

## **Interactivity without Control: David O'Reilly's *Everything* (2017) and the Representation of Totality**

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*This world is not your world / Everything is a game based on the game you're in  
and, if we're being honest, a pretty shabby reflection of it  
but, this isn't about giving you something different to see, but giving you a different way of seeing  
if you can see that you are neither big nor little - this nor that  
you might also see that I am neither real nor unreal, but both!*<sup>1</sup>

The Irish artist David O'Reilly has produced a body of aesthetically innovative experimental animation that has achieved rare popular and critical acclaim. Working inside and outside of industry, he has produced short films independently and for Cartoon Network, video walls for the concerts of British-Tamil musician MIA, and animated sequences for Spike Jonze's indie feature film *Her* (2013). His most ambitious project, *Everything* (2017), is a quasi-interactive work of procedural animation utilizing three hours of historical lectures by the late philosopher Alan Watts. Its trailer was nominated for an Academy Award, even though the work itself was marketed and distributed as a video game.

*Everything* departs from most of the other works in this collection in significant ways.<sup>2</sup> Firstly, its creator does not readily identify as a contemporary artist, and his practice has thus far been somewhat peripheral to established institutions of contemporary art. Secondly, the work was not created with the idea of being situated in a single physical installation. While *Everywhere* has been exhibited in various performance situations, its original and defining mode of exhibition has been as a video game for individuals to download to their personal computer or PlayStation console. Despite these differences, *Everything* should be understood as an intervention into debates around our contemporary post-cinematic condition, in which audiovisual practices once strictly associated with the 'black box' of the classical cinematic *dispositif* now take place across wildly heterogeneous forms of distribution, modes of exhibition, and sites of reception.

Upon its release, *Everything* was subject to an unusual degree of scrutiny within the popular press because it was seen to operate so radically outside of standard gaming conventions.<sup>3</sup> For a number of reviewers, the work's quasi-interactive structure too closely resembled the putatively 'passive' experience of watching a movie, rather than the 'active' engagement of playing a game. In what follows, I delineate the quasi-interactive model of spectatorship at work not to definitively adjudicate on the game's proper classification, but to explore the ways in which it can help us to think beyond sedimented models of both spectatorship and genre. To do so, it will be necessary to look beyond the work's formal mechanics in the present. For both formally and thematically, *Everything* makes reference to a particular freighted cultural moment in post-war visual culture in which the representation of totality had emerged as a central concern.

The work's dynamic, scalar perspective can be traced to *Powers of Ten*, that seminal animated short by the American designers Charles and Ray Eames which audaciously purported to illustrate nothing less than the entirety of the known universe, from the smallest particle to the largest galactic supercluster. Popularly known by the more polished, 1977 colour version, this purported animation of 'everything' was actually first completed in 1968, when it coincided with the first publicly available images of the 'whole earth' from space. Anselm Franke has described the importance of these images – especially as they would figure on the cover of Stewart Brand's *Whole Earth Catalog* and Buckminster Fuller's *An Operating Manual for Spaceship Earth* – in articulating a vision of the earth as a singular, integrated totality particularly amenable to technocratic administration.<sup>4</sup> Yet even as it references these models, *Everything* complicates any conception of anthropocentric mastery through its grounding in the philosophical ideas of the late Alan Watts. By enforcing a perspective which remains as partial and delimited as it is fluid and variable, *Everything* solicits an engagement with radically non-anthropocentric forms of space, time, and subjectivity.

### **Spectatorship and Play**

*Everything* is far easier to show than to describe, because it intentionally disrupts many of the generic frameworks evoked by common language. Produced and driven by a popular game engine (Unity), distributed and sold through a popular gaming platform (Steam), and at least weakly interactive, *Everything* certainly has to be considered as a kind of game. And yet *Everything* has elicited a conundrum of classification: scores of commentators have stressed their confusion and frustration with the manner of engagement *Everything* solicits. There has been great debate, at least within the gaming community, about whether the work should be considered a game at all, given the peculiar nature of its interactivity.

Created in collaboration with programmer Damien Di Fede, *Everything* is a procedurally generated animation, algorithmically rendered in real time for each individual user, either with or without the user's direct input. As such, it can sometimes seem like a movie that unfolds before our eyes, but one that affords users an ability to adjust what we see and hear, when or if we choose to do so. We begin as an animal relatively scaled to the size of a human, such as a common brown cow. We can look around, and move within a pastoral setting within which we quickly discover other animals and plants, both larger and smaller than ourselves. After a time, thought bubbles begin to emanate from these other beings which we can read, and others appear in the landscape, providing short clips of audio from philosophical lectures by Alan Watts. After a protracted period of wandering, we eventually gain the ability to inhabit beings much smaller or larger – from bacteria and flowers to clouds and planets – at which point we begin to experience both space and time on a vastly different scale.

*Everything* modulates the model of spectatorial engagement typically understood to be crucial to the nature of games and their specificity from so-called ‘non-interactive’ forms of art. Familiar habits of classification have accustomed many to code play as active or agentic, in contrast to the ostensibly more passive or receptive audiovisual experience understood to characterize more traditional aesthetic forms, including cinema.<sup>5</sup> Within such a framework, one ostensibly sits back and watches a movie, while one leans in and engages with a game. Yet the experience of ‘playing’ *Everything* consists almost entirely of audiovisual reception, while both kinaesthetic experience and the reward model are effectively negated: there are no mistakes to be punished, no real skills to be mastered. And while the game affords the player some measure of control over



one’s orientation, locomotion, and, eventually, scale of view, this control is by no means absolute. For the one thing we cannot do is stop – if we cease our activity for more than a moment, the game will begin to unfold dynamically of its own accord. There is even a setting by which the player can delegate all control to the game itself. We effectively become an observer rather than a participant in these instances, and yet our experience of the work does not seem drastically altered. It does not suddenly change from a ‘game’ into a ‘movie’, but remains lodged in a curiously hybrid in-between space.

In his canonical study on video games, Espen Aarseth radically distinguishes between the experience of audiovisual ‘reception’ that takes place within a film and the ‘kinesthetic experience’ proper to a videogame. In something between a description and a definition, he declares, ‘the pleasures of visual games are not primarily visual, but kinesthetic and cognitive: your skills are rewarded, your mistakes punished’.<sup>6</sup> Yet if interactivity is to have any meaning beyond the banal literalism of physical manipulation, it must reckon with the specific nature and quality of the experience that is being solicited. The cognitive demands of the vast majority of games are minimal, immediate, and strictly local to the game itself, while their kinaesthetic demands are quickly internalized. *Everything* breaks with this model almost entirely. Its kinaesthetic demands may be minimal, and its aesthetics may seem simplistic – even childish – but its cognitive solicitation is both substantive and enduring. In so doing, it helps to recall a more capacious notion of aesthetic play whose formulation predated the emergence of computational interactivity.

Rather than forcing *Everything* into Aarseth’s binary classification of ‘movie’ or ‘game’, it might be more productive to conceptualize the particular interactivity the work solicits in terms of the older and broader classification of the ‘toy’. Charles Baudelaire and Walter Benjamin were both famously drawn to the child’s anti-instrumental engagement with the toy, wherein the object’s affordances were largely unscripted, and its capacities only unlocked by means of an imaginative intervention.<sup>7</sup> From Alexander Calder to Nam June Paik, the magic and promise so many twentieth century artists have found within toys lies within their comparatively unstructured form, and the particular quality of engagement this form might be said to solicit.<sup>8</sup> As a result of the lack of goals or achievements that structure a competitive game, one does not ‘play’ a toy, but can only imaginatively play *with* one.

David O’Reilly is of the generation that grew up with *SimEarth* (1990) one of the earliest and most fascinating creations of the legendary game designer Will Wright. This work, featuring an introduction by James Lovelock, the Nobel Prize-winning scientist who pioneered the ‘Gaia Hypothesis’ with biologist Lynn Margulis in the early 1970s, demanded an engagement that was primarily cognitive rather than kinaesthetic, and open-endedly experimental and imaginative rather than straightforwardly goal-oriented.<sup>9</sup>



One did not directly control a human character or group such as a kingdom, city, or nation state, but held a somewhat loose control over the entirety of earth's biosphere as a singular, interconnected system. Rather than a competitive 'game' which one might master, *SimEarth* was described as representative of

## SOFTWARE TOYS AND SYSTEM SIMULATIONS

### SOFTWARE TOYS

*SimEarth* isn't exactly a game...it's what we call a "Software Toy." Toys, by definition, are more flexible and open-ended than games.

As an example, compare a game, tennis, with a toy, a ball. In every tennis game, there is one way to begin, one goal to pursue, and one way to end. There are infinite variations in the middle, but they all start the same way, chase the same goal, and end the same way.

A ball is more flexible—there are more things you can do with it. With the ball, you can play tennis. You can play catch. You can throw it at someone. You can bounce it. You can make up a hundred different games using the ball.

Our Software Toys are programmable. Using the comparison with a ball, this means that you can change the tennis ball into a football, baseball/soccer ball, Ping Pong ball, etc., and play any and all the games you play with those balls.

a new genre of work of 'System Simulations' or 'Software Toys' with which to model, to experiment, and to learn about the world [see image of instruction manual, upper right]. *Everything* is similarly invested in modelling a certain perspective to explore, rather than promoting a competitive environment one attempts to master. And it is similarly invested in attempting to visualize the world as a nested imbrication of complex systems. Yet in a significant departure from *SimEarth* and virtually all the large-scale simulations that would follow in its wake, *Everything* forecloses the possibility of a God's eye view – requiring rather that, at any given time, we inhabit only the singular, limited perspective of an individual being. The interconnected structures of the biosphere never appear before us on a kind of master control board, but emerge only gradually through a process of movement and transformation of perspective. In so doing, *Everything* reveals itself not simply as a product of animation, but as a work that interrogates the animation of perspective as its guiding metaphor.

On its surface, *Everything* appears to be a prototypical work of animation. Its characters and landscapes are not photorealistic, but iconic – intentional abstractions that require our own experience of the world for reference. As distinct from the dynamics of representational indexicality within the photographic image, the abstraction of drawn animation has always had aspects of the model implicit within its production and spectatorship. Within even the most traditional forms of cinematic animation, we encounter things that bear only a superficial resemblance to visual forms of our experience. We judge their fidelity not solely upon their static appearance, but upon the quality of their movement and activity. Thus if a character moves like a duck and quacks like a duck, it matters less whether it seems photorealistically similar to the ducks we have ourselves encountered. The ducks in *Everything* are recognizably iconic cartoons, but their legs are obviated by their gliding movement – whether on water or land. Other animals awkwardly and counterintuitively tumble forward like building blocks: three-quarters of the time, our brown cow has its legs in the air! It's an amusing image, but also a purposeful one. Rejecting the naturalist model of representation allows O'Reilly to foreground a computational ontology,

even as it highlights his ‘world’ as a kind of model. In so doing, he pushes us to see things not for their individual splendour, but as mere parts within an integrated system. For while it may not move like a duck, it does quack like a duck, and, in so doing, engages with ducks and other animals in the immediate vicinity. It also groups into flocks, which subsequently move as one, and these flocks can dance – an abstract rendering of communal reproduction.

The reference point lies not within the individual, nor even the flock, but rather with the larger structures and relationships through which all beings are inextricably entangled. *Everything’s* philosophical foundation is provided through the audio fragments we hear from Alan Watts:

*You, as a human being, you grow out of this physical universe in just exactly the same way in which an apple grows off an apple tree [...]. But we have been brought up not to feel that we belong in the world. So our popular speech reflects it: we say, ‘I came into this world.’ You didn’t – you came out of it. [...] The earth is not a big rock infested with living organisms any more than your skeleton is bones infested with cells. The earth is geological, yes, but this geological entity grows people. And our existence on the earth is a symptom of this solar system and its balances, as much as the solar system, in turn, is a symptom of our galaxy, and our galaxy, in its turn, is a symptom of the whole company of galaxies.<sup>10</sup>*

And this radically expansive perspective is made tangible in that, soon after progressing from singular animals and plants to whole flocks, we discover that we have gained the ability to inhabit anything whatsoever – passing from bacteria to electrons, stars to galactic nebulae – all of which exhibit similar structures of activity and interaction. Were we immediately made witness to this, we might be tempted to view it as an impudent anthropomorphism: ‘clouds and rocks do not move or associate’, we might say, ‘they do not sing or reproduce’. Yet *Everything* builds slowly to these ‘outliers’. We begin safely within what Watts, in one of the audio passages, describes as ‘the safety of our human scale’ long enough for the universalizing analogy and the nature of its abstraction to take hold. And when we finally do begin to move across levels of magnification, our experience of space changes accordingly. The field of grass and flowers we strode across as a dog becomes immeasurably vast once experienced as a dragonfly. Rather than marking our progress from tree to tree, we navigate between individual flowers and plants. As an aphid, our ‘field’ has become a singular blade of grass, and trees have become invisible. But additionally, so does our experience of time. There is no master clock with which to reference this changing temporality, but time quite obviously becomes unmoored from the familiar human scale as our focus shifts. Trees move across the landscape, and can group together and spawn. Unlike deer, however, we begin to understand these activities as taking place not within minutes or hours, but across decades and centuries.

In assuming these varied forms, we are inevitably drawn to their interrelation and codependence within structures rather than their specific individuality. As such, we realize that the work's title is potentially misleading. 'Everything' seems to advertise a god-like status of dominion over the totality – the familiar hubristic conceit of man's unlimited mastery over nature. In reality, however, the manner of agency *Everything* provides is quite severely constrained. Our ability to assume such radically diverse perspectives does not actually impart a sense of 'mastery' over that which we survey. We import into the game our self-assurance about the significance of our actions – and there are many humorous examples of insects and trees articulating the same belief in their own, idiosyncratic ideas – yet we ultimately have no idea what effects our actions might have at levels of magnification much smaller or larger than our own. The chain of causality, at least at the level of the individual, is broken. In its place, however, we begin to gain a different perspective on the systemic nature of the totality. For the kind of movement *Everything* ultimately privileges is not the kinesthetic movement of the individual, but precisely an animation of perspective itself. But to what end? And why, in such a purported representation of 'everything', is a single, crucial species missing: that of *homo sapiens* itself?

### **The 'Whole Earth' and the Representation of Totality**

The atomic blasts at Hiroshima and Nagasaki had raised the spectre of total planetary destruction for the first time in human history. The ensuing 'space race' saw the Soviet Union launch the first orbital satellite in 1957, and the first human in space in 1961, prompting John F. Kennedy to commit unprecedented resources towards landing the first man on the moon. While originating as an extension of the Cold War, a response to a geopolitical threat, the 'space race' of the 1960s quickly evolved into something more far-reaching: a perspectival shift that would challenge long-standing models of both representation and autonomy.

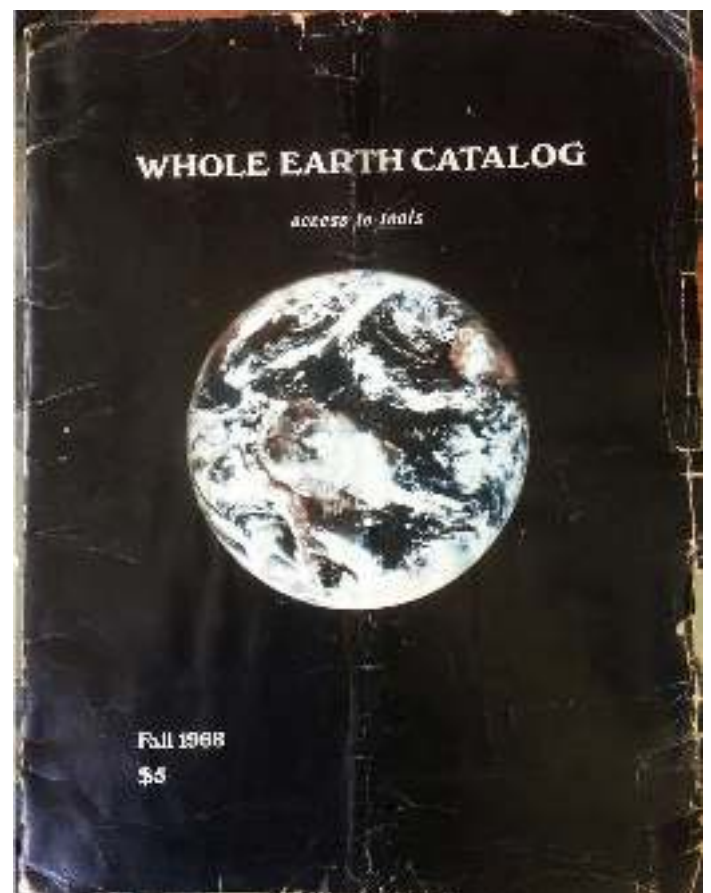
'Why haven't we seen a photograph of the whole earth yet?' This was the rallying cry of a young Stewart Brand, living in Haight-Ashbury, epicentre of American counterculture, in 1966, the year before the Summer of Love. Nearly a decade of space exploration had riveted the nation, but the imagery NASA returned featured 'a lot of the moon and [...] chunks of the Earth, but never the complete mandala'.<sup>11</sup> As his reference to the Buddhist mandala suggests, he envisioned such a



representation as a kind of psychic talisman, a therapeutic image of unity in the face of war (USSR, Vietnam) and social Balkanization (Conservatives and the New Left). Printed on hundreds of buttons and

distributed to scores of universities, politicians, and public intellectuals, it leveraged a popular hunger for conspiracy and longstanding distrust of government to inspire what would become a social movement.

Perhaps someone at NASA was sympathetic, as the next year an unmanned satellite captured just such an image in full colour. It was not publicly released, but Brand worked to secure it for the cover of his 1968 countercultural manifesto *The Whole Earth Catalog*. The timing of his publication could not have been better, for that year, the visualization of the earth from space would emerge as a true mass-cultural phenomenon. The highest-grossing film of the year, Stanley Kubrick's techno-psychedelic *2001: A Space Odyssey* (1968), featured a NASA image of the earth in its climactic final scene with the 'Star child'. Most importantly, however, in December – on Christmas Eve, no less – a nation would be transfixed by a television broadcast of live imagery from the Apollo 8 mission: viewers saw the earth from space, and heard the crew read from the Book of Genesis, before blessing 'all of you on the good Earth'.<sup>12</sup> The poet Archibald MacLeish, featured on the front page of the *New York Times* the next day, spoke to the perceived world-historical nature of the event: 'Men's conception of themselves and of each other has always depended on their notion of the earth', he began. 'The medieval notion of the earth put man at the center of everything. The nuclear notion of the earth put him nowhere – beyond the range of reason, even – lost in absurdity and war.' But 'in the last few hours, this notion may have changed again. For the first time in all of time men have *seen* the earth... seen it whole and round and beautiful and small', a 'tiny raft in the enormous, empty night'. And 'to see the earth,' he concluded, 'is to see ourselves as riders of the earth together, brothers on that bright loveliness in the eternal cold.'<sup>13</sup>



If the great Allied victory of 1945 had brought the century's most devastating war to an end, the quarter-century that followed had brought Western prosperity but not delivered global peace. By 1968, even that prosperity was coming unravelled: the assassination of Martin Luther King had brought demonstrations and riots to over 120 US cities, to which marines and a newly militarized police force were introduced. Over a half-million US citizens were shipped off to fight a doomed war in Vietnam, while the Soviet Union annexed Czechoslovakia, and a general strike which shut down large sections of France. Together with the assassination of Robert F. Kennedy, the violence at the Democratic Convention in Chicago, and the pro-segregationist speeches of Robert Wallace, these all seemed to signal an America, and a world, poised on the brink of self-immolation. In the midst of this maelstrom, MacLeish – like Brand – hoped that images of the 'Whole Earth' might provide a representational pivot away from the tribal conflicts of individual groups, and even nation states, towards what was presented as a singular and common challenge to humanity as such.

A single photograph from the Apollo mission quickly came to stand in for these universalizing ambitions: 'Earthrise', a colour image of the earth 'rising' over the moon, in the same way as the sun rises over the earth. The first image of the earth taken by a human being from space, it would quickly become one of the most published images in photographic history. Reprinted on a postage stamp, and used as the backdrop to Walter Cronkite on the Evening News for much of the next year, this image of a 'clearly living Earth over the edge of a clearly dead planet', in the words of Stewart Brand, provided a vision



of awe and transcendence that might finally surpass the dreaded image of the mushroom cloud.<sup>14</sup>

Yet the reception of 'Earthrise', and the many images of the so-called 'Blue Marble' that would follow in its wake, were anything but straightforward. Anselm Franke has described their use on the pages of Brand's *Whole Earth Catalog* as a kind of 'unification machine', a 'multistable image' whose offer of transcendence actually sets the stage for a 'boundless containment': 'all antagonisms, borders, and conflicts "down below" fade into the background and with them history with its contradictions and

struggles’, a singular, ultimate frame ‘that no longer recognizes any frames’.<sup>15</sup> Thus the same imagery that would fuel the Californian counterculture in its mission to establish an ‘International Earth Day’ from 1970, was also that which would provide the seedbed for the ‘Californian Ideology’ of neoliberal technocratic management after ‘The End of History’.<sup>16</sup>

But here we must return to the question of perspective that serves as the principal engine of *Everything*’s form and theme. Franke is doubtless correct about the catalytic nature of the ‘whole earth’ as a dialectical image of both utopian aspiration and dystopian containment. But it seems important to note that, even at the time of their release, these images themselves were never simply uplifting. They could be equally unnerving, even terrifying, and the existential anxieties to which they would give rise had to be carefully managed and controlled. Photography, like any representational practice, is fundamentally reliant upon the act of framing: what lies in and outside that frame, and how the material within such a frame is oriented and arranged. The famous ‘Earthrise’ photograph that would be endlessly reproduced, for instance, was deliberately and strategically reoriented for the purposes of distribution. As originally captured, the moon is to the right and the earth ‘rises’ to the left – an impossible point of view for any terrestrial being. The Earth here is not central, but peripheral – a single planet among many. Without ‘grounding’, our perspective is one of floating in space – ‘sitting in a tin can / far above the world’, as David Bowie would sing – within a vast, dark, and thoroughly alien emptiness.<sup>17</sup> By simply rotating the image clockwise, we appear to be once again on stable ground. And even though the image was taken in orbit, the moon’s surface comes to appear as if we were standing upon it, as a mere extension of earth, a new continent over which to claim dominion.



The *Whole Earth Catalog* would publish more than a dozen issues between 1968 and 1972, all featuring cover images of the earth from space. Brand associated these images with the books featured in the issues: titles concerning cybernetics, systems theory, and, above all, Fuller’s conception of ‘Spaceship Earth’ as a singular, complex system. But these images of the ‘Whole Earth’ could not actually reveal

systems or their dynamics – in fact, they negated them, rendering them static and inert. They hinted at continents already known from terrestrial maps, that were mainly covered by clouds. Their visualization of the atmosphere was perhaps their most unprecedented achievement. However, the complex system of weather – the cycle by which water is drawn from the surface, repositioned, and then redeposited in patterns that had managed to turn a near-barren rock into the unimaginable fecundity of our contemporary biosphere – was invisible when rendered as a singular image. Any attempt to grasp this systemic dimension would require a radically dynamic perspective, one that necessitated the element of time, and hence the character of animation.

Brand may have gotten his wish for a singular image of the totality of the planet for the cover of the *Whole Earth Catalog*, but the designers Charles and Ray Eames had set their sights on an even more expansive visualization, one which would gesture towards the possibility of a dynamic perspective on absolutely everything, as far as the limits of human knowledge. NASA's Voyager probe had just been launched to explore the outer planets and eventually move beyond the solar system entirely, and the Eames' intention was to move similarly outward into the cosmos. But they also sought to move inward, towards the invisible depths of the human body itself. Beyond the reach of the unaided eye, into the worlds that had been opened up by the telescope and the microscope, what Marshall McLuhan had recently described as the 'technological extensions' of man.<sup>18</sup>

Their idea was taken wholesale from the Dutch educator and peace activist Kees Boeke, who had spent years carefully calculating and illustrating a book he had published a decade before. *Cosmic View: Universe of 40 Jumps* (1957) was intended as a children's book, and was illustrated in large part by his students. It begins with an image of a young girl with a cat sitting on her lap, in a chair, in a yard, at a school, in a small town outside Utrecht in the Netherlands.<sup>19</sup> Over the pages, the frame continues to expand geometrically, as we range from a scale size of  $1:10^1$  m in the first image, all the way up to  $1:10^{26}$  m in the last. Within the first image, which depicts a square 1.5m in length, the cat's whiskers can be clearly differentiated. When the orbit of the moon becomes visible pages later, at  $1:10^{10}$  m we can no longer even differentiate the earth's continents. At  $1:10^{20}$  m, as our galaxy becomes visible, we can no longer discern individual stars, and what appear to be stars are revealed as the compression of whole galaxies. After reaching the known limits of outer space, we reverse direction and dive into the inner space of the sub-visible, where we enter the cells of the skin and journey towards the molecule, the atom, and beyond, into spaces just as vast and empty and unknown.

If this all sounds familiar, it is because the book's central conceit would be appropriated for Charles and Ray Eames 1977 film *Powers of Ten*, which would quickly become the quintessential popular representation of scalar visualization. As with Boeke, the outsized premise was to reveal nothing less than

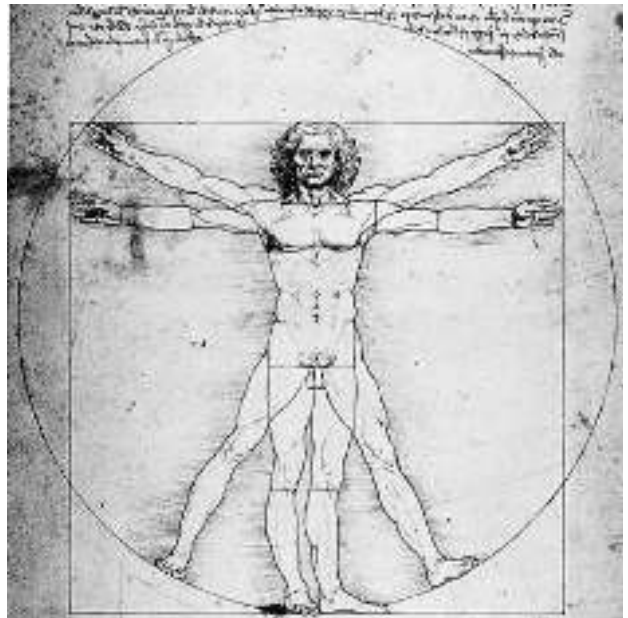
the entirety of the known universe – from the subatomic scale of  $10^{-16}$  m (one-millionth of an angstrom) out to the supergalactic scale of  $10^{26}$  m (one hundred million light years) – in a brisk eight minutes. Yet even more than ‘Earthrise’, the content of such a visualization could be profoundly decentring, and the Eameses would employ a similar aesthetic sleight of hand to ensure that the openness of the scalar model and its radically deanthropocentric perspective would be smoothed over for the purposes of mass communication.

Despite having seen the film dozens of times over the years, I had somehow failed to question that the pivotal moment when the ‘whole earth’ becomes visible to us is precisely framed by the square representing  $10^7$  m. It was only after reviewing their original 1968 *Sketch for a Proposed Film...* that I realized this had been a deliberate falsification.<sup>20</sup> In their earlier, unreleased proposal, they had accurately portrayed the earth’s 7,900-mile diameter so far outside the  $10^7$  m square that t he two seemed to have no relation to one another. Yet *Powers of Ten* would shrink the earth’s size by nearly 25% for the sole purpose of creating this aesthetically compelling frame. Such a significant distortion – within a work of putatively scientific visualization produced by meticulous designers over the course of a decade – leads one to ask why this framing would have been deemed so significant? The film’s ‘universal’ perspective is already centred upon a man (and not a young girl



with her cat, as in Boeke’s original book), but with this framing, the film seem to intentionally align the newly iconic representation of the ‘Whole Earth’ with Leonardo da Vinci’s *Vitruvian Man* (1490), whose outstretched limbs define both a perfect circle and a perfect square. This model of a universal mathematical harmony – itself a visualization of the Pythagorean inscription *ἄνθρωπος μέτρον* or ‘Man is the Measure (of all things)’ – cunningly presents the ‘Whole Earth’ as a totality, completely given over to man and his dominion by virtue of the ‘scientific’ perspective.<sup>21</sup>

*Powers of Ten* was presented not as a film, but as a ‘model’, and indeed it was: perhaps the ultimate model of anthropomorphic hubris to date. It imagined a perspective by which we might observe not merely the globe, but the universe in its entirety, as if standing above it, looking down from a position of knowledge and mastery.<sup>22</sup> It is a perspective aligned with Fuller’s metaphor of ‘Spaceship Earth’ as it led inexorably towards the conceptualization of the earth *as* a spaceship: a system designed, built, and ultimately controlled by men – and a small number of them, to boot. If the newfound fragility of this system was understood to necessitate ‘hard decisions’ about global resources and the fate of human and nonhuman populations, then those were essentially ‘engineering’ decisions to be made by those few with access to the ‘God’s Eye’ perspective of the master control booth. ‘We *are* as gods and we might as well get good at it’, as Brand introduced the ‘Whole Earth Catalog’ – though just who got to ‘play god’ was ever the issue.<sup>23</sup>

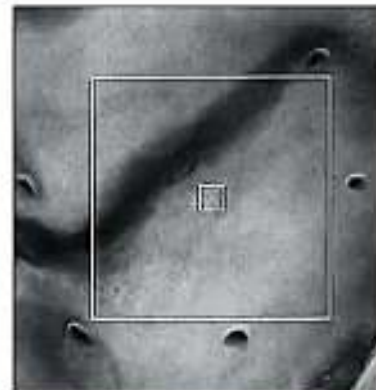
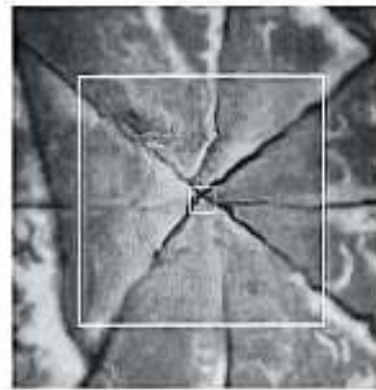


### **After ‘The Individual’: The Earth System in Symbiotic Perspective**

*In these dreams, he floated over a pristine wilderness as if from the vantage point of a marsh hawk, and the feeling of freedom ‘is indescribable. It’s as if you took everything from my nightmares and reversed it’. As the dreams progressed and repeated, they varied in their intensity and their viewpoint. Some nights he swam through the marsh canals. Others, he became a tree or drop of water.*

– Jeff VanderMeer, *Annihilation*

Perhaps the most dramatic example of anthropocentrism within *Powers of Ten* lay in its complete abolition of terrestrial life beneath the scale of the human. In writing *Cosmic View*, Boeke had taken pains to depict a mosquito, a water mite, five separate kinds of bacteria, and a number of viruses on the surface of the young girl’s hand: ‘crowded together, as they often actually are on the skin’.<sup>24</sup> Over eight separate levels of magnification, Boeke describes direct physical contact between the human and nonhuman life as an ordinary fact of life. Yet within *Powers of Ten*, all reference to nonhuman life would be systematically eliminated so as to produce the sterile fiction of an ‘individual’ (tellingly, a man framed so as to exclude his female companion, rather than a young girl with a cat on her lap) entirely untouched by any other living being.



Identical magnifications exploring the surface of the human hand, from Boeke's *Cosmic View* (left) and Eames's *Powers of Ten* (right)

Omitting the flora and fauna that permeate the world at every level, *Powers of Ten* thus reinforced an ideology that nonhuman life is inessential to the human drama – existing merely in the background within what used to be called ‘the environment’. In its mechanistic, dead universe of colliding billiard balls, Man – the maker of tools – is imagined as the sole active agent.

Yet the contemporary revolution in microbiology has definitively overturned this fairy tale of isolated autonomy, revealing that what we call the ‘individual’ human being is actually a radically symbiotic constellation of species – a cohabitation with trillions of bacteria and other microscopic entities whose collective genetic diversity vastly outstrips our own, and which collectively affect many of our most basic and vital functions.<sup>25</sup> Across the contemporary life sciences, the traditional, essentialist conception of ‘the individual’ is being replaced by a symbiotic paradigm that now orients research in ‘directions that transcend the self/nonself, subject/object dichotomies that have characterized Western thought’.<sup>26</sup>

Multiplying our frame of reference even as it frustrates our traditional conceptualization of agency, *Everything* has everything to do with the contemporary revolution in ecology and the life sciences that have taken place since the fateful nomination of the Anthropocene. *Everything* certainly invokes the radical expansion of perspective that *Powers of Ten* would so fatefully popularize, yet it breaks radically with its predecessor in refusing to anchor man, or ‘his’ Earth, as the sole or even principle source of agency within this vast and heterogeneous domain. It does so, somewhat paradoxically, through its principled refusal to represent *homo sapiens* as such.

We may feel like we are playing a children’s game in taking the perspective of a bear or a duck, a palm tree, or a cloud. Yet over the course of his lectures, Watts asks us to question the nature of the larger ‘game’ we are playing. Moving beyond a familiar critique of the Cartesian mind/body split, he asks us to question an even more fundamental bifurcation instituted by our notion of the ‘individual’:

*Your skin doesn’t separate you from the world, it’s a bridge through which the external world flows into you, and you flow into it. Just, for example, as a whirlpool in water. You could say because you have a skin, you have a definite shape, you have a definite form. The whirlpool is a definite form. But no water stays put in it. The whirlpool is something the stream is doing. And in exactly the same way, the whole universe is doing each one of us... But we haven’t been taught to feel that way. The myths underlying our culture, and underlying our concepts, have not taught us to feel identical with the universe, but only parts of it, only in it, only confronting it. And we are, I think, quite urgently in need of coming to feel that we are the eternal universe, otherwise we’re going to go out of our heads – we’re going to commit suicide, collectively...<sup>27</sup>*

As in the symbiotic perspective of contemporary ecology and the life sciences, life here can no longer be understood as ‘inhabiting’ the world, because that which we call life is but a function of the reciprocal interdependence of species and their environments that collectively constitute the biosphere. More simply put, there is no distance between the two.

As a model, a software toy– perhaps even a philosophical toy– *Everything* solicits a radical transformation of perspective; one which would no longer place man at the centre, with ‘nature’ at the periphery, but which envisions a universe of interconnection at every scale: one in which all the diverse kingdoms of life, along with all the forms of life-sustaining matter, might begin to be understood in their vast and complex forms of symbiotic relation. And by providing an always partial and constantly changing perspective, *Everything* ultimately works to solicit a transformation in our conception of agency itself. It is not simply that we alternate between activity and passivity in the literal mechanics of the game, but that in destabilizing the notion of individuality, the correlative concepts of activity and passivity become less coherent. If our ability to move between such radically distinct perspectives has given us the sense that we are not one thing but many – if it has rendered the borders between things somewhat fluid or indistinct – then the concept of agency itself becomes harder to grasp.

The perspective *Everything* provides is one which would have us refuse the anthropocentric hubris of technocratic control, and its correlative perspective of a ‘view from above’, without thereby resorting to the resignation borne of a belief that we must ‘dominate or be dominated.’ As such, it joins the broad, interdisciplinary effort currently underway seeking to precipitate new models of collaborative, ‘sympoietic’ agency across contemporary philosophy, science, and the arts.<sup>28</sup>

Watts, like Margulis, abjured the anthropocentric conceit wherein the end of the world could be equated with the end of mankind. Thus a final interpretation suggests itself: that *Everything* is not intended as a representation of the present, but of the future – the world as it might exist a hundred million years hence, after the Sixth Mass Extinction had once again hit the ‘reset’ button, and thereby precipitated a new Eden devoid of humankind.<sup>29</sup> Against a cultural temporality of relentless acceleration, which today has reached a degree unimaginable only fifty years ago, *Everything* provides us with a solicitation to engage with radically non-anthropocentric forms of duration. And when considered from the five-billion-year perspective of the earth, our existence seems as precarious, and potentially fleeting, as the countless forms of life that expire, unheralded, each and every day.

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<sup>1</sup> Text appearing within *Everything* gameplay. Punctuation as per original.

<sup>2</sup> Murphy and Rascaroli, eds., *Theorizing Film through Contemporary Art: Expanding Cinema* (Film Culture in Translation, Amsterdam University Press, 2020)

<sup>3</sup> *Everything* was reviewed by *The Washington Post*, *The Financial Times*, *The Guardian*, *The Irish Times*, *WIRED*, and *Ars Electronica*, among others.

<sup>4</sup> Franke, Anselm, 'Earthrise and the Disappearance of the Outside', in *The Whole Earth: California and the Disappearance of the Outside*, ed. by Diedrich Diederichsen and Anselm Franke (Berlin: Sternberg, 2013), pp. 12–18.

<sup>5</sup> This classification varies greatly according to academic disciplinarity, and is complicated by underlying models of human perception more generally. Both art history and cinema studies have long sought to explore the 'active' nature of spectatorial experience. Sobchack and Bruno, for example, both emphasize the interactive and synaesthetic qualities of the cinematic encounter. Sobchack, Vivian, *Carnal Thoughts: Embodiment and Moving Image Culture* (Berkeley: University of California Press, 2004); Bruno, Guliana, *Surface: Matters of Aesthetics, Materiality, and Media* (University of Chicago Press, 2014).

<sup>6</sup> Aarseth, Espen, 'Genre Trouble', in Noah Fruin Wardrip and Pat Harrigan, eds., *First Person: New Media as Story, Performance, and Game* (Cambridge, MA: MIT Press, 2004), p. 52.

<sup>7</sup> See Baudelaire, Charles, 'Morale du joujou', in *Oeuvres complètes, Vol. 1*, ed. by Claude Pichois (Paris: Gallimard, 1975), pp. 581–587; Benjamin, Walter, 'Toys and Play', in *Walter Benjamin: Selected Writings, Vol 2, 1927–1934*, ed. by Michael Jennings, Howard Eiland, and Gary Smith (Cambridge, MA: Harvard UP, 1999), pp. 117–121.

<sup>8</sup> An important adjunct to the importance of the toy in general is the nineteenth-century history of the 'philosophical toy' as a peculiar amalgam of art and science, research and play. See Uroskie, Andrew V., *Between the Black Box and the White Cube: Expanded Cinema and Postwar Art* (Chicago: University of Chicago Press, 2014), pp. 94–104, and, more generally, Crary, Jonathan, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press, 1992).

<sup>9</sup> Lovelock, James, and Lynn Margulis, 'Atmospheric Homeostasis by and for the Biosphere: The Gaia Hypothesis', *Tellus*, XXVI.1–2 (February 1974), 2–10. For a more detailed articulation, see Margulis, Lynn, *Symbiotic Planet: A New Look at Evolution* (Houston: Basic Books, 1999).

<sup>10</sup> Watts, *Everything* in-game audio from the recorded lectures, 'What is Reality?' (1965); 'World As Self' (1965); 'Birth Death & The Unborn' (1967); 'We As Organism' (1969); 'Inevitable Ecstasy' (1970); and 'Way Beyond Seeking' (1973). An English-born autodidact, philosopher, and theologian, Watts was perhaps best known for his best-selling introduction to Buddhist Philosophy, *The Way of Zen* (New York: Pantheon, 1957). He had a popular weekly radio show for San Francisco Bay Area public radio beginning in 1953, and was an influential figure in the American Counterculture until his death in 1973. His recorded lectures have recently been preserved and made available through the Alan Watts Organization, <http://www.alanwatts.org>.

<sup>11</sup> Brand, Stewart, 'The First Whole Earth Photograph', in *Earth's Answer: Explorations of Planetary Culture at the Lindisfarne Conferences*, ed. by Michael Katz, William P. Marsh, and Gail Gordon Thompson (New York: Harper & Row, 1977), p. 187.

<sup>12</sup> NASA, 'Apollo 8 Onboard Voice Transcription, As Recorded on the Spacecraft Onboard Recorder, January 1969 [Declassified 1975]', *NASA Johnson Space Center History Portal*, <[https://www.jsc.nasa.gov/history/mission\\_trans/apollo8.htm](https://www.jsc.nasa.gov/history/mission_trans/apollo8.htm)> [accessed 26 December 2018]. Wilford, John Noble, 'Astronauts Examine "Vast, Lonely" Place; Read from Genesis', *The New York Times*, 25 December 1968.

<sup>13</sup> MacLeish, Archibald, 'A Reflection: Riders on Earth Together, Brothers in Eternal Cold', *The New York Times*, 25 December 1968.

<sup>14</sup> 2006 Interview with Brand cited in Jacobs, Robert, 'Whole Earth or No Earth: The Origin of the Whole Earth Icon in the Ashes of Hiroshima and Nagasaki', *The Asia-Pacific Journal*, 9.13 (28 March 2011), p. 6.

<sup>15</sup> Franke, op cit., pp. 13–14.

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<sup>16</sup> See Fukuyama, Francis, *The End of History and the Last Man* (New York: Free Press, 1992); Barbrook, Richard, and Andy Cameron, 'The Californian Ideology', *Science as Culture*, 6.1 (1996), pp. 44–72. For the now classic account of this evolution, see Turner, Fred, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopia* (Chicago: University of Chicago Press, 2006).

<sup>17</sup> David Bowie's 'Major Tom' was the first track of his self-titled 1969 album.

<sup>18</sup> McLuhan, Marshall, *Understanding Media: The Extensions of Man* (New York: McGraw, 1964), p. 19.

<sup>19</sup> Boeke, Kees, *Cosmic View: The Universe in 40 Jumps* (New York: John Day, 1957), p. 2.

<sup>20</sup> Charles and Ray Eames, *A Rough Sketch for a Proposed Film Dealing with the Powers of Ten and the Relative Size of Things in the Universe* (1968).

<sup>21</sup> "At the start of it all there is He: the classical ideal of "Man", formulated first by Protagoras as "the measure of all things", later renewed in the Italian Renaissance as a universal model and represented in Leonardo da Vinci's Vitruvian Man." Braidotti, Rosi, *The Posthuman* (Cambridge, UK: Polity, 2013), p. 13. "I cannot count the number of times da Vinci's Vitruvian Man appeared in the conference brochures for genomics meetings... High Art, High Science: genius, progress, beauty, power, money. The Man of perfect proportions brings both the number magic and the real-life organic ubiquity of the Fibonacci sequence to the fore." Haraway, Donna, *When Species Meet* (Minneapolis: Minnesota University Press, 2008), p. 7.

<sup>22</sup> "[T]he Globe is not that of which the world is made but, rather, a Platonic obsession transferred into Christian theology and then deposited in political epistemology to put a face – but an impossible one – on the dream of total and complete knowledge." Latour, Bruno, 'The Anthropocene and the Destruction of (the Image of) the Globe', in *Facing Gaia: Eight Lectures on the New Climatic Regime* (Cambridge, UK: Polity, 2017), Ebook.

<sup>23</sup> Brand, Stewart, *The Whole Earth Catalog: Access to Tools* (Menlo Park: Portola Institute, 1968), p. 2. On the neo-imperialist biopolitics of this 'we', see Scott, Felicity, *Outlaw Territories: Environments of Insecurity / Architectures of Counterinsurgency* (Cambridge, MA: MIT Press, 2016).

<sup>24</sup> Boeke, op cit., p. 42.

<sup>25</sup> Since historically, bacteria were originally studied in relation to disease, the idea became commonplace that bacteria simply *were* a form of disease – and this understanding was only cemented by dramatic benefits to medical practice introduced by antiseptics. It is a similar story with viruses, which still tend to be commonly considered merely as something to be eradicated. Yet as a century of microbiology has endeavoured to reveal, bacteria and viruses are not outliers which we might occasionally have the occasional misfortune to encounter – they are part and parcel of our very form of life, and of every form of life that has ever existed on this earth. For an introduction to the contemporary microbiotic revolution and an extensive bibliography of the recent literature, see Yong, Ed, *I Contain Multitudes: The Microbes within Us and a Grand View of Life* (New York: HarperCollins, 2016).

<sup>26</sup> Gilbert, Sapp, and Tauber, 'A Symbiotic View of Life: We have Never Been Individuals', *The Quarterly Review of Biology*, 87.4 (2012), p. 326.

<sup>27</sup> Watts, *Everything* audio narration.

<sup>28</sup> Haraway, Donna, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham, NC: Duke University Press, 2016), pp. 135–214.

<sup>29</sup> Kolbert, Elizabeth, *The Sixth Extinction: An Unnatural History* (New York: Picador, 2014).