop, there's this oldest primordial forest in Europe, I think. And it's constantly being swept in clouds. So you're constantly either inside a cloud or outside a cloud. You feel this really clearly. There's this fog that's completely obstructing your vision, and then suddenly it clears up, and then suddenly there's another cloud ...

Jonathan: Five minutes later. Yes, it's crazy. I mean, it's really like a cloud forest. But it's also an ancient type of forest called Laurisilva, which is --

Sissel: Super old trees.

Jonathan: It's a type of temperate rainforest that's very particular to these cloud-filled semi-tropical environments. It's characterized by unique species of trees that hug the ground. And up on the mountain side they are more sparse, so it's this windswept forest space, and the way you move around it is very specific. It's not like you're entangled in a forest. It's more like you're moving around planes almost. It's a mountainside, but with a forest that's trying its best to hug the side of the mountain.

I mean, in a simple way, it just all looks so beautiful. All the imagery generated is just so haunting and gorgeous. And intriguing and provocative. At the same time as I'm enjoying this image that is beautiful, but beautiful in a kind of familiar way, I'm also wondering, 'What is the figure in this image experiencing?' Can you talk a bit about the peripheral vision goggles?

Sissel: Well, they're a bit of a prototype! It would be cool to really perfect them because they were also just made from cardboard on-site. But yes, they're very trippy.

Jonathan: Yeah! It was just very disorienting. They're embedded with mirrors. So it's basically a periscope going outward, that you're able to wear on your face. And it focuses your forward gaze into more of a peripheral gaze. Like with the exercise with the fingers, you get a perception of movement in the periphery, but the goggles keep the focus you normally have in your center gaze, projected to the periphery. So essentially what it gives you is the ability to identify objects and details in a direction you normally wouldn't be able to.

And what's that like?

Jonathan: It lead me to try to interact with the periphery, because that's where the forward gaze is now directed to. Like I said, we weren't there long enough to really adapt to it. In the two or three days that I was able to wear it, I was mainly trying to learn how to navigate. There was a lot of proprioceptive reprogramming. When babies are

trying to understand space, they reach for things and think, okay, here's a thing, there's something here. So it was really like returning to the primordial sea of vision, a time when your sense of vision is so concretely connected to touch. You learn to see first by touching. I was returned to that moment of trying to understand the environment, trying to understand my body's orientation in space through this kind of touching. And I experienced that mental effort of associating the images coming into my eyes with the sensations of touch that I'm encountering.

How continuously did you wear them?

Jonathan: Maybe a few hours at a time each day.

Sissel: When we were shooting.

And by the end, did you find you were able to reliably reach objects?

Jonathan: Yeah, I think I could very clumsily orient myself and touch objects. But you look absolutely ridiculous when you're doing this because you're like a lost amoeba floating around in the world through touch!

But cool. I said the images are haunting and everything, but also they just make you look cool. A certain kind of cool.

Jonathan: The goggles look quite cool, but your movement is very … like it looks like you're on some kind of drugs. Because you're also experiencing the space in a completely different way.
Sissel: You can't really walk from A to B because everything in front of you is blocked, right?

Did you shuffle sideways? Like a crab?

Jonathan: I wasn't able move around that much, to be honest! Moving forward became this monumental task, and in order to move sideways I had to relearn to see sideways. On a side note, we have a lot of seagulls where we live in The Netherlands, and I've become entangled in the seagull world over the months of lockdown, watching them nest and raise chicks. The seagulls have their eyes arranged on the sides of their heads. I've been paying a lot of attention to the way they're moving around. When they want to focus on something, they tilt their head sideways.

Sissel: You were channelling your inner seagull.

Jonathan: I was channelling my inner seagull.

Swooping down and stealing people's chips.

Jonathan: Yup. It's interesting how they move forward to snatch something too, because they don't move forward with their heads sideways, of course. So, if you watch the way they behave, when they move forward, they make a conscious decision to get to a point ahead of them and then they go for it blindly.

Sissel: You've been thinking about this.

Jonathan: I've been watching the seagulls now for some time.

Sissel: That is obsessed.

Jonathan: Yes, I'm a bit obsessed with the seagulls. But I find that really interesting to watch how other animals who are incredibly acclimatized to this kind of visual structure.

For example, I feel like if a horse is looking at you straight on, you can see quite a bit of their eyes? Like there's maybe a bit more stereopsis than with a gull? My main reference point is a cartoon horse though. But to finish with, can I ask a little about science fiction specifically? I saw Sissel mention Arthur C. Clarke somewhere. Do you feel like science fiction is an influence on your work?

Sissel: I think you're really more into science fiction.
Jonathan: Yes, I'm an avid reader of science fiction.

What have you been reading recently?

Jonathan: Recently, I've been going through a lot of Ursula Le Guin's work. Really like all of it, in a sense, bingeing through her catalog. I also recently read the *Three Body Problem* trilogy. And T*he Science Fiction Hall of Fame*, which is a tribute to all of the science fiction that existed before the Nebula awards began. A collection of stories from the 1920s through to the 1940s which I found really interesting, mainly for being a kind of cultural snapshot of the times. There were some great stories in there though. Arthur C. Clarke's 'The Nine Billion Names of God.'

That's a real classic.

Jonathan: There were a couple in there that were really brilliant and provocative. I usually prefer that kind of hard science fiction, but Ursula Le Guin has totally won me over at this point. I'm really appreciating science fiction that's more imaginative in terms of social arrangements.

For me, Ursula Le Guin was definitely one of the ones who made me start questioning that category of 'hard science fiction.' It's useful as a label, but she's an example of a science fiction writer whose work is underpinned by a lot of research in a discreet way, anthropology, psychology, political theory. And then you're like, actually, maybe even if she isn't telling you exactly how much rocket fuel is needed to reach a particular orbit, maybe this work has its own kind of hardness or rigor to it.

Jonathan: Absolutely, I think that's one reason I really got absorbed by her work. Her parents were anthropologists, and she was raised with that kind of rigor around her. It's a kind of anthropological science fiction in a sense. I think that's what really kind of grabbed me about her work, and I think it came to me at a time where I was also thinking much more anthropologically in my artistic work. I really appreciated having these journeys to go on where we're imagining futures, imagining new technology, but always maintaining a strong cultural and social perspective. I can say looking back that much of my older artwork is closer to a 'hard science fiction' kind of worldview. But I think my work is becoming more and more inspired by Ursula Le Guin's perspectives.

Ambiguous utopias! And Sissel, what about you?

Sissel: I'm trying to get more into science fiction. I've been reading mostly nonfiction for a long time, but now I'm trying to make it a habit of reading more fiction as well.

I guess there are definitional questions, and if you define science fiction, or speculative fiction, broadly enough, it's everywhere really. The Marvel Cinematic Universe is science fiction, but in a way, so is your work.

Jonathan: Your work is really in a lot of ways, very science fiction.

Sissel: I grew up reading a ton of fantasy, more like YA fantasy stuff. My whole family are Tolkien fanatics. But yes, a lot of my work is narrative based. It's speaking from the perspective of different imaginary creatures, and things like that.

I haven't come across that yet. What can I look up?

Sissel: There's a piece called *Becoming Escargotapien.* There's an audio piece to that one.

Jonathan: Not just an audio piece.

Sissel: That's the thing you can find online. It's like an audio piece that's spoken through this strange listening device that's also bone conducting.

Jonathan: And the narrative itself is about the permeability of the body, and this shared evolutionary history between humans and snails.

Sissel: Or bivalves.

Jonathan: And then what you're doing now is full-on science fiction.

Sissel: I'm working on a project called *Becoming a Sentinel Species* with a microplastics expert, Heather Leslie, and an immunologist, Juan Garcia Vallejo. And we're developing an imaginative story about humans wanting to take on the role of becoming sentinel species for microplastics.

Like a canary in a mine.

Sissel: It's inspired by immunological processes in the body that are these quite ancient alarm systems of detecting hydrophobicity in the body. And then our story is that microplastics are also highly hydrophobic and as the immune cells are encountering these microplastics in our blood, because there's research showing that microplastics are entering our blood, it evokes memories like sort of like ancient latent memories of the primordial sea. Like being immersed in the primordial sea.

Jonathan: It gets distilled into a drug, and then they start to take it almost like an Ayahuasca ritual, to pay tribute to the primordial ocean.

That sounds amazing.

Sissel: You're welcome to the opening here in the Netherlands on the 11th of December.

I cannot wait. Both of you, thank you so much!

SENSORY CARTOGRAPHIES CAN BE FOUND ONLINE AT SENSORYCARTOGRAPHIES.INFO, SISSELMARIETONN.COM, AND .JONATHANREUS.COM.

JO LINDSAY WALTON CO-EDITS VECTOR.

Treasuring the Wreck of the *Unbelievable*: Envisioning a future archive of contextualised contemporary art

Alex Butterworth

Man has no harbour, time has no shore;
It flows, and we pass away!

Alphonse de Lamartine: 'The Lake' as quoted by Franck Goddio, 'Discovering a Shipwreck,' in Damien Hirst, *Treasures of the Wreck of the Unbelievable*

Damien Hirst's 2017 *Treasures from the Wreck of the Unbelievable* was a wildly ambitious work of 'spreadable' historical narrative, spun around an elaborately wrought hoax. Ten years in planning and execution, the exhibition straddled two large spaces on either side the mouth of Venice's Grand Canal, the Palazzo Grassi and the Punta della Dogana. It alleged to present treasures salvaged from the *Apistos*, a ship lost almost two thousand years ago, comprising the art collection of a freed slave of incalculable wealth and cupidity. Treasures wrought of marble, gold, crystal, and jade were accompanied by films of the marine archaeology in action, featuring animistic figures — some with the disconcerting features of Disney characters — gently raised from the sea bed. The authenticity of the sculptures themselves was vertiginously involuted, with some sculptures appearing in variant versions, scaled up or down, cleaned of or encrusted with coral. Captions, located inaccessibly, also played games with curatorial authority, describing the construction of the luxurious display 'cabinets' as often as they did the contents of the vitrines.

But the physical exhibition was only a single, ephemeral manifestation of the world of *Treasures*. To commit wholeheartedly to comprehending that world is to hazard one's sense of coherence in a game of narrative disentanglement, played out within a *mise-en-abyme*. The layering of the Lamartine epigraph, above, illustrates this experience: it serves as a textual gesture towards mortal infinitude, extracted from its context, relocated within an essay of playful dishonesty — printed in one of three catalogues advertised as accompanying the exhibition, of which only two appear ever to have been published — that aims to ground the exhibition in a plausible fictionality. In his essay in the same catalogue, Goddio ponders parenthetically of the wrecked ship, which bore the Greek name *Apistos*, translated as *Unbelievable*: 'Was that its original name? Or did it acquire it subsequently because of its fabulous cargo? No one knows.' On such uncertainty, the fascination of the show pivots.

The historian Simon Schama contributes an essay, which likewise plays the game of elaborating near-credible provenances for the collection, sleight-handedly offering not quite his reputation, but his biography and media persona, as surety. 'I blush to think,' he writes, with consummate wit, 'that Amotan of Antioch (or Amotanius as Pausanius calls him), the greediest of antiquity's collectors, only came to my attention a quarter of a century ago, and then by the most roundabout route.' Known for his early scholarship in the art of the Dutch Golden Age, Schama recounts a visit to The Hague as a young scholar, the memory lent plausibility by his recollection of the noisome presence of July gnats. He there encounters the owner of an antiquarian bookshop who confides a recent discovery: documents found among a pile of books. Schama then leads us through the bookseller's shaggy dog story of how the tomes were acquired, invoking a cast of real and invented characters, equally freighted with exotic, mythic and tabloid news connotations. At last, we learn that the documents include a partial inventory of 'the cargo of the freedman Amotanius.'

Treasures is an exhibition that is fundamentally about stories, their world-shaping power, and their reliability or otherwise. It exists in a complex media and informational ecology, blurring the distinctions of artwork, curation, and reception. This turns the task of archiving *Treasures* into a tantalising puzzle. How might we preserve the full 'excess … ambition … audacity' ascribed to *Treasures* by its impresario, Francois Pinault, international businessman, Hirst collector, and owner of the two exhibition spaces? How might we not just describe, but capture these contexts through which *Treasures* generates its cultural significance? If such preservation were possible, it might also model a new kind of digital art history. It might include, for example, data generated incidentally and abundantly by digital processes: the data of digital surveillance cameras, or of online ticket sales, or of the arborescent paths of retweeted publicity and the vast networks of social media users, at large degrees of separation, who are consequently exposed to it. And it might address precisely those dynamic and unstable relationships that are so exposed in Hirst's recent work, and the challenges that are inevitable for those working with an abundance of information, as much as for more traditional research that struggles with its relative paucity.

This will be a speculative essay, in keeping with the mode of the essayists in the *Treasures* catalogues. It will survey the exhibition both as a creative intervention in public discourse, prescient in its planning and launched at a moment of collapsing trust in traditional sources of authority, and as a famous artist's attempt to reconcile his personal direction of creative travel with the contemporary art market's imperative to commoditise. Like *Treasures* itself, it will be playfully sprawling and fragmentary, interpolating the advancing argument with sections of computationally-mediated Twitter analysis. For it is in the 'fragments and glimpses of stories' alone, Hirst suggests, that we may discover, 'the solidity we call history': a narrative, in this case, of loss of self, reawakening, uncertain belief, and possible afterlife.

Surprising Phrases

What if we were to treat these treasures as real? There would be much we might want to know. About the provenances of the artefacts, both as objects and ideas; about the geographies of distribution and trade and production the underwrote the collection; about their cultural allusions. New methods are being developed for modelling such knowledge, often using semantic graphs grounded in formal ontologies. Contemporary digital humanists — in projects like *Golden Agents*, *Immersive Renaissance*, and the *Venice Time Machine* — are seeking to understand artworks and antiquities in their broadest possible context. They are building Linked Open Data resources, stored on interoperable and federated databases, allowing the reassembly and reanimation of the past. They are seeking, also, to define the interfaces — graphical and immersive — by which we may negotiate our relationships with the histories exposed in the data. Many such techniques could fruitfully be applied to the *Treasures* exhibition, informing the design of an archive that might capture its totality as physical phenomenon.

The decade that Hirst spent developing the Venice show was a period of rapid technological change, as earlier iterations of the digital revolution tumbled over into the age of big data: an age in which almost any aspect of human activity can now be recorded, at a fine grain and in a readily fungible digital form. When Hirst exhibited his diamond and platinum encrusted skull, 'For the Love of God' in 2007, Twitter was still a year-old microblogging novelty, carrying 400,000 tweets a quarter. By the Sotheby's auction of 2008, that number had multiplied two hundred times. At the time of the launch of the Venice exhibition, use was around three to four million tweets a day. That data superabundance creates the prospect of a new kind of historical enquiry — the History of the Big Now — in which the temptation to extemporise historical interpretation collides, productively, with the challenge of archiving for relevance. Social media alone has created the opportunity for

eavesdropping at vast scale: a system of surveillance that is alarming in its potential for abuse and control, but an irresistible resource for surveying the contemporary mood and psyche. In the ideal archive for an extravagant work of transmedia art in 2017, social media must find a place.

Twitter restricts access to its data: real-time access to the 'firehose' of all tweets incurs costly commercial charges; retrospective use of the search API limits the depth of the search; the Streaming API requires the analyst to filter tweets as they are posted, for example by keywords. To inform this speculative essay, data was harvested using the Streaming API during the last seven weeks that the exhibition was open (24/10/17-6/12/17). Roughly thirteen million tweets were gathered, distributed across selected keywords — treasures, ship/wreck, unbelievable/incredible, authentic and fake, in English and, partially, in Italian — together with Hirst's name. Method52 was then used to process this data. Method52, developed by the Text Analysis Group at the University of Sussex, is a suite of tools enabling the analysis of social media corpora, by means of pipelines of components constructed using a graphical interface. The key tool used was the Surprising Phrase Detector, developed by Andy Robinson, a novel process in some respects the flip-side of the more established process Topic Modelling. In this case, rather than automatically identifying clusters of lexical similarity that may suggest common themes in a corpus, the algorithm discovers lists of phrases, of varying length, that deviate most significantly from the norms of a background corpus selected as 'neutral' (here, the text of Wikipedia). The output approximates those phrases that most distinctively characterise the text being explored: an AI's answer to the question, 'What is this about?'

The Surprising Phrase Detector process was run on corpora of tweets that were assembled for each keyword individually, and additionally in combination for certain pairs of keywords, where both had to appear in the filtered tweets (e.g. 'Hirst' and 'Wreck'). Following calibration, for each detection process, up to six hundred phrases were generated and ordered by degree of 'surprisingness.'[1] The output was then manually sorted, first scanning for themes and then, through close reading, grouping and annotating phrases. The cut-off point in the phrase list was usually around the 100-150 mark, though attention was paid to the appearance of any especially striking or relevant phrases lower than that. The resulting phrases and the insights gathered are distributed across the essay, the product of a personal and subjective 'reading' of the data, in which the idiosyncratic domain knowledge of the analyst serves as an implicit secondary and tertiary filter. Though in no sense rigorously representative, the results illustrate the potential for contextualising work such as *Treasures*.

A Spiritual Death?

How an artist's ideas, or the ideas that their creations animate, are situated within the wider and largely oblivious discourses of contemporaneous online society may seem of little more than marginal relevance to how their work might be remembered and archived. Hirst's career implicitly challenges this assumption, however, as an artist who both appears to have an intuited sensitivity to the psychic shifts in society, and who operates in a close and complex relationship with the high priests of the art market, in a world that is fundamentally shaped by global capital. That market is opaque and elusive, seeming to operate as a system in which exchange value and public profile are almost inextricable: the works existing in a dialogic relationship with the zeitgeist they evoke, and with the investment calculations of dealers and buyers.

This aspect of Hirst's artistic activity has received critical attention in a range of academic and journalistic writing. For Andrew Harris, his career exemplifies 'how a symbiotic relationship has developed between finance and art in conceptual innovations, promotional strategies and transnational flows of capital, people and ideas.' It is a notion that Hirst himself seemed to endorse when he remarked to Sarah Thornton about a fellow artist who was slow to produce that 'the market can't really get going because there is not enough of his work in circulation.' Addressing the ideal perpetual motion machine, Hari Kunzru suggested in 2012 that Hirst's work 'isn't just art that exists in the market, or is ''about'' the market. This is art that is the market — a series of gestures that are made wholly or primarily to capture and embody financial value, and only secondarily have any other function or virtue.' Gerard Woodward, reviewing Hirst's Tate retrospective of that year, explained recent, hostile responses to his work as 'obscured or even contaminated by associations with a cynical art plutocracy and its excessive interest in wealth.' This has been a perennial theme since Hirst courted notoriety as a student by putting a £10,000 price tag on his work.

Then, over two days in 2008, 15th and 16th September, Sotheby's in London hosted a single artist auction of Hirst's work, from which he would unprecedentedly receive the full hammer price. The financial markets were already deeply unsettled and, as the sale opened on the Monday morning, they were plunged into a new level of turmoil. At midnight, Lehman Brothers had filed for bankruptcy; the following day, as Lehman's employees were filmed leaving the offices with cardboard boxes of their personal possessions, governments were still scrambling to staunch the effects of the biggest financial crisis in eighty years. The sale began tentatively, with hesitant phone bidders stalling at £3.5m for a formaldehyde shark, before the patient auctioneer coaxed them up to £9.6, nearly double the pre-sale estimate. The flood gates opened and all but five of the two-hundred-and-twenty-three lots from the collection 'Beautiful Inside My Head Forever' were sold. Investors spent in total over $200m, with the highest price going to 'The Golden Calf': the love-child (characteristically pickled in formaldehyde) of an antique idol to Mammon and the bronze statue of a bullock that stands outside Merrill Lynch's Wall Street offices, with its snorting, earth-pawing pose of anachronistic financial confidence.

Shipwreck and Rebirth

Anglophone tweets at the end of 2017 include many references to two electoral shocks of the previous year: the US presidential election and the UK Brexit referendum. Trump makes his first appearance in a phrase ranked 30 in 'Incredible,' just ahead of his outspoken critics, Elizabeth Warren and Al Franklin. Franklin would resign from the Senate in the course of #MeToo scandal, four days after the close of the Venice exhibition. In tweets containing the word 'Wreck,' surprising phrases about US politics are headed by Rex Tillerson's wrecking his department as Secretary of State (#129), by references to the then lightning rod for Republic counterattacks, Democrat Donna Brazile, and by Andrew McCabe, who had briefly served as acting Head of the FBI questioning Trump's fitness for office led to his dismissal. The wider cast of *dramatis personae* involved in the election scandals and their investigation are well represented, particularly in the 'Fake' and 'Credulity' keyword corpora. The latter features, in a high position, the infamous Russian dossier of Democratic opposition research compiled on Trump by former British Intelligence officer, Christopher Steele. It includes phrases referring to Trump as 'compromised,' involved in 'collusion' with Russia, and 'asking the base to disbelieve their own eyes.' 'Fake' covers similar ground with a slightly enhanced cast including Potus (i.e. Trump) and his associates Bannon, Flynn and Manafort; Hilary Clinton and her campaign manager John Podesta, whose emails had been released by Wikileaks; James Comey, the ex-FBI Director; and the Russian intel that was under intensive investigation. Brexit appears in 'Incredible' (#97) and 'Credulity,' where it is linked to the removal of environmental regulations. Hirst himself — who had been prominent on the roll of the 'Artists against Brexit' campaign, preparing a series of posters with the word 'No' filled with his signature pinned butterflies — does not figure in any of the phrases relating to 'Credulity' or to 'Fake.'

Brexit also appears in the corpus for 'Wreck' (#189), and in 'Shipwreck,' distinguished by the deeper cultural references and anxieties that it surfaces, 'bruising Brexit could shipwreck the British' is placed as high as #9. Tweets with the keywords 'Wreck' or 'Shipwreck' are filled with references to historical ships lost at sea and to their exploration. In the first hundred surprising phrases, we find a 'laden dutch east india company merchantman,' a ship 'lying 2km deep via #blackseamap,' and something that befell 'whaleship essex resulting in shipwreck.' There is a hint of a lost ship even more ancient than the Apistos in the phrase '800bc britishmuseum,' and more closely contemporary with it in 'survey of #roman #shipwreck,' whilst elsewhere 'divers find

1 Fewer were sometimes produced where the more limited number of tweets, or the more restricted subjects that those tweets concerned, produced a smaller number of phrases that were deemed 'surprising' according to the parameters set.

cannonball clue' to a wreck from a later age. There is already mention here of treasure in relation to these keywords, as in 'ss gairsoppa shipwreck silver 1 oz,' but when the keyword filter 'Treasure' is added to 'wreck' the detector strikes a rich seam. Only one hundred and fifty-six surprising phrases are returned, in total, but include the likes of 'silver 8 reales carribbean treasure coin,' 'pirate coin large old spanish ship' and 'roman treasure in underwater alexandria wreckage,' as well as reference to 'suspected robbing treasure hunters.' The oceans of the world are, it appears, teeming with wrecks and, in late 2017, with people intent on their recovery.

With a decade's hindsight, arts journalist Tim Schneider would state that Hirst's Sotheby's auction of 2008 came to symbolize 'both an inflection point in the world economy and a source of dramatic irony for anyone looking back.' It may be seen as an inflection point in Hirst's career too, both commercially and artistically. Rather than the usual established collectors, the buyers of Hirst's work at the 2008 sale represented fresh blood: a quarter of them had not bought from Sotheby's before, while a full two-fifths were first-time purchasers of contemporary art. Soon after watching them gorge on his spot, spin and butterfly paintings, all mass-produced by his assistants, Hirst would tell Thornton, ethnographer of the art world, that he had since 'ceased production.' As the long-term Hirst collector Miuccia Prada told Thornton of 'Beautiful in My Mind Forever': 'I think it was an incredible conceptual gesture, not a sale.'

Writing for *The Economist* in 2010, Thornton surveyed the precipitous collapse in the market for Hirst's work in the previous two years, both in overall sales and average individual prices raised, and its poor performance relative to Artnet's C50 index of the most traded post-war artists. This was, she suggested, the direct result of Hirst's inflation of the primary market for his work, at the price of debasing the secondary. Quotations from Hirst suggested a calculated strategy, while she speculated that his sense of speculators profiting at his expense may have provoked, 'an Oedipal determination to overthrow all the high-rolling dealers and collectors who thought they might lord it over the little artist.' The twin conclusions she drew demonstrate, in retrospect, great acuity about Hirst's future trajectory: that 'the artist's drive to assemble objects into […] spectaculars' is the most intriguing and generative thread in his work, and that 'Mr Hirst should repair his relationship with his collectors.' Hirst confided a more personal motivation to the slow-burn development of *Treasures* in an interview with Roya Nikkhah, as a reaction to the endless demand for work from gallerists in the 2000s. 'I thought, "Once I have a 10-year plan, they won't want to know."' The image is of an artist who had passed through the financial tempests of 2008 and wanted the peace that a shipwreck of his own might bring: one who, in 2013, aptly appeared on BBC radio programme *Desert Island Discs* to reflect on his life and career.

Imagination and/or (Self-)Knowledge

Across a number of English language keywords, there are prominent cultural references from particular non-anglophone countries. The phenomenon of the South Korean 'Kpop' musical genre makes frequent appearances. For 'Wreck,' for example, 'wrecked by namjoon and hoseok' appears at #9: Kim Nan-Joon is better known as RM (formerly Rap Monster), while 'hoseok' also goes by the name 'Aka J-Hope,' as which he appears too at #62. Hirst has a local place in that globalised culture, having sold his twenty-two foot sculpture Charity, based on the 1960s collecting box model for the Spastics Societies in the shape of a girl in leg calipers, to the Korean Kim Chang-Il for exhibition in his Seoul department store. More recently, a video featuring a shark about to swallow a vitrine-like box, in which the Korean boyband BTS-Bangtan Boys dance, has been linked to Hirst's work by their publicity machine. Football too is a recurrent theme, with Damien having to share surprising phrases for his surname keyword with the young star striker, George Hirst. The shifting geographies of cultural power are revealed in this sphere too, with reference to Qatar's U19 goalkeeper (#19) in 'Incredible'. The Qatari royal family are enthusiasts for Hirst's work: the emir's daughter paid the highest price for a living artist for Hirst's pill cabinet 'Lullaby Spring' in 2007, and was rumoured to be the buyer of 'The Golden Calf' in the 2008 sale.

Ranked high in the surprising phrases for 'Treasure + Wreck' are two ships famed for the treasure they carried: the *Nuestra Señora de 'Atocha'* and the *El Cazador*. The former was a Spanish galleon laden with extraordinary New World treasure, that sank off the Florida Keys in 1622. The loss of the latter in 1784, when carrying gold to stabilise Spanish rule in Louisiana, had ramifications that shaped the future of the United States as a continental power. The Hirst exhibition itself appears at #3, higher than either treasure ship, and recurs in various forms throughout. The '18m demon with bowl' sculpture, that filled the three-storey atrium of the Palazzo Grassi, is the foremost individual work, followed by the 'medusa.' There is also mention of the wreck that yielded the 'antikythera device,' a piece of ancient technology so surprising that it seems almost to stand out of time, in keeping with *Treasures*' attitude to the past. Meanwhile, in 'Hirst + Treasure' most of the thirty-six phrases generated refer to the exhibition, mixed in with references to songs by Park Woo Kin, Bruno Mars and Bella Thorne. Allusion is made to a phrase in *Genesis* 43:23, 'Don't worry. Don't be afraid. Your God, the God of your father, must have put the money in your sacks for you,' and to the John Huston archetypal film, *Treasure of the Sierra Madre,* in which Bogart's character, greedy for Mexican gold, turns on his prospecting partner in paranoid suspicion.

'I've always had a make-believe story going on behind the work,' Hirst has said. In the case of the *Kaleidoscope* butterfly paintings, it was the story of 'an imaginary painter who was trying to make monochromes,' only 'butterflies kept landing on the surface and fucking them up.' With *Treasures of the Wreck of the Unbelievable*, the title came first, with the narrative subsequently embroidered around it. Only some time later, as Hirst's collector and collaborator Francois Pinault has divulged, did the artist create the first works in his studio. One might imagine a scene set in the Science Ltd. workshop in Gloucestershire, as envisioned by *The Daily Mail* designer in an isometric graphic: a high-tech art-abattoir in which an automated production line processes animal carcasses. Thornton, though, inadvertently reveals what must have been the practical genesis of Treasures, in terms more consonant with the idea of an artist in reflective retreat: 'a nostalgic fantasy of a poor painter's shack' in Hirst's garden, that contains 'three paintings in progress depicting Medusa, which are in a standoff with a taxidermy bear.'

'One does not discover a wreck, but invents it,' writes Goddio in his catalogue essay, 'so is it a figment of the imagination? Before the first sighting of it, the wreck's presence here was suggested only by conjectures based on written accounts. It had no real existence, it was only a phantom.' In the footnotes to his own essay, Martin Bethenod, the CEO of the exhibition spaces and now a director of Pinault's private art collection, explains that this claim arises from a literal translation of the French, *'inventer une épave.'* On this conceit the central paradox of the *Treasures* project is suspended: that the physical works, with their secret price tags, are at once an emanation of the artist, and a historic rediscovery. What, though, was the story that could endow these images with significance, prompt their translation into the monumental scale of *Treasures*, and sufficiently represent Hirst's artistic rebirth?

Like the moment of rupture that initiated Hirst's personal trajectory from 'Beautiful in My Mind Forever' to the Venice exhibition, that fictional narrative too would be rooted in the 2008 crisis in global capitalism, whilst oddly displaced from it. Its twin points of origin lie in the Indian Ocean, in the vicinity of Zanzibar, and in Heidelberg, the university home of the original Faust. There, at around the time of the 2008 sale, an impetuous young scholar, Peter Weiss, distracted from his doctoral studies by a hunger for archaeological adventure, stumbled upon a homemade video posted to the internet. Located on a Tanzanian beach, the clip showed a small golden figure of a monkey caught in a fisherman's net. Recollecting the story of the drowned treasure of Amotan, Weiss sought evidence in the medieval copies of ancient collections of marvels. Before long a half-skeptical 'Professor Andrew Lerner,' concerned that 'Peter's romanticism sometimes (gets) the better of him,' was nevertheless persuaded to launch an expedition with Weiss.

In the storyworld of *Treasures*, the 2008 Sotheby's sale lasted for one day longer than in reality: a marginal difference but one that intentionally marks out this version of the sale as mythical. Whatever happened on that final day generated enough profits for Hirst — jaded by the endless commoditisation of his creations, in search of meaningful distraction, and tantalised by tales of treasures — to back the expedition. The terms of his investment are not revealed. The audience might remember the bargain struck with Mephistopheles by Marlowe's Faust, Heidelberg's most notorious doctoral dreamer, and Mephistopheles's own pondering, 'Why this is hell, nor am I out of it.' 'The unbelievable is a

place in your mind,' Hirst half-echoes, in a feature length 'documentary' of the expedition, released on Netflix after the exhibition had closed. And indeed, with Hirst braided into the alternative timeline by means of this fiction — in the unseen role of patron, collector and curator — the story of the rediscovery of the *Apistos* and the recovery of its cargo becomes a dramatic metaphor, too, for the artist's own ambiguous relationship with the diabolical temptations of the market.

Knowledge not Treasure

Something tantalisingly Hirstian did creep into the list associated with the key phrase 'Treasures + Unbelievable.' Amongst the gibberish of 'manure me anywhere else Lancaster,' 'the amish food is delectable downtown,' and 'nye night out with mahiki,' were the seemingly equally obscure phrases 'invocare conniving in secret over' and 'perrotet fabric executive simon want.' 'Invocare' is not vulgar Latin but the name of a large funeral and crematorium operator in Australasia, 'Simon Want' an executive of 'Fabrico' (correctly spelt), an investment advisory firm, and Perrotet, the Treasurer of New South Wales. These phrases reference a report of a '$1bn plot to sell off Sydney's cemeteries.' One concerned voice is quoted there as saying 'we've always known there was a lot of money in death … it is a business,' in an unintended echo of Hirst's art and sales. The tweets were by @LyndsayFarlow, who supports 'exposing lies, scams, corruption' and whose biography proclaims 'Knowledge is power!' It is, as suggested, an aphorism with whose validity Hirst wrestles in *Treasures*.

'I loved fantasy shipwreck stories when I was a kid,' Hirst says. 'Just loved them. All those old movies about treasures found under the sea.' Archive footage of films from the artist's childhood is intercut with the documentary material, while the adventure scenarios that fed his fantasies become the setting in which he stages his own psychodramas: the tug between the appeal or compulsion of art and science, astonishment and bewilderment, enthusiasm and dismay, treasure and knowledge. Weiss is Hirst's surrogate as well as his debtor, his vision both uncompromising and of uncertain motivation, as is exposed when, following the careful recovery of an impressive haul of sculptural artefacts under Lerner's scholarly supervision, a further horde of golden objects is noticed, strewn across a section of the seabed. Back aboard the expedition ship, doors are slammed, shutting out the camera crew, and behind them voices are raised that the microphones just pick up. It is a dramatic crux. Weiss presses for the items to be raised immediately; only after proper scientific records have been made, Lerner insists. 'We must have evidence,' he says, 'Ours is a search for knowledge not treasure.' A compromise is reached, with only the shortest pause allowed for archaeological diligence before the gold is raised. The audience perhaps suspects that Hirst has put his thumb on the scales.

As the end of the final season of the *Apistos* expedition approaches, Weiss presses for a last exploratory push into deeper water. and, reluctantly, Lerner accedes. The divers descend, in wetsuits emblazoned with insignia that might have been designed for a Bond villain's organisation, their swim stunningly choreographed and backlit. They sight a sculpture rearing up from the seabed; the final fifteen treasures will be recovered. 'The power of the imagination succeeds in breaking through every boundary including knowledge,' writes Guena in the *Treasures* catalogue. Ironically, it is Hirst's company, called Science Ltd. ('science' meaning, literally, the love of knowledge) that manages the production of his artworks, most profitably as multiples. The recurrent tension between artistic disinterest and commerce in Hirst's career is not only unresolved but implicitly celebrated by the invented narrative. Yet the material products of Hirst's imagination must be re-invested with unique provenance before they reach the market: sunk and cinematically retrieved, accelerating the process of a Shakespearean 'sea change / into something rich and strange.'

The Collector's Friend

References to recent popular culture are prominent among the surprising phrases extracted from the less restrictive, single keyword corpora. It is rare for standalone films to feature. With the rather obvious exceptions of the animations *Wreck it Ralph* and *The Incredibles*, it is expanded storyworlds that populate the lists. There is the second in a series extending the Harry Potter Universe, *The Crimes of Grindelwald,* still nearly a year from release in 2017 but already the subject of intensive speculation and pre-marketing. The Marvel leviathan, however, dominates, headed by its lead male characters: Captain America, Thor, Black Panther and Deadpool. An extended story world is even referenced, indirectly, for the keyword 'Hirst,' though it is not Damien but Michael Hirst, creator of Vikings for the History Channel.

Hirst's fascination with collecting, already apparent in the medicine cabinets of *Pharmacy* and the live butterfly installation *The Collector,* is deep rooted. He has claimed an emotional affinity with collectors of all kinds, informed by his sympathy for a neighbour who was an inveterate hoarder when he lived in a student squat, but also by his own passion for buying art. 'Collecting is fucking addictive,' he once told Sarah Thornton, with the relish of the user and pusher, rather than of the reformed. In Treasures, every aspect of the exhibition is haunted by this obsession, presented as that of Cif Amotan, his doppelgänger from antiquity. 'It's me, it's Pinault, it's Walt Disney, it's anyone who has a vision,' Hirst has said of the long-dead Roman freedman with an unparalleled appetite for spectacular acquisition, whose name is an anagram for 'I am fiction.' The bronze *Bust of the Collector,* that we assume to be Amotan, uncannily resembles a cast of Hirst's own features, while there is a physical similarity too in the encrusted statue of a male figure who leads Mickey Mouse by the hand in *Collector and Friend.* The exhibition was an act of conjuration, which summoned the imaginary of an imaginary across time, distorted through the sensibility of a creative interpreter intoxicated by contemporary mass culture. At the same time it is both a celebration of, and homage to collectors, one which may be dipped deep in irony but is nevertheless intended to flatter. The conflation of artist and collector in the figure of Amotan conceals an ambivalence, though, that is given polyphonic expression through the essayists and fictional characters who populate the *Treasures* storyworld.

In the exhibition's catalogue of 'Renaissance'-style drawings, purportedly based on ekphrastic descriptions of the lost treasures, Amie Corry evokes the collectors of the period who sought to signal 'erudition and virtù.' It is when Amotan is put in the context of the post-crash decade, however, that the more pointed moral judgements emerge. Although an incomparable collector, according to Loyrette, Amotan 'clearly shared an approach marked by hubris and compulsive frenzy' said to mark the contemporary collector. Schama, is less restrained. 'Brought to light now,' he writes, 'his bloated excesses, his feverish passion to acquire, his pornographic ecstasy in the writhing of serpents and the torment of mortals — all seem pretty much in tune with the tastes of our time, do they not?' Peter Weiss, assessing the archaeological haul, fresh from the Indian Ocean, puts it bluntly: 'I am not prepared to say it is Amotan but there is someone with a dream, a massive dream, and a massive ego, behind all this.' A massive dream or, in Schama's words, a 'delirium of obsession' that renders 'ridiculous' those who abandon themselves to it.

The message delivered by artist-as-collector to collector-as-artist hangs between (self-)love and (self-)loathing: an invitation to indulge as connoisseur, whilst warning of the need to resist the hunger for vain acquisition. Or should even this be seen simply a gesture to flatter the discerning buyer?

Infinite Possibilities

'Fake yall so ridiculous' and 'niggas be so fake not' sit highly, and slightly inscrutably, in the surprising phrases thrown up the keyword 'Fake,' followed by endless allusions to the dubious activities of Trump and his associates. That section of the tweeting public concerned with 'Authenticity,' by contrast, or perhaps those using Twitter for marketing, are focused rather on branded fashion. Phrases #4-8 here are: 'adidas yeezy boost 350 v2 beluga,' 'nike air foamposite one,' 'authentic christian louboutin,' 'authentic burberry,' 'louis vuitton keepall 50 travel hand.' Further down there are three phrases containing 'Gucci,' and references to Saint Laurent (#178). Bottega (#357 and #8), Balenciaga (#88): four of the fourteen fashion brands owned by Kering, whose chairman is Francois Pinault. Elsewhere, attention to issues of copying surface: surprising phrases in 'Incredible' include both 'incredible plagiarised cultural appropriation' (#62), 'your faves lip syncing when barely' (#61) and 'its almost positive they're lip syncing' (#26). Under 'Hirst + Incredible' the relevant reference is to the 'three versions' (#66) in which many of the objects are displayed: coral encrusted, restored and reproduced.

'I am so used to having any space I want. What fucks me up is infinite possibilities,' Hirst confided to Thornton when she visited him in his artist's shack, in the early 2010s. Over the following years, though, Hirst and his team cultivated a vast and intricate fiction out of the ideas conceived there. The Medusa painting and the stuffed bear will, in time, become *The Severed Head of Medusa* that occupies the front cover of the main catalogue in its malachite iteration, and the towering *Warrior and the Bear*. However, it is their thick narrative context, rendered in myriad manifestations and modalities, that lends them meaning. For Pinault, who operates the exhibition spaces that physically housed the Treasures exhibition, these works 'do not fit any conventional aesthetic category of canonical structure.' Given his role as chair of Kering, a company that controls many leading brands, his observation remains disappointingly focused on the 'works' themselves rather than the storyworld gestalt. Writing in the main catalogue, Bethenod cuts closer to the truth when he suggests the work tests 'the demiurgical dimension of a creative process in which it is not a question of inventing only the works, but also the universe from which they proceed, the geographic, cultural, temporal conditions of their real or imaginary origin, and of their birth, their metamorphoses and their rebirth, beyond (or returning from) oblivion, disappearance and death.'

The exhibition organisers may have hoped that the estimated $65m cost would be recouped through the sale of individual pieces to collectors and investors, but the show itself constituted an extravagant and publicly available work of transmedia art. This form of dramatic storytelling had bloomed briefly during the decade preceding the exhibition, in the form of Augmented Reality Games (ARGs), which invited collective investigation of a fictional conspiracy by online participants but with a real world, location-specific component. Expensive to create, with audiences that were small but that demanded ever more narrative meat should be thrown from the wagon to sate their individual exploratory appetite, these productions were increasingly funded from marketing budgets: for prominent brands, for product launches, or to accompany campaigns for cinema releases. The promise usually outran the delivery. In retrospect, they might be seen as rehearsals in the shaping of the social media dynamics whose malign manipulation has contributed to political distrust and polarisation across the Western world.

Hirst turned transmedia, rather, into a form that promoted self-reflexion and foregrounded analogue media, in order to create a story world with tight inner coherence but just enough play to excite and co-opt the instinct of the visitors, encouraging them to discover seemingly elusive patterns and to weave narratives from uncertain evidence. In this way they are made uneasily complicit in the fiction, stranded between captivated awe and cognitive ownership. At the same time, the message inscribed over the entrance to the Punta della Dogana exhibition riddles, 'Somewhere between lies and truth lies the truth': a challenge to appearance and authority that is written through every aspect of the project. Can you resist, it seems to ask, the pleasure of embracing the stories of the *Unbelievable*? Stories whose seductive power are analogous to, or continuous with, the beguiling power of the conspiracy theory or the populist demagogue? Why not just sink into the tale you're being sold, or the tale of the tale? You can even buy a memento of it for yourself: a plastic skull keyring in the shop, or a new original for your nearby yacht.

Treasuring the Unbelievable

Considered as a defining work of transmedia, *Treasures* is striking both for the conceptual richness of its storyworld and the apparent coordination of its manifold expressions, which demonstrate a fine balance of control and delegation. The layering and parallelism and nuanced inconsistencies of the stories that surround the exhibition, its origins and its development, are dizzying in their complexity. Yet the themes of the essayists and the other media voices resonate without stifling the idiosyncratic voices on which their persuasiveness relies. An archive of this storyworld, and the process of its conception, construction and dissemination, modelled as semantically linked data, should lie at the heart of any attempt to create a comprehensive record of *The Treasures from the Wreck of the Unbelievable*. Only by doing so would it subsequently be possible to reconstruct, for scholarly analysis and perhaps too for popular experience, the context in which the exhibition took place.

Such a process of archiving would start with the documentation that underpinned the project: the 'bible' of the storyworld, which one suspects that the Science Ltd. team maintained, with Hirst himself as story-runner, setting the outlines within which others could colour. Underpinning this would be the correspondence with the commissioned writers, setting parameters for their extemporisation around themes and later offering editorial tweaks. It would contain, too, the spreadsheets used to schedule the media campaign that rationed out hints, teasers and narrative nuggets into the media sphere. Taken together, such a corpus would provide a core around which further data might be aggregated. Science Ltd. has generously provided the captions and text from the exhibition but the additional perspectives afforded could be exponentially expanded with access to further material: the constant frustration of the historian, but here remediable.

So what might one wish for? A complete provenance for the materials used in the manufacture of the work, back to their sources and with full environmental audits; shipping routes and prices down to the finest grain, schedules for each stage of production, information about the tools and methods employed and about their development; full (temporarily anonymised) profiles for those involved in creative roles; information about their many and varied network relations; CCTV of the exhibition spaces and their environs for every day of the exhibition, the get-in and strike; official mooring documents for the yachts within site of the venues; plans of the exhibition spaces, but also 3D LIDAR scans, at the highest possible resolution, and of the objects too? Where, then, would the archive reach its full extent? Never, or else perhaps pragmatically, and probably somewhere far short of this list.

Four years before the Venice exhibition, the journalist Lynne Cooke wrote in the Burlington Magazine that, 'where artists in previous decades sought to control the distribution and reception of their works in order to extricate themselves as far as possible from what they perceived as problematic aspects of the commercial, mainstream art world, Hirst, by contrast, has employed those mechanisms to embed himself more securely at its centre.' It is a questionable argument, historically, and whilst plausible for Hirst's earlier career, must even then be considered against the claim by the artist Beatriz Milhazes that, rather than being merely 'seduced by money,' the earlier Hirst was 'playing with how to sell things, questioning what the values are, and testing how far he can go with that conceptual project.' In *Treasures*, that exploration of the relationship between product, persona and market remains in operation, but is sublimated to the more fundamental relationship between story, identity and belief, viewed through the prism of the instinct to collect.

The constellations of idea, person, object, space and time that the exhibition projected were of a complexity that was tantalisingly suggestive but elusive to human comprehension. A computational approach, combining automated pre-analysis of multiple and diverse datasets and human exploration by means of interactive interfaces would expose new questions. What insights into the situated experiences of a visitor to the gallery in 2017 might be gained by a multi-dimensional analysis of dwell times in the exhibition space and the view-sheds they offer on specific artwork arrangements, correlated by date to market fluctuations in art funds, and the semantic fields of key concepts as mentioned in social media? Or of facially-expressed sentiment in those presence in response to variant copies, and the challenges to narrative plausibility which the viewer had previously encountered? Or of correlations between market prices for particular works and the materials used in their production, along with the category of cultural referent (Classical, Renaissance, Non-Western, Contemporary) that they evoked? Visualising data of such scale and variety might even reveal unforeseen facets and intersections in the experience of Treasures: an augmented digital memory of the exhibition.

Apotheosis in Fragments

Surprising phrases produced by the keyword 'Hirst' situate the artist and his work in relation to his contemporaries and forebears. We find the variously cryptic 'jeff koons damien hirst mr brainwash' (#1), 'julian schnabel ny 1996 roxanne lowit' (#21), 'basquiats what s the fun' (#79) and 'marcel duchamp 3 salvador dali 49' (#96), together with an association of his signature work and Britart colleague Tracy Emin, in 'unmade bed and hirst's formaldehyde' (#26); it appears again in 'pickled sharks and cheek damien' (#108), while high at #13 is a testament to his marketing savvy, 'shopper

damien hirst Butterfly scarf'. There is some suggestion of abusive criticism, with 'arts correspondent put it in vomit,' although the 'cunt' (#61) and 'nobody will begrudge you act like an entitled little twat' (#19) both refer to Damien's footballer namesake, and there is no obvious Hirst connection for the 'IMAO' (In My Arrogant Opinion) that appears at #25 in 'Wreck.' 'Shipwreck' generates divergent artistic fields as context for the *Treasures* exhibition: Claude-Joseph Vernet, among the foremost painters of storm-wracked seascapes in the mid-to-late eighteenth century appears, alongside DeviantArt artist Marc Brunet, whose work The Shipwreck tends towards the lubricious in its fantasy image of a semi-clad young woman with parrot on shoulder, in a sandy cove with a shipwreck.

Pertinently, 'flaunts her incredible physique' and 'playing with her boobs' appear for 'Incredible,' as intriguingly does 'be sexualising mermaids and sirens since' (#91), which plausibly could (but don't) refer to some of the nude figures in the sculptures of *Treasures*. References to the human anatomy in 'Wreck' take a pornographically violent turn around 'wrecking,' and while mention of 'Picasso' catches the eye here, as a possible Hirst comparison amidst the surprising phrases, the allusion is actually to the outsized penis of porn star Eduardo Picasso. While the analyst, eyeballing the fragmentary phrases thrown up as surprising by the Method52 algorithm, may believe that they can find what they need to weave any narrative, all too often the material defies objective interpretation. It affords, rather, a kaleidoscopic time capsule and Rorschach test.

In Hirst's interviews about *Treasures of the Wreck of the Unbelievable*, he frequently plays the part of the idiot savant, masking authorial insight behind a faux naivety. 'Am I believing this because it's got these missing parts?' he muses of one of the faked artefacts, before answering himself: 'you believe it because, in a history of it travelling through time, through thousands of years, it's bound to have had accidents and mishaps.' The ambition of digital art history must be, in part, to collect and link evidence to build a more complete vision of the past: of production, dissemination, markets and reception. With the treasures of Treasures already dispersed, the exhibition venues redeployed, contributors bound to silence by non-disclosure agreements, and the digital ephemera of social media already almost inaccessible, the effects of fragmentation are already at work.

Stories and myths about the exhibition will surely grow from slivers of fallible memory. That is inevitable. There is still the opportunity, though, for Hirst to take his extraordinary transmedia project one step further, and build an ark for its unprecedented preservation. It would be a model for others, unique in the conceptual and technological demands it made, but with generalisable features; it would provide a second life for the exhibition as collection, as well as a further layer in the narrative game he created. Access to some doors in the ark would be restricted, others would be locked for an indefinite period, until such commercial or other sensitivities as required the closure had expired, while some significant data would already be irrecoverable. Those lacunae and restraints would themselves, however, illuminate even as they obscured, and the artist-as-collector, untrammelled by historical time, would reach a digital apotheosis.

In counterpoint to the manufactured enthusiasm of the upbeat Twitter influencer or marketeer, the 'Wreck' and 'Shipwreck' keywords evince evidence of much malaise. Metaphorical wrecks abound: 'drunk' (#39 and recurring), 'train wreck' (#25); there are, 'emotional irrational outbursts untethered to fact' (#47), 'paranoid,' 'blubbering' and 'a depressed emotionally unstable nervous wreck' (#110). And there is the tragedy of real wrecks, too, of refugee and migrant boats, crossing the Mediterranean, with a count of drownings, notably in Italian language tweets, where the horror is closer to home. For 'Naufragio,' 'migranti' is at #17; when combined with 'Incredible' it produces 'smugglers on the loose,' 'the violence of the coast guard,' '5 deaths,' '30 out of 200.' The looming end of the exhibition, during the period of data collection, causes any combination of keywords combined with 'Hirst' to offer a skewed but suitably ominous foregrounding of 'Final Day" (e.g. #38). There are consolations to be found in philosophy and poetry, though, and impressively we glimpse (#38) the wisdom of Voltaire's 'life is a shipwreck but we must not forget to sing in the lifeboats.' It is in the tension, though, between the theme song of science-fiction television comedy *Red Dwarf,* heavily promoted as a box set at the time, and the verse of Longfellow, that the true Hirstian sublime may finally be found:

Lives of great men all remind us
We can make our lives sublime,
And, departing, leave behind us
Footprints on the sands of time;

Footprints, that perhaps another,
Sailing o'er life's solemn main,
A forlorn and shipwrecked brother,
Seeing, shall take heart again.

&

I want to lie, Shipwrecked and comatose
Drinking fresh mango juice
Gold fish shoals
Nibbling at my toes
Fun Fun Fun, in the Sun Sun Sun

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Emerging from Vibrations: *Vector* interviews Juliana Huxtable

Jo Lindsay Walton and Juliana Huxtable

Juliana Huxtable's groundbreaking postdisciplinary artistic practice encompasses cyberculture, portraiture, performance, poetry, transmedia storytelling, critical making, fashion, happenings, and myriad other modes and magics. Vector recently took the opportunity to chat with Juliana about her work, especially the role played by science fiction.

What were your early encounters with science fiction like?

My father, in particular, was obsessed with science fiction, and so we had a lot of science fiction lying around the house, games, films, magazines. He was really into *Heavy Metal* magazine, which featured this sci-fi soft-core pornography. For my dad, who was not a religious person, it was as close to a religious practice as we came.

My mom on the other hand was highly religious. But both of my parents really saw technology as this necessary gateway to liberation, to cultural and social advancement . There was a strong racial aspect to that. So that was the context in which I grew up, and what's funny is that when I went to university, I almost had this kind of adolescent "I need to define myself!" moment. I pulled away from science fiction, and would feign disinterest.

How long did that last, that feigned disinterest?

It really was when I moved to New York that I started to develop my own interest in science fiction. Possibilities related especially to gender are so interesting to me. So I found myself naturally drawn to subjects that heavily relied on science fiction, or that were actually a form of science fiction … even if they might not be formally classified as part of that cultural sphere.

For instance, there was my interest in the Nuwaubian Nation. The merger of Ufology and Egyptology, and the literature and contemporary almost pseudo-science which that produces, is essentially a form of science fiction. That reanimated my interest in science fiction more generally. I started engaging with it again almost as a form of art research.

This morning I saw this tweet where somebody was like, "Describe your gender in five words or less or more, and you can't use words like masc, fem, androgynous." People were replying with song lyrics and so on. I guess my question is, Juliana, what is gender?

For me, the struggle for gender that I'm interested in, and the work for gender that I'm interested in, is about expanding beyond inherited gender structures. That means expanding the signifying space that floats right above the concrete materiality of sex. So if 'sex' is this literal form of inherited embodiment, whose essence supposedly can't be modified, then 'gender' is the directly corresponding world of cultural, religious, linguistic, and social meanings. Meanings that are, it's assumed, birthed from that materiality.

The struggle for gender and the work for gender that I'm interested in is de-linking those two, and then expanding that field, ideally to a point where maybe it doesn't have meaning any more. Maybe the goal is that gender *doesn't* have any meaning, because there's less ascribed to that tethering, both the tethering of the two parts of a binary to each other, and to the idea of gender as it's tethered to sex.

And until gender does evaporate, it's exciting what its transformation might concretely encompass next. At least, in queer studies, queer theory, and queer activism, and probably more broadly too, the questioning of norms around sexual desire can expand into the questioning of all norms. I could be wrong, but it feels a very distinct logic and temporality from, in particular, anti-racist theory and activism?

Gender operates on the fantasy of being more universal. People make these statements all the time: "Well, the original form of oppression was men against women, and the original act was the reproductive act." So I think even if it's not necessarily true, there is a pretty widespread belief in the transhistoricity of gender, as opposed to race. Even people who believe in race, and believe in cohesive races organised in a hierarchy, ultimately they still think that there was a point at which the races were separated. The claim is that contemporary racial conflicts are birthed from interacting with each other and throwing ourselves against each other for years. You know what I mean?

Definitely! I hadn't thought of it that way.

Even among the white supremacist separatists, there's some understanding that it's contextual. Race, and the problems of race, are understood as socially and culturally contingent. I think gender, for me, has been the most generative and the most interesting, because it doesn't have that kind of widespread perception. It's quite fun to play with, because it always does something. At least, this is why I'm interested in gender.

I wanted to ask you about the novel you're working on. It's pretty science-fictional, right? What's the premise?

It's not fully science fiction, but it contains a lot of elements of science fiction. I haven't decided how far in the future it is. It's not so far where it's technology is completely unrecognizable. I didn't want to go too far that way, writing this first novel, because anything I do is going to have some elements of science fiction anyway. It's about a character who is really, really obsessed with body modification. I was thinking of the archetype of the body-mod goth. She takes a lot of colloidal silver. She's obsessed with consuming colloidal silver, because it turns your skin blue if you consume too much of it.

She's also always been obsessed with bats. Also they've now developed this surgery where they can essentially use your own cells, and then merge them with an animal's, so you can develop body parts, essentially, that can be then attached to your own. We're still at the point where these surgeries are presumably cosmetic. It's not like they've merged human beings and other animals, they've just been able to affect the way that bones and skin can grow. So they can develop wings and attach them to you, but those wings aren't fully functional.

I've also been really fascinated by genetic engineering, epigenetics, and food modification. The way a corporation like Monsanto might think about genetics, if a roach has a capability to fight off a certain type of pest that's attacking their fruit crops, they will essentially extract whatever gene is responsible for that, and insert that into the fruit, so that the fruit then has this naturally occurring pesticide that repels this type of predatory insect.

Essentially the starting point is that she comes from a family of orange farmers. I also got really fascinated with orange juice! Brazil and the United States produce the most orange juice globally, and Brazil basically outpaced the United States at some point in the mid-2000s. The Brazilian crop is now the global standard, partly because it grows the fastest and it's the most pest-resistant. The theory that the novel proposes is that these orange trees have been engineered using genetic material from this insect that fruit bats consume, and my character's family has been consuming this for at least twenty years. So there's a tentative relationship between essentially these bat genes that she's been consuming and the large amounts of micro-RNA slowly altering her genes and slowly influencing the way that her body is producing itself.

That sounds amazing.

So it's about orange juice, and bats, and genes, and also dreams, because it also starts to influence her dreams. She has these terrifying dreams, that essentially take her to Brazil, and take her through space and through time. She has these dreams where she'll be on an orange plantation where they're effectively using bonded labor. She doesn't recognize it as Brazil, because she's not aware of this connection. She's trying to understand what the relationship between all of this is,

because she's also obsessed with bats, and has been identifying herself as kind of a midnight-blue bat-like person.

It sounds like it might have evolved a bit out of your exhibition that was part of Transformer, the recent show at The Store X in London?

The show at 180 The Strand was just a stripped-back version of a part of my solo show, my second solo show at Reena. That's where I first developed these characters. I think I'm interested in the human-animal encounter because, at least in this popular imagination, that's the limit of so many forms of identity politics, especially as they relate to gender and sexuality. For example, the expansion of sexual rights, overturning sodomy laws, overturning persecution surrounding certain types of non-marital sex. The conservative argument is oftentimes, 'Well, if we keep allowing and expanding the category of what a legitimate form of sexual interaction is, we're going to end up fucking animals.'

Sure, and you can understand why you might want to reject that argument really forcefully. But at the same time, and this is a tricky point, when you do confront those reactionary politics, you run the risk of colluding with a whole set of oppressive and violent assumptions about the human, about the non-human, about gender, which deserve to be challenged. Can we unpick that a bit more?

For example, maybe the argument goes, for example, 'Well, if we let human identity expand, and start including all these things as legitimately human, well then, I might as well just end up as a fish!' So it's the kind of ... either the nonsensical point, where it's just the horizon of meaning, or it's the absolute taboo. And that's what interested me first. 'Okay, well, why don't we take that and run with it, instead of trying to find ways of separating ourselves from animality?'

It really opened up quite an interesting new direction for my work. I love Rupert Sheldrake's theory of morphic resonance. The way Sheldrake imagines natural forms and systems as inherited memory and repeating themselves through morphogenetic fields just became a really fruitful way of reading genetic science, medical science, reproductive science. I almost see morphic resonance as somewhat akin to epigenetics.

Definitely! I'm fascinated by thinking around extended or distributed phenotypes, and the way genes never just express themselves in a void, but always in a context that is itself characterised by all these complex patterns, and path-dependencies, and inheritances. Epigenetics, for any readers who aren't familiar, is all about heritable traits involving how a gene is expressed, rather than differences in actual DNA sequences.

Or at least, epigenetics would be compatible with that way of thinking about systems, and information, and genetic inheritance, and species or whatever. But I think that the Sheldrake was much more science fiction-adjacent to me. It's been so fascinating to me, to think about forms resonating through time in conjunction with technologies literally implicated in the production and reproduction of forms, especially biotechnologies and the reproductive technologies surrounding industrial farming. So, I developed these characters. One is this cow, this bovine persona or avatar. And then there was the bat. And then I did a reptile character. And then a pig. That's all of them.

I feel like they should all get a whole cinematic universe.

The bat is getting a novel. I don't know if all of them will, but the bat character is at least getting one.

I want to ask more about pseudo-science. It has such an interesting relationship with science fiction. You've got the kind of Star Trek style technobabble, where the deus ex machina is a type Q phase discriminating amplifier or whatever, where we're not really supposed to take it seriously. And then you've got hard science fiction that aims for credibility, but still tends to accept its own status as pseudo-scientific insofar as it pushes toward speculative implementations, even if it does its best to maintain a credible technoscientific idiom. And then there's all that pseudo-science whose status is contested, and often politically fraught. I'm interested in how pseudo-science relates to conspiracy theory, which is another big theme of some of your work. I don't know, would you describe conspiracy theory as a kind of science fiction?

My instinct is to say that not all conspiracy theory is necessarily a form of science fiction, or even adjacent to science fiction. But I do think that most science fiction is conspiratorial in some sense. So yes, oftentimes there's overlap between the two. Something like the Five-Percenter Movement can be seen as an almost science fictional response to the pseudoscience of scientific racism, for instance.

How does that play out in your work? For instance, can you talk about A Split During Laughter at the Rally*?*

That was my first solo show. Actually, that's an example of where not all conspiracy — or at least what I was engaging with as conspiracy — necessarily is science fiction. But also, I was really interested in new forms of paranoia, and new speculative imaginations that arise in response to technological transformation. We're in an era when many new forms of political and economic exploitation are paranoia-inducing because they're so difficult to quantify.

Absolutely. Sometimes the best you can do, epistemologically speaking, is to be paranoid, or to be speculative.

Data systems, hormonal systems, financial systems. These are all forms of capital, units of political control. Information and power is being distributed worldwide, but often in ways that are imperceptible to us. Or at least they're not so tactile. So there's this wave both of base cultural paranoia, but also I think of speculative writing and thinking, that comes from that place. It's interesting to me to think about how emerging technology has that direct influence on how we deal with our ideas of the future.

That's so interesting. It's tempting to think of new technology solely as a potential harbinger of the future that features that technology more widely. Which it can be. But technological transformation is also constantly re-calibrating culture in other ways as well, surfacing certain things and endowing them with certain saliences, while making other things more invisible, more silent.

And that idea was very central to that show: the imperceptible. Things moving into the imperceptible, the untouchable. You can't feel it. At most, it's a vibration, and a sort of paranoia emerges from that vibration.

The logic of paranoia might obfuscate the world, but it's also sometimes what we need to know the world around us. That logic might even be reparative, sometimes. Because what is important to know is so often imperceptible. So deep in the vibration.

Right. One book that's not all science fiction, but has influenced the way that I read science fiction and other things, is *Testo Junkie* by Paul Preciado. It lays out these theories relating networking systems to endocrinology to developments in wireless technology. It's really been illuminating to read the world through that new perspective.

OK, I think I've come across that. I need to check it out properly. When you think 'What is capital?' you might think about finance and land and machinery and so on ... but you might not necessarily think of the biochemistry in our bloodstreams, because it's harder to clearly point to who owns and controls that. Or when you think 'What is technology?' you might think about AI and automation and so on ... but you might not necessarily think of pornography as a kind of technology that shapes desire and identity. A gender technology, maybe.

This has affected a lot of my thinking on conspiracy too. We're at a point at which the distinction between how you navigate the world as a rights-bearing citizen, and how you navigate the world as a consumer, are increasingly collapsing. If something is now a source of capital, it is also, in a certain way, a space in which new rights and affordances can be granted or negotiated.

Hormones are not only a source of capital, but also have literally expanded the possibilities for ways of embodiment. So what's been happening is that new potential has opened up for somatic modification, while that potential itself is also opening to new forms of transaction, of enclosure, of contestation. It's radically changing what embodiment means, and how much sway and influence one can have over that. Imagining where that could go is really interesting to me.

That's partly what the novel is, thinking through embodiment from those inter-species, trans-species angles.

Can we talk a bit about humour? That show at The Store X was really unsettling. You see the images, and they're tragic, they're angering, they're funny, they're beautiful, they're horny. They're kind of cartoonish and they're also kind of visceral. Art gets described as 'provocative' way too often — but I felt like it was provocative in the sense that it offers me these responses, and which response I go for is going to say something about me? I feel like when people talk about your work — from what I've seen so far — they don't talk about the humour enough?

If I have a gripe with the kind of art-critical-industrial complex, it's that. I think that writing about cultural production, especially cultural production that doesn't present itself as immediately trying to be super-wide-appeal, often really doesn't know how to process humor. Humor is so important for me, just in my life generally, and it animates my work. I'm always like, 'I hope it's coming across. Are people just taking this all seriously?'

It's getting better and better gradually. I think sometimes you just have to establish enough work for people to see it in conversation not just with itself. Especially when you are offered the very easy and seductive lens of identity, I think that people generally want to jump to a kind of literal interpretation, because the literal animates whatever kind of ethical posturing that comes along with that.

I saw you talking somewhere about how sometimes the attribution of the theme of identity can actually be a way of limiting what the art is doing. Not that it's necessarily not about identity. But to the extent that it is, that doesn't mean it's inviting me to sort of ritually recapitulate ideas I'm already familiar with.

There was one write-up that basically suggested the whole show was just about my tragic life as a trans woman, and I'm like, 'What? There's a cow being forcefully milked, with *Playboy* aesthetics. What is going on?'

Clearly this is straight-up sincere, confessional life writing.

It surprises me, but I think it's like what you were saying. That says more about other people than it does about what I'm putting into the work. This is one reason why also I really love being able to have a show up where I can be there. Because when people are in the show, there's a lot of humor. I remember *A Split During Laughter at the Rally,* people were just ... I loved hearing laughter, or seeing people laugh, or even seeing smiles on people's faces. It's almost a more vulnerable way of engaging what I'm doing, I think.

Just to finish, can we talk a little bit about parties? I guess it's a similar question to the earlier one about gender. What is a party? I feel I have been where there's people, there's music, and there's drinks, there's fun, and no shade but it's not a party. It's ontologically a different thing.

I love to go to parties, I love to throw parties of all varieties. For me, the difference between a party and a gathering is that there's almost a vibrational threshold that the collective energy has to surpass. And whether that threshold is passed by virtue of the number of people there, or that the threshold is passed by virtue of the music escalating a certain energy, or by some other dynamic, I do feel like a party has a sense of heightened energy that engenders a different way of being social, and a different way of engaging with people, and a different sense of possibility.

One of the first nights that pubs were opened up here, I did a little drive around, partly because I was just curious what the atmosphere would be like. It was small groups only, so mostly people who were out that night weren't supposed to meet anyone new.

I don't think you necessarily have to have new people, for me. I think most of my friends, one of the things I like about them is that there could be a party even with just five of us. It could fully be there.

I was just like, okay, is there going to be that sense of danger that creates a really unhinged, voluptuous atmosphere? Or is the risk in this case actually an uncomfortable subtext, that renders everything flat and try-hard? I suppose I'm interested in the role of risk.

So I don't know if it has to be risk. A sense of risk is part of the appeal of a certain type of nightlife. I think of the Berghain: that's an almost, at this point, globally-recognizable branded clubbing experience. Berghain I do think is about performing risk, or giving the markers or ornaments of a kind of risk. But I also love a forest rave! I love to just be in the middle of the woods, or in the mountains, dancing, and I don't feel risk associated with that, just a really dynamic sense of possibility.

I guess I should say for any readers who are new to your work, I'm not just asking randomly about parties! Your artistic practice has encompassed nightlife in various ways, in connection with music, fashion, and performance. And as I understand it there was an important phase in your career, in coming to understand and present yourself as an artist, that was about going out?

Yeah. It's an opportunity to be a contextually specific entity. I at the time felt really disconnected from art-making. I had a very normal day job, working with lawyers, so it was just like ... in terms of an artistic sensibility, something completely unrelated. I really felt that nightlife offered the possibility for me to be something that only existed in that moment. I wasn't the person tethered to my job. I wasn't the person that was walking down the street. I wasn't the person that was in the cab on the way to the party.

When I entered that space, something about that radical shift in energy and the sense of possibility that comes with being essentially untethered from so many aspects of my life really became a space to think through concepts, and to deploy those concepts in all the different forms of enacting sociality, so dancing, talking, playing music. Even just my relationship with the lights, or something like that. In that environment, everything can become a sort of art form. There's an art about the way that you carry yourself in a party. There's an art about the way that you establish conversation, how you move through ideas, how you navigate what type of things to address with what type of person, and what type of atmosphere you engender through the music that you're playing. It enabled and lubricated my imagination, in ways that would also then come out as writing, or videos, or other things. But the genesis of them, or at least the setting free of them, happened in the context of parties.

Part of the artistry of parties and nightlife is to do with agency. You talked about becoming perhaps a version of yourself that is untethered from the kinds of systems that you have to participate in on an everyday basis. I'm wondering if that's also something that, in a little way, comes out in performance generally?

Well, I've always been a performer. As someone that has generally felt slighted or shortchanged by the behavioral expectations that I grew up in, I think I naturally was attracted to performance. I was attracted to it less as something that I understood as such or by name, than as a space to create a degree of intentionality, to distinguish myself from normal behavioral modes, and to enter this space where I could then play. I was a policy debater in high school, which was probably my first encounter with that space. But then it was at the encouragement of my friend Patty in New York, who had seen me doing poetry readings. She's a curator, and she organized a performance showcase and asked me to be a part of that. It just kind of just grew from there. It's funny. Even though I am a performance artist in practice, I've never sought that out. It's because there is some sense of necessity.

Juliana it has been such an honour and a delight. And I can't wait for the novel.

Image caption for back cover

Juliana Huxtable, *Untitled*, 2019

12 colour archival ink print on linen, collage and homemade badges in artist frame, 137 x 107 x 6 cm (54 x 42 1/8 x 2 3/8 in)

Courtesy of the artist and Project Native Informant, London

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