

The Verifiable Image of the World

by Bruno Latour

When I first entered Sarah Sze's New York studio space in October 2016, I stumbled in the half-light upon one of the huge prototypes for *Timekeeper*, and I experienced something akin to the awe the Emperor of China must have felt watching Father Matteo Ricci unravel world maps before the court—images of the Earth the foreigner had brought from the distant Western world. “Yes, this is where we live; this is how we should understand where we are dwelling; this is at last an image of the world that is both simple and superb, and its beauty lies in its strange and paradoxical accuracy.” I think I stayed for more than an hour in front of the artwork, silently taking it in, as if I was witnessing the birth not of Venus rising from the sea, but of Gaia, emerging from nothingness. In my eyes, this multivariate twinkling of worlds within worlds could bear no other title than “Critical Zone.”

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Scientists use the term “critical zone” to describe the thin layer of life that gives the Earth its color, animation, and complexity, in contrast to the *terrestrial globe* we are used to viewing from space. The paradox here is a curious one indeed: seen from Sirius, life on Earth appears as such a slim biofilm in comparison with the immensity of the globe and the infinity of space, that it becomes invisible and almost insignificant, even though it is the very thing we hold most dear. We are so accustomed to seeing our blue planet from the outside-in, as if we were imprisoned in a raucous space station (or sitting on the throne of God), that we have completely forgotten to what extent this astronomical image of the world poorly reflects the common habitat shared by the living. That is why Earth sciences can be helpful in finding a mode of representation for this thin layer of life, an image of the world that would at last give us a realistic view of the critical zone, for it would be captured *from within*, in its distinctive intimacy.

Deprived of such images and therefore incapable of discerning what they study, my fellow scientists from biochemistry, geology, hydrology, pedology, geography, or geomorphology confess that they are struggling to forgo astronomical models. If I was awestruck by this version of *Timekeeper*, it is because Sarah Sze managed to bring about a model perfectly attuned to the actual state of our material conditions, *seen from within*. It took a sculptor to curb our obsession with the globe, as if the fine arts could also yield discoveries able to give object lessons to scientists and their findings.

Viewers experience first an arresting effect of *multiplicity* when they encounter the *Timekeeper* series for the first time, or when they close in on its shimmer, already discernible from Boulevard Raspail. It's pullulating. And this is indeed why astronomical space is so distinct from the critical zone: the latter is *heterogeneous*. When you consider a terrain, a forest, a city, or a body, each and every centimetre is different. Each and every detail matters. The space is not isotropic, and cannot be unified quickly. What must be conveyed first are profusion and superposition. Sarah Sze manages to do so not by scattering

nature's component parts, but by multiplying the elements we must learn to compose with, frame by frame, piece by piece, pixel by pixel.

Second, there is the issue of *scale*. No one has ever managed to assess the scale of Sarah Sze's artworks. Nobody knows whether they represent the infinitely large or the infinitely small, whether they champion atoms or viruses. In the case of astronomical view, everything is neatly arranged by size, as perfectly as in *Powers of Ten*, the remarkable short film produced by Charles and Ray Eames.¹ Although we are well aware of its trickery, of the fabricated nature of its seamless traveling shot, we are irresistibly engrossed in the montage, believing it, in the same way we feel we are floating through space when using Google Earth—while in reality the computer merely switches between databases. The same protocol will not apply to Sarah Sze's work: the closer you get, the less you can hold on to concepts like traveling shots or nesting dolls.

Yet her goal is not to make you feel discombobulated. On the contrary, she is simply being a realist. Like her art, the world she aims to depict does not follow Google Earth's logic. A drop of milk, a puma roaming the wild, the fragment of a door, a cell, a galaxy, a hair, a truck... each and every thing surveys all others according to its own metrics, in its own way. Indeed, doesn't the very definition of Gaia hold that the smallest parts (bacteria) eventually form the largest ensembles (the atmosphere)?² It is impossible to hierarchize in a single definite order of precedence all the elements contributing to the animation of the critical zone. Of all things, the measure is each thing.

This extraordinary vision does not stop here. How do you address the issue of the viewer's position? How do you solve the problems brought by any type of global vision? In front of a globe, everybody feels like Icarus, as powerful as a god. Global vision prompts hegemonic abuse, facilitating unchecked maneuvers towards power or knowledge. The globe makes the megalomaniac. How can we watch the world without seeing it as—at best—a mere spectacle to enjoy, or—at worst—a territory to seize by force?

Sarah Sze does give a successful answer: viewers must be *surrounded* by the artwork as they tiptoe towards it. *Museumgoers* and *Timekeeper* share the same space, and sometimes this occurs even before reaching the ticket office: at the Fondation Cartier, viewers can see from Boulevard Raspail the diversiform shimmer of the artwork being partially projected on the walls of the building, day and night. Layer upon layer, veil upon veil, reflection upon reflection—this is how viewers can escape the dichotomy between seeing inside-out or outside-in, as if they were caught in a vortex, or pushed onto a carousel. They become “composers of space” in their own right, explicitly so when their T-shirts briefly stand as some of the many screens on which the projections appear, hosting this or that thing visitors will have to compose with. For the critical zone cannot be escaped, cannot be judged from a distance—and this is one of the most exact characteristics of the verifiable image of the world.

¹ See Philip Morrison, Phylis Morrison, and the Office of Charles and Ray Eames, *Powers of Ten. A Book about the Relative Size of Things in the Universe and the Effect of Adding another Zero* (San Francisco: W. H. Freeman and Company, 1982).

² Bruno Latour and Timothy M. Lenton, “Extending the Domain of Freedom, or Why Gaia Is So Hard to Understand” in *Critical Inquiry*, vol. 45, n° 3, Spring 2019, pp. 659–680.

What's more, the artist has undone another limitation tied to astronomical view: the continuous and homogeneous representation of all successive layers harboring life on Earth—as if the critical zone looked like a *mille-feuille* or a pile of mattresses—stacking geospheres, hydrospheres, biospheres, atmospheres, and so on. On the contrary, Sarah Sze's assemblages are never structured through continuous, self-contained envelopes that would stand apart one from another. Each one is permeable, and every one is constantly interrupted. What matters is the intermeshing of the components rather than their similarity. Water, CO₂, ozone, migratory birds, pollutants, bacterial plasmids, financial flows, iterations of memes: they each follow a different cycle that intersects all others without structuring it spherically. Besides, in front of *Timekeeper*, the clicks and gasps of the sonic landscape invented by the sculptor prevent you from imagining yourself casually sitting in front of a spectacle simply meant to be enjoyed from afar. Once again, the lack of tidiness is striking, not because it would answer the need for an artificial injection of disorder, but conversely because it strives to realistically replicate the *heterarchy* that characterizes life on Earth. Sarah Sze sculpts the anti-sphere as well as the anti-globe.

Using heterogeneous components; acknowledging multiple scales and dismissing any zoom in or zoom out trick; surrounding and engaging spectators; disseminating cycles without unifying them in layers or spheres: these four traits would already justify praising Sarah Sze's work, as its artistic discoveries constitute great learning opportunities about the reality of the world we live in. Such a list, however, would still leave out her main contribution to our painstaking emancipation from astronomical view.

In my eyes, her crucial discovery pertains to the *kind of materials and the compositional principle* she uses for her assemblages. Sarah Sze's long-established passion for ordinary objects is well known: sculpting with things at hand, whose value lies solely in their proximity and availability, she privileges toilet paper, cardboard, cheap videos, hair salon spotlights, or affordable loudspeakers over bronze, copper, or Carrara marble. Yet her aim is not to somehow borrow *Arte Povera's* modesty; in fact, this hodgepodge of little things will lead to the most extravagant display of luxury. This luxury will not derive from a spectacular situation, however—Sarah Sze's artworks have no pedestal besides perhaps a stool here, a desk there, elsewhere a transport case lying around; anything she can use to start tinkering, in a deceptively off-handed fashion, like someone casually sculpting with the clutter in their back kitchen.

This *modus operandi* is precisely what confers most of their realism to the images of the world Sarah Sze manages to animate. After all, the living beings of the critical zone also had limited means to elaborate their great schemes: they would use the most ordinary objects readily available and hastily throw them together, patch up whatever might last longer or better the best they could, relying solely on fleeting opportunities. This is where *Timekeeper* best imitates the emergence of the living world. Its luxury comes from the very frugality of the materials. This explains the eerie familiarity viewers experience when they come into contact with Sarah Sze's work: everything is structured, balanced, composed with care, yet everything is eminently fragile. Indeed, scientists have dubbed "critical" the zone they are trying to define in contrast with nature or the cosmos, for the very reason it is extremely fragile and obstinately resilient. Earth—the

Earth we actually live on—is not monumental at all. Consequently, its sculpted representation must also avoid monumentality by all means.

Oddly, curators in charge of Sarah Sze's artworks always expect viewers to damage or even vandalize her vertiginous compositions—so frail do they appear. But this never occurs. For the artwork dictates to visitors a relational mode that not only compels them to examine it thoroughly, but also to take great care in doing so. In a way, the work protects itself against vandals through its very vulnerability. When visitors come within a few dozen meters of one of Sarah Sze's assemblages, it is a sight to behold: they slow down, intrigued, looking down, up, around; they circle the artwork or unhurriedly enter it. Their demeanor has already changed, for they have never encountered so many structures—everything is clearly calculated—and so many fragilities; it could very well come crashing down suddenly, like a house of cards. Nowadays we do feel something decidedly new, an update of what we used to attach to “natural things”: the sense that everything could collapse. Everything is hanging by a thread: this is the characteristic that really confers verifiability on the image of the world Sarah Sze is shaping. Viewers feel intimidated and compelled to watch their steps because of this clever compromise between the materiality and obvious solidity of the suspended artwork, and its evanescent, ephemeral quality. Opportunities are seized on the fly all around—and we can also grasp them.

“Still, Mrs. Sze, could you not give us something better tethered to reality, sturdier, more durable and robust, more architectonic? Something that would withstand time? Couldn't you use more stable material as a base for sculpting? Moreover, isn't a real sculpture a block? At least, couldn't you present your stuff on more majestic stands? Maybe not a huge pedestal, but a more arresting setup, that would make your vertiginous assemblages look like the world put on stage...” “Well, no!”—the artist answers through her art. “There are no materials more durable, and besides, visitors like you are cut of the same cloth, neither more durable nor sturdier nor more monumental than my fragile compositions.”

Have I outlined all the specific traits of Sarah Sze's discoveries? Of course not, and here is one more essential characteristic: her images of the world are not *figurative* at all. If you leaf through geography or economy textbooks, browse climatology essays, pace around natural science museums and their collections, you will come across a great many organisms and phenomena, but none of them are ever *verisimilar* in Sarah Sze's assemblages. Indeed, the realism of her compositions does not rely at all on resemblance. They are far removed from dioramas, or nature being framed, and nothing can suggest it belongs to—*horresco referens*—“ecological art.” There is nothing “green” about Sarah Sze's aesthetics: the sculptor exacts accuracy through the *abstraction* of the world and its representation.

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Talking about accuracy and realism in the case of Sarah Sze's artworks might seem strange to some. Yet they do make such an impression on visitors at once caught in their brilliance. If the artwork is never organic as a whole, if it shouldn't inspire naively ecological meditations, it is because it is first subjected to the regime of measurements, of precarious balance, of *calculation*. Sarah Sze has well-

documented affinities with measuring tools, astronomical models, standards, weighing scales and their delicate mechanisms, but it takes some time to understand that she is not using them through quotation or parody, not even aesthetization. She places tools inside a world that will give them meaning. Such a profound idea could only come to a sculptor's mind.

Obviously, Sarah Sze doesn't see space as an empty neutral frame, always resembling itself, where all the things of the world are stored like specimens inside a box or dessert knives in the felt-lined drawers of a silverware case. Each instrument, each being, each relation defines a specific space. Hence, if you wish to deploy in the world a scientific tool (a pendulum, an armillary sphere, a planetarium, a scale...), you have to *add* to it all the transformations it inflicts on what it surrounds, attracts, curbs, transforms, clarifies, or obfuscates. For Sarah Sze, measuring is both *integral* and *additional* to the world, and does not reduce it.

This explains the kind of enchantment her artworks always cast on us, as if we could invent new relations to sciences in taking care of them, and also in taking care of the world they find refuge in, adding new splendors and new partial enlightenments to it. That is why her artworks are so close to the history of sciences, and why they crackle, twinkle, flash, and shine. In the realm of measurements, nothing is hegemonic, or didactic: there will be no exam to take, no degree to complete. But there is nothing critical or ironic either, which would require distancing oneself: quite the opposite, since Sarah Sze's artworks always invite slow approaches. And nothing suggests any deconstruction or dispersion: on the contrary, there is always some composition or superposition—a fragile balance. Remarkably, the sculptor succeeds in producing “measured” artworks without aestheticizing sciences, although she liberally puts them to use. It is about care—always about care—from both the artist and the audience. Seeing just one piece by Sarah Sze is enough to immediately know that we must *take care*.

Take care to do what, exactly? To appreciate the *compositional discontinuities*. This induces the non-figurative aspect of her artworks. We are so accustomed to the *res extensa* (as philosophers have been calling it since Descartes), i.e. the supposed continuity of all material things said to be “in space(s),” that we feel worried or lost as soon as this continuity is broken.

There is no better example of this than *the enigma in the shape of a globe* presented by Sarah Sze at the Fondation Cartier. For we do recognize the canonical shape of a globe, like those magnificent globes the Western world has so admired since the 16th century, believing they accurately represent our habitat. But in the history of cartography, a globe fuses together geography and a geometrical figure, the sphere. Yet, the two obviously don't match: the Earth is not a sphere. Nobody thinks that we inhabit a geometrical shape. What would therefore be the realistic, non-figurative, abstract version of the actual inhabited globe? This is precisely where the genius of the sculptor comes into play: is it finally possible, after crafting continuous globes for three centuries, to give an *accurate version of space*? Here, the term “accurate” means something that wouldn't pre-emptively conflate the successive compositional steps by artificially superimposing the mathematical sphere upon the real globe; that would welcome discontinuities and transform the globe in something else entirely; that would take good measure of the difficulty involved in measuring.

That being said, it is not, however, an attack on the globe, through atomization and dispersion, through attempts at breaking or deconstructing it, in order to remove its crushing, monumental, hegemonic potential. Rather, the enigma presented by Sarah Sze at the Fondation Cartier consists of showing us a globe that is also, simultaneously, an anti-globe. All things considered, it is reminiscent of Alexander von Humboldt's style, who measured everything he saw, but also constantly communicated, in enchanting fashion, why measuring is difficult, partial, incomplete, and insufficient.³

Considering the long-lasting tradition of presenting audiences with the biggest, most informative, most spectacular globes possible, all the while thoroughly dissimulating the apparatuses of surveying and knowing, the contrast is sensational. It might bring to mind the proposal made in 2017 by architectural historian Yann Rocher, prompting visitors to understand why it was ultimately and absolutely vain for heads of state, builders, or geographers to obsess for millenaries over monumental globes.⁴ They were still dreaming of such a thing but, evidently, the structure of a globe has no meaning if it hasn't escaped the effects of gravity; only celestial bodies scattered across the cosmos can become globes. Actually creating a globe on Earth is a doomed endeavor, by definition. Taking the monumentality route is impossible because of practical issues (foundations, structural support, strength of materials...). The process of creating a real globe for all to see—a "lived-in" globe—depends upon the most precarious techniques rather than monumental architecture, as Sarah Sze realized. She confides in such fragile tools to suspend, anchor, and surround, using fabric (from sails to veils), various husks, and scaffolding.

Nevertheless, Sarah Sze definitely follows in some way the long-lasting tradition historicized by Yann Rocher. Creating an inversed globe to be seen from the inside, tying in with the Hollow Earth hypothesis, is not a new idea. The most famous of instances might be James Wyld's and Henry R. Abraham's huge *Model of the Earth*, open to the public on Leicester Square in London from 1851 to 1862. What a gulf though between 19th-century visitors and those of today: after climbing a few stairs, the former could finally contemplate at leisure a representation of planet Earth from the South pole to the North pole, as if they were at home everywhere, whereas the latter are surprised and puzzled by Sarah Sze, trying to make sense of the troubling experience she offers. Indeed, there is no place on Boulevard Raspail for the hegemonic Western gaze, usually glossing over a fully-conquered world open to exploitation, tourism, and takeover. Discovery and exploration are welcomed, but what is perceived inside the globe must be composed eye-to-eye, screen after screen, fragment by fragment.

In the case of Leicester Square's *Model of the Earth*, Victorian visitors could see the sphere from the inside, so as to access information faster—the concave Earth being more legible than the convex one. But their gaze remained exactly as external as if looking at the Earth from Sirius. The device produced no effect of intimacy or involvement. Conversely, the invitation made to contemporary visitors to enter the model of the Earth visible from Boulevard Raspail is not

³ Laura Dassow Walls, *The Passage to Cosmos. Alexander von Humboldt and the Shaping of America* (Chicago: University of Chicago Press, 2011).

⁴ Yann Rocher, *Globes. Architecture et sciences explorent le monde* (Paris: Cité de l'architecture et du patrimoine / Norma Éditions, 2017).

motivated at all by pedagogical reasons: the point is to see a world *without any exterior at all*, and that will never have one. If the critical zone really existed as cosmic space, like the impossible globe of an architect's imagination, it would disappear at once, as surely as would an astronaut who tried to step out into space without a survival suit. These two models representing concave globes teach us entirely opposite lessons.

The originality of Sarah Sze's endeavor positively lies in its ability to dissociate images of the Earth from organic metaphors. Whereas popular images of Gaia maintain the confusion between maternity, intimacy, and femininity, Sarah Sze achieves a much more realistic vision. In her work, everything is calculated, precise, set up, balanced, carefully crafted, and everything is improvised, vague, askew, unsteady, globally contingent. Such a composition is truly extraordinary, is it not? For Sarah Sze represents life on Earth indeed, but never indulges in mistaking this thin biofilm for an organism. On the technical and scientific level, this is her most rigorous and precise insight. Gaia is not a giant organism. The globe Sarah Sze presents at the Fondation Cartier is anti-kitsch, at odds with ecological art. In addition to all her discoveries, Sarah Sze succeeds in bringing about another in the metaphysics or cosmology of gender, as she offers the viewers a superb and decisive contrast between a positivist, didactic, hegemonic vision of Earth as seen from space, and its usual antagonist, the intimistic or organicist vision—managing to avoid the pitfalls of each.

Art and science history combined will record the fact that it was a woman sculptor from the U.S. who gave Parisian visitors the chance to experience, from December 2019 onward, *the verifiable image of the world*, so perfectly adapted to the new spatial order they would have to learn to live in thereafter.

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Translated from the French by Lucas Faugère

Bruno Latour

Bruno Latour is a sociologist with a PhD and advanced teaching certification (French *agrégation*) in philosophy. He has taught at various engineering schools in France and abroad, including the École Nationale Supérieure des Mines (Centre de Sociologie de l'Innovation) in Paris from 1982 to 2006. From 2006 to 2017, he was a professor at Sciences Po Paris, acting as vice president of research between 2007 and 2013. While at Sciences Po Paris, he created the Médialab, the program in political arts of the Écoles d'Affaires publiques (SPEAP), and the program in cartography of controversies (FORCCAST). He also initiated the Earth Policy in the Anthropocene program at the Université Paris Sorbonne Cité. Since 2018, he has been a fellow at the Zentrum für Media Kunst (ZKM) in Karlsruhe and professor at the Hochschule für Gestaltung (Hfg) of Karlsruhe.

In his work, Bruno Latour focuses on the sociology of sciences, the dynamics of innovations and the philosophy of technics it implies, and the relationship

between science and ecology. He is the author of several books on these topics, including *Science in Action: How to Follow Scientists and Engineers Through Society* (Cambridge: Harvard University Press, 1987); *The Pasteurization of France* (Cambridge: Harvard University Press, 1993); *Petites leçons de sociologie des sciences* (Paris: Le Seuil, 1996); *Politics of Nature: How to Bring the Sciences into Democracy* (Cambridge: Harvard University Press, 2004); *Cogitamus : Six lettres sur les humanités scientifiques* (Paris: La Découverte, 2010); *Facing Gaia: Eight Lectures on the New Climatic Regime* (Cambridge: Polity Press, 2017).

Bruno Latour curated the exhibitions *Iconoclash. Beyond the Image Wars in Science, Religion and Art*; *Making Things Public: Atmospheres of Democracy*; and *GLOBALE: Reset Modernity!* presented at the ZKM in 2002, 2005, and 2016. In 2020, in collaboration with Martin Guinard, he presented the exhibition *Zones Critiques* at the ZKM and at the 12th Taipei Biennial.

Bruno Latour was awarded the Holberg Memorial Prize for his work in 2013. He was appointed Knight of the National Order of the Legion of Honor in 2012 and Officer of the National Order of Merit in 2017.