

FIG. 1

## SENSITIZING

Bruno Latour

To approach the ancient philosophy of common sense—the *sensus communis*—we might begin at the beginning, by asking: How do we make ourselves actually *sensitive*? In particular, how do we make ourselves sensitive to one specific character, an unusual character that has become increasingly important: *Gaïa*? This character brings together a strange mixture of science, religion, law, and politics. We can see this mixture illustrated by a very moving and beautiful image of diplomats around the negotiation table as part of a climate change conference in Warsaw in 2013, sponsored by the United Nations. (FIG. 1) They are negotiating about this strange figure *Gaïa*, and you might say they are trying to make a common sense. We see their dilemma in this photograph, which shows Christiana Figueres in the middle. She has the terrible responsibility of running this negotiation for Secretary-General of the United Nations Ban Ki-moon.<sup>1</sup> The man sitting to her left is the moderator, Marcin Korolec. These people are fully occupied with the question of climate change and the figure of *Gaïa*.<sup>2</sup> It's a poignant image, in which we can see they are concentrated on rendering not only themselves, but also the rest of the public, the rest of the planet, *sensitive* to a new phenomenon. I choose this example to suggest ways of knowing that involve sensory modalities, neuroscience, and art. I am claiming that these ways of knowing are also ways of rendering sensitivities.

With regard to the strange figure, *Gaïa*, it is, of course, not only the diplomats struggling to render themselves sensitive, but many others as well. For example, the climate march on September 21, 2014, in New York City, brought 400,000 people together around this problem. It was very moving to see the various methods and mediums through which people with different types of concerns tried scientifically or in a more joyful way to make themselves sensitive to the key issue of our time: climate change. As an example of this new sensitivity, see the photograph I took of a person at the march, holding a sign reading: *There is no planet B*. (FIG. 2)

There are many things to which we try to render ourselves sensitive. To capture that activity, I will use the word *aesthetic*—in the original Greek sense of *aisthesis*—perception, or making oneself sensitive to something.<sup>3</sup> I will make no distinction between making oneself sensitive for scientific purposes and making oneself sensitive through various formats associated with the arts. I'm not going

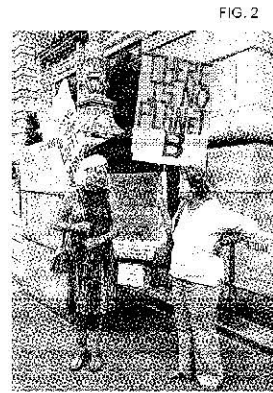


FIG. 2

FIGURE 1 (FACING)  
Negotiators at the table, United Nations Framework Convention on Climate Change "Conference of the Parties" (COP) number 19, Warsaw, Poland, November 2013. From left to right, UNFCCC Secretariat Dan Bondi Ogolla, UNFCCC Executive Secretary Christiana Figueres, and COP 19 President Marcin Korolec.

FIGURE 2  
Protesters at People's Climate March, New York, September 21, 2014. Photo by Bruno Latour.

<sup>1</sup> Costa Rican diplomat Christiana Figueres was named executive secretary of the UN Framework Convention on Climate Change (UNFCCC) on May 17, 2010.

<sup>2</sup> Marcin Korolec is minister of the environment for Poland and served as president-designate of COP 19 ("Conference of the Parties") during the Climate Change meetings in Warsaw in 2013.

<sup>3</sup> Eds.: The Greek term αἴσθησις, transliterated as *aisthesis* (or, simply, *aisthesis*) can mean perception from the senses, such as feeling, hearing, seeing, etc.; perception by the intellect, as well as the senses; the phenomena that are perceived; the ability to perceive (i.e., discernment); cognition; or discernment in moral or ethical matters. See Rancière, *Aisthesis*, in this volume.

See Bevil R. Conway and Margaret S. Livingstone, "Spatial and Temporal Properties of Cone Signals in Alert Macaque Primary Visual Cortex," *The Journal of Neuroscience* 26, no. 42 (October 18, 2006): 10826–10846, and recent work presented at the "Seeing" session of the Center for Art, Science & Technology (CAST) symposium "Seeing/Sounding/Sensing" at MIT on September 26, 2014.

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See William James, "Consciousness," in this volume, and James J. Gibson, *An Ecological Approach to Visual Perception* (Boston: Houghton Mifflin, 1979).

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Bruno Latour, *An Inquiry into Modes of Existence: An Anthropology of the Moderns*, trans. Catherine Porter (Cambridge, MA: Harvard University Press, 2013).

to reference politics, but of course such distinctions refer to politics as well. Distinctions such as these are part of the problem, because they are often erected between science and art in particular—making it difficult for us to be sensitive, to make ourselves sensitive, and to make a common sense of this sensitivity. The crucial distinction is associated with matters of fact. I am not talking about the objectivity of science, but a strange and very puzzling definition of *matter of fact* that establishes a specific conceptual relationship between a subject and an object. This relation is extremely bizarre, and historians of science, historians of art, historians of psychology, and other scholars have begun to unravel its history as part of the European and Western tradition.

The idea is simple: there is a subject watching an object. But this simplicity is deceiving. It is never really the case that there is some stable subject watching an object, except in a laboratory situation. We can demonstrate the artifice of the situation by taking the case of the still life: there is a subject, who contributes a point of view, or POV, and an object, which is a still life. My argument is that a great deal of Western philosophy comes from the culturally specific genre of still life. We might call it a disease of the Dutch, so to speak; as we know, René Descartes and John Locke spent a lot of time in Holland, during which they saw too many still lifes. Still lifes gave them the idea that it actually makes sense to stop an object. But objects never actually stop. An object is a trajectory: the qualities of that object change over time and, in order to apprehend the object, our senses move through a complex cognitive process until a stable object is decided upon. The point is this: vision science reveals that an object is actually a transitory event in perception.<sup>4</sup> It has a trajectory, which means that, to even meet an object and to turn it into a matter of fact, you have to interrupt it in the middle of that trajectory. Then you have to create this very strange idea of a plane in between you and the object, where the object can be fixed. This situation is of course not so visible in science, but it is very visible in art, especially in the still life. Once you add this plane, it fixes the trajectory very specifically *for someone*. It isolates that POV, freezing both the object and the subject.

But subjects and objects are not natives to this world. They are not born here. No one is born a subject, watching an object. It's a very bizarre situation, as William James pointed out, and many other psychologists, such as James J. Gibson, have confirmed.<sup>5</sup> Such a bizarrely constructed view of the subject-with-object has been criticized by a lot of people within contemporary neuroscience as well. Why does this subject-object dyad exist? An anthropology of vision could begin to ask about the function of this strange position, one where you have a passive object and an active subject. Of course, it's not a real subject; it's an un-interrogated figure staging a conceptual relation.



Becoming sensitive requires taking account of the everyday experience of being. You need to imagine how you circulate yourself "naturally"—with the necessary quotes around that word—but, in any case, imagine yourself *not* face-to-face with an object. Art historians as well as historians of science will continue to interrogate this strange middle figure that mounts and stages the scenography of the object and the subject, but it's not the way we live. We are in the world, in spite of these abstractions and not because of them. In my attempt to figure this out, I have proposed an anthropology of the modern.<sup>6</sup> It's so unlikely that anyone would actually be a subject in front of an object, and yet this arrangement lies at the origin of much Western philosophy. It is the pretext for the still life, and it informs numerous cognitive scientists. Neuroscientists have enormous work to do, to escape from this odd idea that originates in still

FIGURE 3  
Philippe Squarizoni, page from the English edition of his graphic novel *Climate Changed* (2014), 298.

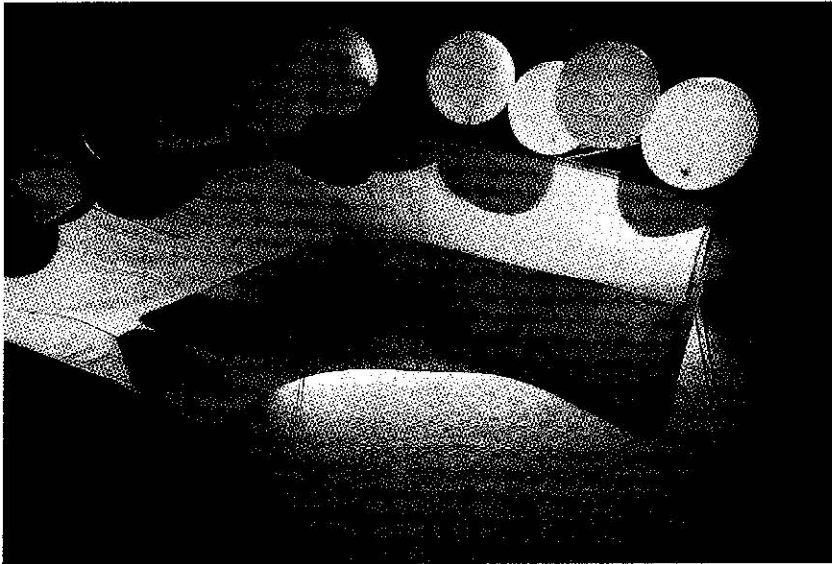


FIG. 4A



FIG. 4B

FIGURE 4  
 (A) Atmosphere "puppet" (canopy design Frédérique Aït-Touati, fabrication Olivier Vallet) from *Gaïa Global Circus*. (B) Scene from *Gaïa Global Circus*. From left to right: Claire Astruc and Matthieu Protin with Jade Collinet in the background, amid a sea of plastics. Project by Bruno Latour, play by Pierre Daubigny, directed by Frédérique Aït-Touati and Chloé Latour, performed by Compagnie AccenT and Soif Compagnie at The Kitchen, New York, September 23, 2014.

life. Most of our philosophy, our epistemology, and our definition of science come from pictorial representations, not from an experience of vision or from an experience of actually seeing the world. How do we make ourselves sensible not to *matters of fact* as they are fictionalized in the subject-object scenario, but rather to *matters of concern*?<sup>7</sup> Matters of concern are still material. It's not so much their *factuality* or *materiality* that should interest us, but our *concern* with them. How can art and science sensitize us to these concerns?

I was fortunate enough to be able to attend the 2013 installation at HangarBicocca in Milan by Tomás Saraceno, and it was an opportunity to experience something made by an artist who sees the primacy of making us sensitive spatially to this new situation. What is it to be on an Earth that is actually moving, which makes even standing up impossible? Saraceno invented this amazingly beautiful, terribly expensive, and even a bit dangerous situation in which people are somehow suspended and yet glued into a space.<sup>8</sup> They cannot move or stand; they have to crawl around as if they are one-year-olds. They are put into a situation where they might begin to reimagine being in space without having the benefit of standing on stable ground. That's a very powerful way of rendering the difficulty of feeling and becoming sensitive to an unprecedented situation. Saraceno makes us realize again how rare and how unlikely it is to face a stable object; the HangarBicocca situation becomes the epitome of the impossibility of having a fixed subject-object relation. Neither in time nor in space is the tidy subject with its object possible here. We are in a very different time-space, and this is where the sensitivity, coming simultaneously from art and science, is so important. These are all sources of making oneself sensitive to things.

How do we produce this sensitivity to the new time-space in different registers and different mediums? In an experiment from 2013 with scientists and artists in Toulouse, called "aesthetics for the sciences of Gaïa," we asked people to explore, within their chosen medium, why it is difficult to register this change in our relation to the Earth and its passions. Why is it so difficult to make yourself sensitive to this new situation, this new space and time? Is one medium better than another for this task? If we remember the etymological sense of an aesthetic as *making sensitive*, how does a specific medium render us sensitive to things as they come to us? Things can come to you, but if you don't render yourself sensitive to them, you just don't get it.

Oliver Morton is a historian of science who has become an editor for the *Economist*, and he has written two absolutely splendid books, one on Mars and the other on Earth.<sup>9</sup> The second of those books, *Eating the Sun: How Plants Power the Planet*, has a sort of Lovelockian view, a sort of Gaïa-esque perspective on the Earth.<sup>10</sup> His writing begins with the difficulty of writing well about this question of ecology and the environment, and this matter of concern is animated, all the way from beginning to end, by a vocabulary related to plants.

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 Bruno Latour, "Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern," *Critical Inquiry* 30 (Winter 2004): 225–48.

8  
 See Tomás Saraceno, "Actions," in this volume.

9  
 Oliver Morton, *Mapping Mars: Science, Imagination, and the Birth of a World* (New York: Picador, 2003); Oliver Morton, *Eating the Sun: How Plants Power the Planet* (New York: Harper, 2008).

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 The reference is to James Lovelock, *Gaia: A New Look at Life on Earth* (Oxford: Oxford University Press, 1979).

Eds.: Since being coined by geologists Paul Crutzen and Eugene Stoermer in 2000, the term *Anthropocene* has been proposed to designate the era in which the effects of human activity have been deposited stratigraphically in the geological record, marking the current epoch as distinct from the Holocene. (Holo= present, Anthropo= man.) How this new stratum will be distinguished (for example, by carbon layers deposited from combustion at the beginning of the industrial revolution, or by Cesium laid down from the first atomic tests) is currently being adjudicated by the International Commission on Stratigraphy within the International Union of Geological Sciences, with a target date for their decision in 2016. See "Working Group on the 'Anthropocene,'" <http://quaternary.stratigraphy.org/workinggroups/anthropocene/>.

For instance, the book opens with a meditation on "pigment pools and sunlight traps," which is Oliver's way of describing the chemical activity of chlorophyll in photosynthesis. How do you write about science? How do you respond to the challenge of writing about science in a way that is simultaneously making yourself sensitive to it, especially if you are not a chlorophyll specialist, while presenting a precisely accurate understanding of the recent data on chlorophyll? This question about science writing can be framed in terms of genre and medium, which produce their own registers and their own difficulties, as with graphic novels, or model-making, or cinema.

When you change the scale of your representation, you immediately render yourself sensitive to new phenomena. Writing about a cell full of chlorophyll is one such move, cartooning is another kind of condensation. In particular, I want to explore the medium of the BDs (*bandes dessinées*, comic books or graphic novels). Philippe Squarzoni has, in my analysis, the best book on the topic of climate change. (FIG. 3) If it seems so impossibly difficult to talk about climate change, is it easier to *make it graphic*? His graphic novel *Climate Changed* is a poignant attempt that begins with the question: Why is no one going to understand this book, which is on the question of climate change? Why is this issue so invisible, and so boring? Why is it so impossible to show in the medium that I'm choosing to show it in? Squarzoni's book is a powerful and moving experiment in exploring the limits of a medium, right from the start. He uses the form of the *bande dessinée* itself to show the limits of the medium in talking about climate change. For instance, he has a long discussion with his wife, in which he makes fun of the impossibility of the task he has set himself. Then, he has another discussion about the shape of the planet, the blue planet you would recognize. But in his drawings, there's only one image of the blue planet where you see the whole Earth, because the others show only a partially illuminated crescent, like the moon. A large part of Squarzoni's novel explores the difficulty of making interesting graphics about talking heads. For example, he shows two famous French climatologists, Hervé Le Treut and Jean Jouzel, who are members of the French Intergovernmental Panel on Climate Change (IPCC). We see these scientists giving interviews to Squarzoni, in which he tries to make them talk on this impossible medium of the graphic novel—an analogy for the impossibility of making ourselves sensitive to the phenomenon I call *Gaia*.

The problem he identifies is how do we alter our perceptual tools, such that climate change can be depicted in a graphic novel? How do we become, again, *sensitive*? Squarzoni spends some time working on his own imagination, revealing that effort, and trying to understand the necessary change that has to happen in how we conceive of imagination, so that it can be an imagination about the Earth taking us with it. To not be able to see far in time and space in the traditional sense was pre-Anthropocene.<sup>11</sup> To be on an Earth

that is not only moving its position but is also becoming an active agent itself, and taking us with it, this is the Anthropocenic point of view. How can we manage to see that situation? Squarzoni provides an exploration into the nuances of a different imagination, which can be mobilized in order to allow us to get into this question of ecology. In my view, ecology is only very rarely a *politicized* form. Usually the questions I am interested in—about sensitizing, about an Anthropocenic recognition of mobility, about process—these questions are sealed off by politics, and, surrounded by well-meaning self-righteousness. When they are sealed off in that way, they are not the occasion of arriving at another way of feeling the situation. And that's why it can be productive to compare different mediums to see if they can accomplish that different feeling, that way of sensitizing us to the situation.

Books, graphic novels, and puppets can be sensitizing mediums. Puppeteers are very interesting because of course their relation with their puppet has nothing to do with the subject-object connection. They are thought to be in control, but they always say, "No, no, no!" and emphasize that a good puppeteer is made to act *by the puppet*. Even though it's a metaphor for complete control, the puppet actually makes its puppeteer carry it somewhere else. It gets modified, mobilized, or moved—and you are then moved by the thing you move, which is the most interesting relation we have with the world. The reason why a puppeteer was necessary for the conversation about becoming sensitive to *Gaia* is because he made it technically possible to implement Frédérique Ait-Touati's idea to have a little canopy hovering onstage in *Gaia Global Circus*, of which I am one of the indirect authors (together with Chloé Latour and Pierre Daubigny) and which had a showing at The Kitchen in New York (September 24 and 25, 2014).<sup>12</sup> To render ourselves and others sensitive to this change of time and space we modified the décor, by which I mean the stage, so you could actually *feel* this puppet, this animate-atmosphere, up above you, but not so very far up. (FIG. 4A) A little canopy, suspended by helium balloons, was moving around in a way that made it possible to show an active mobilization of *Gaia* as being both visible and palpable.

The canopy was sometimes above everyone, sometimes pulled down over the performers to serve as a shelter, and sometimes it became a projection surface for information—but it was always in motion, active, visible, and palpable. The audience and the actors alike were very disturbed by the canopy's physical movement, but that's part of the story—to see the canopy and to be disturbed by its emergence as an active agent from the background. One of the problems of rendering yourself sensitive to a situation was made clear to me: *you have to change the whole set*. Of course, theater is a mirror for that. I told them this canopy should be one of the actors on the stage. Because its position was constantly changing, serving at times to hide the performers, other times as a projection screen;

Puppeteer Olivier Vallet of Les Rémouleurs was invited to the 2013 Toulouse conference to discuss the importance of the puppet as artifact, and as possessing agency. Although he was not able to attend the event, Frédérique Ait-Touati made a film about him and his work to show to the group.

it was to become a model of the Earth, while also being part of the earth-modeling that is going on. In this sense, it is a model of the model. For this theatrical production, we worked with many scientists, but not in a straightforward or simple way. We aimed rather to relate to science in a contaminated way, which was meant to have resonance with the simplification of the data that scientists themselves manifest when they model the Earth or its atmosphere in climatology. Scientists have a relation to their model that is very much like that of puppeteers. If you say to a modeler, "Well, you made it up. It's entirely constructed, so it doesn't do anything *real*," then he or she would think you were completely ridiculous, and a puppeteer would think the same thing. Once the model is created, it has agency—its own internal logic and its manifestation within a given material gives it as much agency as the creator of the model.

On the stage in *Gaïa Global Circus*, we were trying to establish these resonances, these contaminated connections between art and science, to make audiences sensitive. (FIG. 4B) It was particularly interesting to have certain simultaneous issues overlapping between art and science: for instance, a physicist presented the problem of making a model of the ocean, facing the artistic question of coloring, which is a crucial element in most modeling, but rarely discussed. Such questions that come up in making a model of the Earth—related to assembling the data and making yourself sensitive to the transformation and the history, which, in this case, meant representing the salinity of the ocean—are not so different from the aesthetic questions confronting the artist, because scientists are not purely objective, nor are there purely subjective artists on the other side. As with artist Tauba Auerbach's process, the mathematical models of color space are also precise and rigorous, and the neuroscience of color perception can be subjective too; so, the objective and the subjective are not strictly on opposite sides, but are present at the same time. (See Tauba Auerbach, "Amphibian," and Conway, "Processing," in this volume.)

In sensitizing ourselves to the radical figure of Gaïa, all of our skills have been trying to understand what is coming—what unprecedented information is arriving to our senses due to the changes brought about by the instruments we have invented? Some instruments may be staged at the scale of humans in a theater, while other instruments reproduce the model at full scale. Every transformation you make in your sensitive instrument can capture other features at work. In this sense, the ridiculous distinction between art and science is part of the history of primary qualities, mapped on the aesthetic as strictly subjective. But, this is not what people actually do to sensitize themselves to Gaïa; it's not how the scientists do it, and it's not how the artists are doing it.

The cosmos has many dimensions, not just four. Four dimensions are a pretty dire reduction of the numbers of dimensions in which we live. None of us lives in only three dimensions or four

dimensions; we live in an infinite number of dimensions. We make artificial situations when we limit the numbers of dimensions, but it requires work to build these situations. It requires a laboratory setup, writing, inscription; it requires a whole staging and scenography. This is why it is interesting to work in the medium of performance. You can see the kind of work that has to be done. Just reducing the world to four dimensions in order to add psychology is not so interesting, but to show that what is being reduced are the *infinite* dimensions, that's really interesting. An action, event, or reenactment can provide a chance to start again, to refuse to see time as "merely" the fourth dimension, to reconceive space-time in order to be sensitive to Gaïa.

How do you absorb the arrival in the world of—let's call it by its name—*horror*? Of course, the solution that makes a lot of sense to most people is to become insensitive to it. Not thinking about it is probably the easiest solution. But it's not the best solution for civilization. At some point, you have to become sensitive to what is coming toward you. But *how*? How do we make ourselves sensitive to a new phenomenon? I don't have the equipment for answering that in an easy way. Neither do scientists. We scream everywhere: "Look, look, look, look!" and no one pays any attention, except to the ones who are marching in New York. It's a very difficult question of producing the right kind of communication to register on the already-insensitive, to produce the right register in which to make an address. Each of the cases I've outlined here illustrates different aspects of the problem related to medium and register. This research by specific individuals and groups is part of the greater project to build our sensitivity and to create a new aesthetic. It would be part of a beginning, of making ourselves sensitive to Gaïa.