

THE FUTURE OF MEDIA

Edited by Joanna Zylinska
with Goldsmiths Media



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THE FUTURE OF 'THE FUTURE'

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Astronoetic Voyaging: Speculation, Media and Futurity

James Burton

Introduction

The concept of 'the future', like time itself, is notoriously difficult. Philosophers and scientists have argued variously that the future is absolutely determined (e.g., Isaac Newton), fundamentally open and indeterminate (e.g., Henri Bergson), heavily constrained by the past (e.g., Karl Marx) or that it is all of these (e.g., Jacques Derrida); that it is infinite and continuous (e.g., Aristotle) or infinite and cyclic (as in Hindu cosmology); that it is necessarily finite (e.g., Immanuel Kant) or effectively finite due to entropy (e.g., William Kelvin); that it does not exist (e.g., John McTaggart) or that it exists simultaneously with the past and the present (e.g., Albert Einstein). Some consider futurity a matter of ontology, others an evolutionarily developed psychological trait (Guyau 1890), still others as the product of a leap or rupture that is identical with politics (Grosz 2004, 257–258), or a historical construction, which may (at least in Western cultures) be in the process of disappearing (Nowotny 1994, 45–74). The lack of any prospect of scientific or theoretical consensus may seem odd, given the degree of shared understanding implicit in a wide array of social and cultural manifestations of humans' relationships with time. Augustine's dictum that I know what time is until I'm asked to explain it to someone else does not seem to have lost its charge (1961, 264).

One modern thinker, possibly echoing Augustine, suggests that the limitations of the human perspective may defeat in advance *any* (human) attempt to understand time: 'Perhaps the trouble lies much deeper than human philosophy can ever probe. It may be that human mentality itself, the half-developed mode of human immediate experience, does not reveal enough of the nature of time to permit of a logically coherent theory of it' (Stapledon 1939, 413). This reflection

is found in Olaf Stapledon's two-volume introduction to philosophy as 'a way of life' (1939, 12). Yet it is primarily through literary writing that Olaf Stapledon philosophises. His novels, most notably *Last and First Men* (1999a [1930]) and *Star Maker* (1999b [1937]), have been widely recognised as landmarks of twentieth-century science-fiction and admired by figures as diverse as Bertrand Russell, Jorge Luis Borges, Virginia Woolf and Arthur C. Clarke. These works demonstrate that, even if he takes a true understanding of time to be beyond human mentality, Stapledon sees value in speculating about the past and the future, about their metaphysical status and the possible forms and paths they might take/have taken. Encompassing an entire speculative history of the cosmos, from distant beginning to distant end, depicting an ever-widening multiplicity of humanesque and non-humanesque forms of life, *Star Maker* forms an excellent resource for engaging with the question of the future of media, and an implicit practical argument for the conceptual and transformative value of sustained speculative thought.

Such an engagement will form the main focus of this chapter. However, before turning to the novel, I would like briefly to establish a few principles which I will take to condition speculation regarding the future of media, and which, as the remainder of the article will show, are of particular prominence in the speculative exploration that comprises the core of *Star Maker*.

Four Principles Regarding Speculation, Futurity and Media

The Augustinian formula referenced above seems to suggest that there may be an intuitive understanding of time that is potentially possessed by many, but which it is difficult, if not impossible, to express in rationally communicable form. In this sense, it can be taken as a recognition of the difficulty in bridging the gap between something like 'subjective' and something like 'objective' knowledge/reality. But it can also be read as foregrounding the conditioning role of perspective in any thinking, and asking us to consider how this applies specifically to temporality; Augustine goes on to suggest that the future can exist only in the mind, in expectation or anticipation (1961, 267–269). This confronts us with the question of whether temporality and futurity may have *no* objective reality beyond the local, subjective registers of experience, understanding or physical change.

In light of this, a first principle here will be that *any attempt to speculate regarding time and futurity is bound by perspectival constraints*. These will arise from the nature of the active entity in question, its position, orientation, capacities

for perception and thought etc. This applies equally to any possible thinking of the future *of* something – such as ‘media.’ Thus, even if ‘the future’ necessarily has intimations of generality going beyond the scope of any single entity, inquiring into it is necessarily also always-already a question of ‘*whose* future?’. Are we concerned with ‘the future of media’ *for/from the perspective of* someone or something – humans, for example? Or should we take ‘the future of media’ to implicate a futurity *for/from the perspective of* some phenomenon potentially synonymous with media – media’s futures (of media)?

A second principle follows from the first due to this specific focus on future of *media*. Implicit in and constitutive of the perspectival constraints conditioning any given subject/entity’s approach to futurity are the basic elements of its structure and composition. These include the means by which it relates to the rest of the universe, through perception, communication and so on – and thus include media. Hence with ‘the future of media’ we are in the sphere of a special case of thinking the future, in that media are determining and implicated aspects of any such thinking, as conditioning the above-mentioned perspectival constraints. Media in the broadest sense determine and limit perception, memory, activity, the possible relationship(s) between any putative self and world. Hence the second principle: *To speculate about the future of media is to speculate about the future of speculation.*

To make matters more complicated, it is also hard to ignore the fact that the very *process* of speculation may itself begin to change these constraints and capacities. Speculating about something open-ended tends to foster the conception and imagination of possibilities previously not considered. Speculation is initially constrained by the conditions of its starting point. Providing it does not remain wholly limited by these constraints, however, it has the capacity to alter them, making them the basis for further speculative impulses, in theory at least continually widening the limits of conceivability. Hence a third principle: *speculation that is not determined in advance by prejudice is the enemy of prejudice.* This indicates that it has the general effect of transforming the speculator in such a way that counters prejudice.

The simplest speculation may remain constrained from the outset by the prejudices that condition it. A white racist’s speculations about what foreigners might do to them, about the negative effects of immigrants on the economy, the possibility that multiculturalism increases the likelihood of terrorist attacks, their speculations about whether their non-white colleagues unfairly see them as racist or whether their last public anti-racist gesture was sufficiently

noticed and appreciated, are all instances of speculation going a short distance and immediately being consumed by the prejudices which launched it, like a thousand rockets failing to escape a planet's atmosphere. Speculation that is extended in any given direction, however, will always, and on the whole increasingly, challenge or undermine prejudices (even if it may not be the fastest or most effective means of doing so).

It may be noted that neither speculation nor prejudice is exclusively about the future. (I may speculate about the final sensory experience of the last Tyrannosaur, the breakfast preferences of Anne Boleyn, the hidden meaning in a comment made by a friend, whether I'm infected with a virus and so on.) Prejudices, both trivial and violent, likewise constrict any speculating I do about the past or the present. However, both speculation and prejudice have an orientation towards future *knowledge*. They involve more than questioning – they actively produce, in imagination, in virtual form perhaps, possibilities that might at some putative future moment be actualised. Speculation, as its etymology suggests, involves *looking* – but looking at something which must be *produced* in the act of speculation – something that could later prove real or true (and which, even in virtual form, by the recursive mode discussed above, may help shape and widen the scope of this speculation as it extends further). It can also entail noticing, discovering that which is unexpected or which the speculator is not conscious of having generated. Prejudice, in parallel etymological manner, involves *judging* – again, positing a future possibility that could later turn out to be correct. Both are oriented towards posited potential future knowledge, but with one oriented towards restricting, the other towards expanding the possible scope of this knowledge. Hence a fourth principle arises from the third: *non-judgemental speculation is active, productive and (self-)transformative*.

These four recursively linked principles, if a little convoluted as laid out above, I hope go some way, collectively, to addressing the question of 'why' speculate regarding the future of media. It is increasingly common in an era characterised by fears of international terrorism, environmental destruction, uncontrolled technological acceleration and, now, pandemics, for the question of 'survival versus perishing' to form the horizon of any thinking about the future. Bearing in mind the principle of perspectival constraints, it may be assumed that when speculating about the future of media, I do so as a social entity with at least some interest in my own survival and the collective survival of other entities to which I feel a certain boundedness. Bearing in mind the other three principles, it may well be that such survival – the continuation of certain forms of life into

the future – depends upon their self-transformation through openness to and the embracing of an ever-widening array of other forms of life, a process which may be fuelled and continually enhanced by non-judgemental speculation. Such, in any case, the following engagement hopes to show, is the implicit proposition of Stapledon's *Star Maker*, a piece of novelistic philosophical writing characterised like so much European thought of the 1930s by the experience and anticipation of mass-scale global warfare, its underlying causes and potentially existential implications for the species as a whole.

Heather and Obscurity

Star Maker begins, in a manner possibly evoking Dante and Joyce,¹ with an individual experience of tribulation and self-questioning that, through imaginative shifts of perspective and register, simultaneously exposes the cosmic insignificance of the protagonist's crises, and makes this the driving impetus for a quest in search of the truth and meaning of everything.

One night when I had tasted bitterness I went out on to the hill. Dark heather checked my feet. Below marched the suburban street lamps. Windows, their curtains drawn, were shut eyes, inwardly watching the lives of dreams. Beyond the sea's level darkness a lighthouse pulsed. Overhead, obscurity.

(Stapledon 1999b, 1)²

These first few sentences place the narrator in the situation of a Stephen Dedalus or a Prufrock, seeking to lift themselves beyond the mundane emptiness of a life measured out with coffee spoons. Yet Stapledon's narrator is free of both Dedalus' arrogant self-superiority and Prufrock's frustrated impotence, each of which in its own way keeps these protagonists trapped within and fixated on the minutiae of the very domestic and social worlds they seemingly long to transcend. In contrast, when the narrator of *Star Maker* takes his step back from the quotidian world to reflect upon it, though his over-the-shoulder gaze lingers at first on what he is leaving behind, the dark heather of the hill, the suburban streetlamps and 'the world's delirium' (1999b, 1), he is also drawn inexorably onward and away from it all, first by the contemplation of the infinite obscurity above him, and then by the alien strangeness of the stars as they begin to appear in the evening sky.

The novel comprises an account of what the narrator frequently refers to as an 'adventure' beginning from these first speculative stirrings, a journey of cosmic

discovery in which he is gradually joined by numerous other 'explorers' similarly taking flight from their own local worlds. A diversity of modes of life, community and being are described, each new encounter simultaneously participating in the ongoing transformation of the explorers themselves, the exponential widening of their perspective and experience as they pursue their ultimate goal of reaching the eponymous Star Maker, the presumed creator of the cosmos.

The narrator acknowledges that this is a journey of the imagination, though not in the sense of being unreal; imagination is used to fuel literal, material movement and change. This is a journey that is repeatedly spurred on by the speculative juxtaposition of perspectives and scales, oscillating between them by imaginative acts that continually fuel further extensions of those scales to ever-increasing degrees. Indeed, it is as though this oscillation, emerging from very simple shifts of perspective and incremental acts of ordinary perception and speculation (looking at a star; imaging what the Earth might look like from far above), effectively bootstraps into existence the entire process which takes the narrator to the temporal and spatial limits of the cosmos. He is a pioneer of what Hans Blumenberg would, a few years and a world war later, name 'astronoetics', inventing the term while writing a grant proposal seeking funding to explore the dark side of the moon by the power of thought (Blumenberg 1997; Harries 2001, 320).

With his 'new, strange mode of perception' (5) 'the hawk-flight of imagination' takes the narrator beyond the horizon and away, until he finds himself observing the whole planet from a distance (4), the perspective from which the Earthrise photographs would be taken three decades later. Unlike the astronauts who produced the Earthrise photographs, however - images that are themselves already manipulated by the constraining human(ist) perspective, being rotated to give the impression that the Earth 'rises' from the horizon (Lazier 2011, 625-626) - the narrator continues to move away. Initially his reaction does seem to anticipate cultural responses to Earthrise of the 1960s and 1970s, including the naming and impact of the 'Blue Marble' photograph of 1972 and the associated appearance of Gaia Theory that same year, as he perceives the Earth and all life upon it as a tiny, fragile, yet unified whole, adrift in the vast emptiness of the cosmos: 'It was a huge pearl ... No, it was far more lovely than any jewel. Its patterned colouring was more subtle, more ethereal ... in my remoteness I started to feel, as never before, the vital presence of Earth as of a creature alive' (8). However, as his momentum takes him further, his home planet receding out of view, any stirrings of Anthropocenic sentiments,

any sense of humanity's place in a delicate, unified ecological whole, give way to a sense of 'mankind [as] of no more importance in the universal view than rats in a cathedral' (13).

This oscillation between scales of perception, as integral to a particular speculative mode, underlies the entirety of the adventure undertaken by the narrator and his fellow travellers. This is also an opposition between tendencies – one turning inward, towards closure, self-isolation and self-preservation from the rest of the cosmos, the other moving outward to ever-greater degrees of openness, encompassing and continually refuelled by its widening perspective. This reflects the nature of the voyage as a dramatic transformation of the voyager, entailing the widening of their initial perspectival constraints and values to an extreme degree, but with continual oscillations along the way that allow them to maintain some connection to the particular being, history, value-system they are travelling away from. In this way, a continuity of experience links the possible survival of the initial being to the near obliteration of self.

Media in both specific and general senses are integral to these processes by which the narrator undertakes his astronoetic journey. In the next two sections I want to elaborate on this by considering first some of the more 'humanesque' and then increasingly 'non-humanesque' media encountered by the travellers.

Radio Takes Over the World

In a more restricted sense of the 'future of media' – suggesting the transformation of phenomena widely identified with 'media' in the contemporary public sphere – *Star Maker* provides much potential fuel for speculation. In the narrator's encounters with other sentient species, he comes across a range of media technologies and means of communicating that remain unknown to Stapledon's readers. For example, the 'Other Men', though humanoid in shape, have a biological-anatomical constitution that renders vision relatively trivial, with sensation and perception oriented towards taste. This sensory bias inflects every aspect of their language, culture and media, so that the concept of 'complexity', for example, has the literal meaning of 'many-flavoured' (29) and the equivalent term for 'brilliant' is 'tasty'. Perceptions of something like racial difference are based primarily on taste and smell. Radio and television broadcasts operate by affording 'intricate stimuli to the taste organs and scent organs of the hand' via a 'pocket receiving set' that most individuals carry with them (34). 'Music' is

broadcast over these sets by translating 'taste- and smell-themes ... into patterns of ethereal undulation' (34).

The narrator witnesses the appearance of a new kind of broadcast/receiver technology which bypasses the sense-organs and operates by 'direct stimulation of the appropriate brain-centres', combining 'radio-touch, -taste, -odour, and -sound' (34). This invention is initially developed for the purpose of 'sexual broadcasting', offering a highly realistic experience of sexual gratification, affording the masses the opportunity to experience physical intimacy with 'radio love-stars' and 'impecunious aristocrats' (35). In time, the vast potential of this VR-like medium is developed; it becomes a means by which 'electric massage' can replace exercise; medical treatment can be applied by manipulation of hormones and other chemicals; a 'vast system of automatic food-production' (and an equally complex sewage system) can be controlled by radio. Of course, the medium is also used extensively by governments for various forms of population control, from rendering slums tolerable via the manufactured experience of luxury, to suppressing revolt by the judicious production of distractions (35-36). Such is the dominance of the radio-system that it eventually becomes possible for a person 'to retire to bed for life and spend all his time receiving radio programmes' (36) while the entire planet is overseen by the World Broadcasting Authority (37) in a perpetual state of elective lockdown.

As the narrator encounters other lifeforms on other planets, radio waves turn out to be the basis for a variety of other speculative media forms. Stapledon is using 'radio' not in the restricted sense of 'broadcast sound', but as the underlying medium of radio waves, as used by pre-digital television, mobile phones, text messaging, Bluetooth, RFID and other forms of wireless communication. In one world the adventurers encounter a species characterised by 'swarm intelligence', where large collections of apparently separate organisms form 'a cloud of ultra-microscopic sub-vital units' that is 'organized in a common radio-system' (112). Aeons later, in contrast to its earlier use for biopolitical and fascistic ends, radio becomes the basis for a galactic utopia, serving as the means by which democratic governance can be maintained in the absence of any formal 'democratic machinery', with a 'highly specialized bureaucracy' overseeing global affairs, but 'under constant supervision by popular will expressed through the radio' (133).

Another group of media that remain underdeveloped on Earth, but which the explorers of *Star Maker* find throughout the galaxy, especially in its mature phases, is based on something like psychic communication. One of the earliest instances occurs within a hybrid species that has evolved as fundamentally symbiotic,

every organistic 'unit' being composed of one member of a marine 'ichthyoid' species and one member of a terrestrial 'arachnoid' species. After a long era of 'blind mutual slaughter' the two species gradually discovered value in cooperation, and over further epochs of co-evolution 'moulded one another to form a well-integrated union' (95). Eventually, pairs of partners are able to remain in union across galactic distances. Ultimately, it is revealed that this hybrid species is responsible for enabling the explorers to develop the technique of travelling freely across space and time that have made their whole adventure possible.

There are plenty of media in *Star Maker* that do not depend on radio or psychic communication. One example is found on an ocean world where a 'nautiloid', ship-like species of intelligent beings use a means of communication potentially available to humans but which has in our world thankfully remained rudimentary: 'For short-range communications, rhythmic underwater emissions of gas from a vent in the rear of the organism were heard and analysed by means of underwater ears' (81). (Somewhere deep underground, perhaps, in a secret Google lab...)

These examples are all media that could conceivably operate within a human context. Though they depend on technologies and techniques that have not been discovered or invented, it is possible to imagine them functioning in a world of humans. The species that employ them differ in certain traits from the humans of Earth, yet they also share many supposedly human traits, e.g., in terms of culture, technology, social character. Stapledon's narrator sometimes uses the word 'humanesque' to describe such lifeforms, a practice I've followed here, since it allows for an appropriate fuzziness of boundaries and, unlike the term 'humanoid', does not imply that similarity between species is tied to form or appearance. Although the first alien species the narrator encounters, and probably others, do indeed share a broadly humanoid physique, non-humanoid intelligent lifeforms such as the nautiloid or arachnoid species may be just as *humanesque* in terms of religion, social structure, culture, technology, tendencies towards violence, love, competitiveness etc.

A key facet of the explorers' journey is that the kinds of being they are able to encounter vary increasingly as their adventure progresses. It is no coincidence that the first intelligent lifeforms the narrator encounters look and act a lot like people as he recognises them, bar a few key differences. With each new encounter, the travellers, voyaging as a kind of composite entity – though with each still retaining a sense of its own identity and history – are joined by members of new species. By an interstellar snowball effect, their composition becomes

increasingly complex and diverse. For a long time, they are only able to discover new species that share key humanesque traits: 'It appeared that, for us to enter any world at all, there had to be a deep-lying likeness or identity in ourselves and our hosts' (64). But with each addition to their number bringing new modes of experience, capacities for perception and understanding, after a multitude of incremental diversifications the range of species they are able to encounter becomes increasingly non-humanesque.

Non-Humanesque Media

This ongoing process of the transformation of their identity and nature, inseparable from the continual expansion of the explorers' capacity for perception and communication, equates to an expansion of the variety and scope of the media conditioning and enabling their collective place in and movement through the universe. For instance, through his encounters with the Other Men, the narrator gains an experience of what it is to think and sense primarily in terms of taste. With the nautiloids, the explorers learn what it is to 'hear' the sea floor. With the swarm intelligence, they discover 'painfully how to see with a million eyes at once, how to feel the texture of the atmosphere with a million wings' (106). On worlds populated by 'vegetable humanities' or 'plant-men', they experience 'all the cultural themes known on earth ... transposed into a strange key, a perplexing mode' (117).

As the explorers are transformed by contact with ever stranger and decreasingly humanesque forms of being, any putative boundary between the more socio-culturally circumscribed sense of media (as radio, television etc.) and the more general sense of media as indicating all forms of interrelation, is progressively eroded. In time, 'worlds' – comprising planets and their inhabitants and, later, interlinked collections of such planets – begin to become conscious. The media by which these waking and wakened worlds communicate and interact with one another are not clearly described, but are partly composed of multitudes of smaller lines of communication using fairly humanesque media. As these worlds evolve, and as the process of their coming-together as unified consciousnesses is repeated, over aeons, at the galactic level, they acquire the ability to perceive entities with their own media that are so far from the humanesque as to be barely intelligible, even to these galactic entities composed of billions of diverse minds and biotechnological systems.

The discovery that stars possess sentience and intelligence comes as a shock both to the wakened worlds and the explorers. Emphasising that he is only able to give the faintest intimation of his encounter with these utterly alien beings, the narrator describes how the stars experience gravity as a kind of medium, along with other processes such as the transmission of light and cosmic rays. The explorers find themselves 'enter[ing] telepathically into the star's perception of the gentle titillations, strokings, pluckings, and scintillations that [come] to it from the galactic environment' (188). Via gravitational force, each star senses other stars, their movements continually responding to one another in a kind of cosmic dance. Though their relative movements may seem to an observer to be bound by fixed physical laws, the conscious stars maintain their roles in the dance by will, and have the capacity to err or wander from their expected course if they choose. (However, to do so is considered 'sinful,' and is only tolerated among the younger, more playful stars). In addition to their modes of nebular communication via the medium of gravitational pull (207-208), the stars use other media under certain circumstances; for example, on the rare occasions when the dance brings two of them into proximity, they may engage in physical interaction by extending flaming filaments towards one another. In these movements and interactions the explorers discern spiritual and cultural lives (189), and 'a whole world of social experiences,' though these are 'so alien to the minded worlds that almost nothing can be said of them' (190).

Beyond the stellar and galactic scales, *Star Maker* allows glimpses of possible modes of being beyond the narrator's cosmos. At the narrative's climax, the explorers - now bonded to the whole cosmic mind of many minded worlds that the narrator experiences as a self - are given the chance to see myriad other cosmoses come into being and pursue their careers, through the creative efforts of the eponymous Star Maker. In some, there is no spatial extension, and life emerges purely in rhythmic form such that a creature's body consists in 'a more or less constant tonal pattern' which may glide through, but also 'grapple, and damage ... another's tonal tissues'; some such creatures live by devouring others; some develop agriculture and make art (230-231). The different cosmoses also display 'a great diversity of geometrical and physical principles' (231); some are without time altogether; some are structured by non-linear temporalities, where time flows cyclically or simultaneously in different dimensions; some involve multiple linked universes, with beings transferred from one to the other at different stages in their lives, allowing reincarnation, or the equivalents of orthodox Christian notions of Heaven and Hell, to become core properties (234-235). In

one 'inconceivably complex' multiverse – the likely inspiration for Borges' 'The Garden of Forking Paths' (1941) – 'whenever a creature was faced with several possible courses of action, it took them all, thereby creating many distinct temporal dimensions and distinct histories ... an infinity of distinct universes exfoliated from every moment of every temporal sequence in this cosmos' (243).

We could speculate about the different forms and modes that media might take in these divergent ontological contexts. How do purely tonal beings communicate? How does information transfer function when time is non-linear, so that the message is potentially received before it is sent? What kinds of media could develop in worlds where the laws of gravity and entropy are reversed (232)? Whatever strange or barely imaginable media forms we might imagine, one likely common factor is that the media will fit the ontological and ontic circumstances of the beings in question. In other words, they will be composed of stuff of the same order or structure, and according to many of the same principles, as the beings that use them.

I mentioned above that the diverse range of media encountered in *Star Maker* cumulatively emphasise that the distinction between media in the restricted sense of information transfer, and media in the general sense of means of connecting, is artificial and collapsible. This is a function of a further artificial separation between media and the things they connect. Media are that which is (detectably, notably, usefully, frustratingly) in between. They are such only by virtue of the separation(s) for which they compensate. When 'minded worlds' emerge from the multitudes of interlinked organisms and elements they contain, when these worlds themselves combine with stars to form a 'galactic mind, which [is] but the mind of each individual star and world and minute organism in the worlds, enriched by all its fellows and awakened to finer percipience' (201), when these galactic minds conjoin to form a living, cosmic entity, what *were* media linking different entities and forms become parts of the internal structure of a larger whole. Even the *Star Maker*, the anthropomorphised image of the principle or spirit behind all these cosmic creations, builds them using parts of itself (228).

Media are what connect and bind together entities separated by accidents of space and time. Where such binding progresses far enough, the connected individuals increasingly appear as a single entity, of which those media are constituent parts. Even if such media were at some stage the 'extensions of man [sic]' or some other being, they become at this point fundamental elements of its composition, restoring an even more fundamental cosmogonic relation.

Media's Futures

Where does all this leave us, and Stapledon's narrator – by this point self-identifying as a cosmic mind? Ultimately, he returns to the time and period proper to the entity that first set off from the heath on its astronoetic voyage. Having witnessed the Star Maker creating cosmos after cosmos, having wondered at their complexity and diversity, he has nevertheless ultimately felt disgust at the horror and suffering it allows to proliferate among its creations. Rejecting its seemingly aesthetic view of all existence, the narrator chooses a different, more familiar axiology: 'I scorned my birthright of ecstasy in that inhuman perfection, and yearned back to my lowly cosmos, to my own human and floundering worlds, there to stand shoulder to shoulder with my own half animal kind against the powers of darkness' (247).

Simultaneous existence on or oscillation between vastly different scales must ultimately prove unsustainable. Just as my life may be entirely insignificant to a being capable of perceiving the cosmic whole, so that being's existence and the cosmic events affecting it are practically irrelevant to me. Having perceived the Star Maker engaged in a self-appointed worldmaking campaign of whose rationale and purpose he can only acquire the dimmest intimation, the narrator undertakes to return to his own self-assigned worldmaking responsibilities in the human realm. He recognises that, here too, he is not in his ideal environment, living in 'an age of titanic conflict', whereas he and his partner, 'accustomed only to security and mildness, were fit only for a kindly world' (250). Yet the struggle to improve this world is one in which he is able to locate and produce value, find purpose and meaning, on scales and in modes that accord with his usual perceptual, intellectual, social and affective capacities.

This parallel between the motivations of the narrator and the Star Maker – each, in its own way, striving to make a 'better' world – may result from the anthropomorphism which the narrator repeatedly acknowledges by way of disclaimer. But it brings to light a point of potential significance to humans, among many other striving animals. Like the narrator and all those minds, organisms and worlds with which he becomes joined in the course of his journey, the Star Maker engages in a creative adventure that entails seeking out worlds and beings of ever greater diversity and complexity, not simply as a voyage of discovery, but in order to change him/itself. Each time he contemplates one of these creations, its impact 'change[s] him, clarifying and deepening his will' (241–242), causing him ultimately to outgrow it and move on to some new creative effort.

This notion of self-transformation, born out of a will to find, create, discover the alien, the other, the not-me or not-us, is the overriding motif and perhaps even moral of *Star Maker*. Certainly, it is linked to survival as a necessary condition. Yet this is not self-transformation as adaptation, as self-improvement, as evolutionary progress towards physical mastery or as spiritual progress towards enlightenment. Rather, it is a movement of change as necessity for and of life – of living (on) as perpetual change. Stapledon in this way anticipates the Earthseed religion of Octavia Butler's *Parable* novels, in which 'The only lasting truth is Change. God is Change' (1993, chapter 1), and its imperative to 'Embrace diversity / Or be destroyed' (1993, chapter 17).

The whole of *Star Maker* exemplifies the necessity of change for survival – not so much in terms of adapting to overcome external threats (though this may be a useful by-product) – but in order to overcome those tendencies within oneself as organism, cultural group, species, type (e.g., 'humanesque') that are otherwise likely to lead to one's own destruction, and this change only takes place through the transformative process of openly encountering and engaging with others different from oneself. Every notable living form in *Star Maker*, and certainly those which survive long enough to form constitutive living parts of the cosmic mind, has passed through a history of existential threats, each of which it was barely able to surmount. Those most successful at this are those for whom symbiotic existence, the full embrace of radical otherness, is fundamental. The symbiotic species of ichthyoids and arachnoids are among the first to develop the capacity for what I've been calling astronoetic travel, and the only one capable of stopping a perverted xenocidal species from destroying life across the galaxy. While those many stars and minded worlds that react to one another with hostility perish, those that reach out and strive to discover their mutual interests ultimately combine to produce a utopian 'symbiotic society of stars and planetary systems.' At every stage, those that seek diversity and community have at least some chance of survival, where most perish.

Of course, the survivors of such decisive moments may differ radically from those who faced the threat to begin with, thanks to the transformation(s) necessary. This is perhaps why the tendency towards self-*preservation* is so much more prevalent both in human history and across Stapledon's imagined galaxy, despite countless examples showing that such a tendency almost always leads to self-defeat. Having a chance of survival means accepting the risk of transformation over the greater threat of destruction resulting from the failure to change. The transformation may be incremental or dramatic, small or immense, but it entails

the possibility of continuity, of a *process* of change with its own singularity, even if snapshots taken from different moments in that process differ radically. As process philosopher Henri Bergson suggests, if we consider a child who becomes an adult, our linguistic and cultural habits seem to want simultaneously to separate these as two distinct beings, and yet identify them as the same. If our language were more attuned to the processual reality, we might say 'there is becoming from the child to the adult', recognising the primacy of the process and that childhood and adulthood are 'mere views of the mind' that do not relate to the 'objective movement' (Bergson 2007 [1907], 200).

Similarly, we can talk of a continuous process or 'life' on scales other than that of the individual organism – social, evolutionary, galactic, microbial etc. What we call 'survival', at these scales, should be considered to correspond to the continuation of the process, and thus continual change. This continuity may be conscious or unconscious, potentially registering in experience, memory, a sense of identity, community etc. Yet however it manifests, it forms an alternative to perishing entirely.

Where does this leave us in terms of 'the future of media'? Let's recall that media – in the broadest sense – are integral to and underpin all transformations an entity may undergo, and that any survival or continuity of a (set of) living process(es) in the sense just described is largely dependent on its future media. If we are concerned with the future of media 'for us', we so-called humans, within the broad horizon of the future persistence of the kinds of organisms/entities/social systems we take 'ourselves' to be – then in light of the above, an openness to ever more diverse modes and forms of media may be crucial. However, that this entails media *in the broadest sense* is essential: media as lines of connection, modes of interaction, means of moving towards increased community, the mutual interrelation and recognition of ever-increasingly diverse entities, elements, forms.

On the other hand, there is a possible future of media in the *restricted*, primarily technological sense that sees the so-called human perish precisely by its fixation on self-preservation and self-perpetuation. This is the kind of future scenario depicted in countless science-fictional narratives, from Karel Čapek's *R.U.R.* (2011 [1920]) to the *Terminator* films and *The Matrix* (1999), in which humans' technological constructions, having become sentient, or at least autonomous and agential, come to dominate them, threatening or causing their extinction. However, an alternative paradigm, which seems to have become increasingly prominent since the turn of the millennium, sees autonomous technological

forms of life drift so far from any residually human modes of valuation, motivation or logic that humans become utterly irrelevant to their existence and concerns. In science fiction, images of this may be found in Philip K. Dick's short story 'Autofac,' or films like *Her* (2013) and *Transcendence* (2014). In non-fictional contexts its image is found in popular texts such as James Bridle's *New Dark Age* (2018) and Nick Bostrom's concerns about the possible future dominance of AI (2014). Increasingly, we are contemplating or being confronted with the prospect of a future development of contemporary technological media that produces new, autonomous modes of life, which will not only operate according to logics and motives utterly alien to human comprehension, but which, rather than seeking to enslave or crush humans, will barely even register them as they dwindle away. There may be a future of media in which humans are a distant, perhaps forgotten prehistorical triviality – media's own future of media.

At first glance, *Star Maker* would seem to offer surprisingly little in terms of resources for thinking such questions as the impact of artificial intelligence and the spread of algorithmic computation upon pre-existing lifeforms. Though many of the species Stapledon describes modify themselves technologically almost beyond recognition, there are no clear instances of an artificially created species or being that becomes wholly autonomous from its creators, let alone hastening their demise.

On the other hand, however, this may be simply because Stapledon's speculative vision, almost from the outset, is situated far beyond any meaningful distinction between nature and culture or the biological and the technological. Once we have entered a sphere in which we are dealing with intentional planetary and galactic entities that bear whole technological civilisations within themselves as part of their composition, agents that are capable of conceiving and constructing innumerable artificial planets and even stars, creating entirely new synthetic species – is there any sense at all in trying to find distinctions between what is technological and what is not? Everything is creative, dynamic, ecological, but no ontic categorical distinctions within this can really be said to hold sway.

In this light, *Star Maker* offers an imperative and impetus towards considering and engaging with the truly alien and other, the possibility of thinking the unthinkable, or, following Luciana Parisi (2013), the incomputable that would be instantiated within any algorithmic mode of thought, as, indeed, it may in any radically other, hitherto unencountered forms of life. To speculate about the mentality, logic or motivation underpinning the activities of sentient stars, or minded worlds, of hybrid arachnoid/ichthyoid (A/I rather than AI) world-builders is to

confront that which may be radically unintelligible, in order to see what value may nevertheless be found in the speculative attempt to engage, communicate, co-exist. This in itself may be the beginnings of what is needed in order to engage in the diversity-embracing, speculative-transformative processes that will give lifeforms including those calling themselves 'human' a chance of continuing, even as this entails their continuous change, perhaps beyond recognition, into the future.

Conclusion

It is worth recognising that, for all his astronoetic voyaging beyond the humanesque, and for all the transformations he has undergone, once he decides to return home, the protagonist of *Star Maker* does not appear so dramatically changed as he repeatedly attests. For all his journeying and communing with beings so radically alien to everything in his previous experience, he remains not only humanesque, but broadly still identifiable with that figure that has named itself 'Man,' now exposed and exploded by a wealth of poststructuralist, feminist, critical posthumanist and decolonial thinkers (e.g., Foucault 2002 [1966], 421–422; Haraway 2016, 47–49; Wynter 2003; Braidotti 2013, 13–54; Tsing 2016; Zylinska 2018) and yet seemingly undiminished in its sway over the being and future trajectories of global humanity.

In this light, it's worth remembering that 'intelligence' has always been artificial, a sociocultural construction built on the psychological construction or illusion of primary subjectivity, within which various rationalist, masculinist, colonialist, capitalist and other artificial facets have been naturalised from classical through Enlightenment and some postmodern/posthumanist thought. Stapledon's narrator remains within the sphere of this artificial intelligence, even as his entire adventure and conviction suggest the necessity of obliterating it. Certainly, he corresponds to a kinder, pacifist, anticolonial, open-minded image of Man than is seen in its most common and dominant manifestations. But, ultimately, his outlook remains at the least shaded by certain 'humanist' values and tendencies, for example, in the shape of his rationality and his spiritualism (even if his combining them offers the possibility of curbing the worst excesses of each), and his masculinisation of the *Star Maker* and feminisation of its ultimate creation, in whose 'cosmic loveliness' the *Star Maker* finds 'the fulfilment of desire' (247).

Perhaps this concern may be added to the ethico-ontological grounds on which Stanisław Lem judged *Star Maker* ‘an artistic and intellectual failure’, finding in it the clear influence of Stapledon’s previous ‘novel about “Superior Man”’ (Lem 1987 [1970], 7). Yet just as Lem recognised that this was a failure in a ‘titanic battle’, within ‘a completely solitary creation’ that ‘defines the boundaries of the SF imagination’ (1987 [1970], 7), so we may acknowledge that *Star Maker* establishes, in a way that remains unique and no less urgent some eight decades after its publication, a compelling view of the challenges faced, and the great potential role for speculation, in this battle: that is, in the struggle between ‘the archaic, reason-hating, and vindictive, passion of the tribe’ with its ‘myopic fear of the unknown’, and, on the other side, ‘the will to dare for the sake of the new, the longed for, the reasonable and joyful world, in which every man and woman may have scope to live fully’ (253). Or, as he puts it in the final line, in ‘this brief effort of animalcules striving to win for their race some increase of lucidity before the ultimate darkness’ (254).

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