

↳ ON
IMAGINATION:

A
CONVERSATION
WITH

FRÉDÉRIQUE
AÏT-TOUATI

Architecture¹² as² Measure⁷
Ölçü⁴ Olarak⁶ Mimarlık⁸

Ian Erickson:

Anxiety defines the contemporary experience, far from being externalized, climate change is internal and biochemical, rendered through our bodies as the cortisol spikes of mounting constant climate anxiety. How does theater participate in this contemporary experience, and how does your theatrical work on climate change specifically deploy anxiety alongside other attributes like humor or absurdity to produce an affective relationship to the new climate regime? How are these affects, produced through theatrical architectures, eliciting a kind of planetary imagination through the emotions they are evoking?

Frédérique Aït-Touati:

First of all, I'd like to point out that for me, this is one of the main questions, and it's great that we are starting with that. Here, I am referring not only to the question of anxiety but also to the affects, passions, and emotions of our time. Emotions are important because they partly explain our inaction in relation to climate change. 10 years ago, when I started to work on that question with Bruno Latour, what we addressed first and foremost was this question of emotion.¹ Our analysis then was that either we respond with too much emotion, such as fear and anxiety, which are in a way emotions that stop you from acting, or we react with too little emotion such as denial or refusal by saying nothing.

1 Frédérique Aït-Touati and Bruno Latour collaborated on theatre projects in the last 10 years: *Cosmocolosse* (2010); *Gaia Global Circus* (2013); *The Theater of Negotiations* (2015); *Inside* (2016); *Moving Earths* (2019); *Viral* (2021). The plays were produced by Frédérique's theatre company, Zone Critique, and are performed on tour around the world (Berliner Festspiele and HAU in Berlin, Signature Theatre and The Kitchen in New York, Théâtre de l'Odéon and Théâtre Nanterre-Amandiers in Paris, Kaaaitheatre in Bruxelles, etc.)



Blackboard and hands; a scene from *Moving Earths*, 2019. A play by Frédérique Aït Touati and Bruno Latour. © Zone Critique Company.

So, the reason Bruno Latour and I chose theater as the medium to address the contradictions of climate change at the time had to do with the idea that theater is one of the art forms that are best suited to the question of emotion. I'm interested, for instance, in the idea of *solastalgia*, the idea that you have a kind of anxiety when you see the landscape around you disappear; when you see something that looks like autumn leaves, but it's in the middle of July or August. This is a very moving attempt at defining new kinds of emotions, and of course, one other way to answer your question is to say that in the first play *Gaïa Global Circus*,² which we produced together with my theater company, we actually played with lots of different emotions. It was humor; it was tragedy; it was despair. The very fact that we needed all those emotions was interesting for us. We have now moved towards something that is different from anxiety; I think anxiety is now behind us.

While I'm talking to you right now, Bruno Latour (along with his collaborator Nikolaj Schultz) is writing a kind of manifesto for the Ecologist Party, which I find interesting because this whole thing about emotion and the theater is actually moving forward and going in the direction of political action. In all of this, the theater is still very much central because theater can also participate in the exchange of emotions.

I.E.:

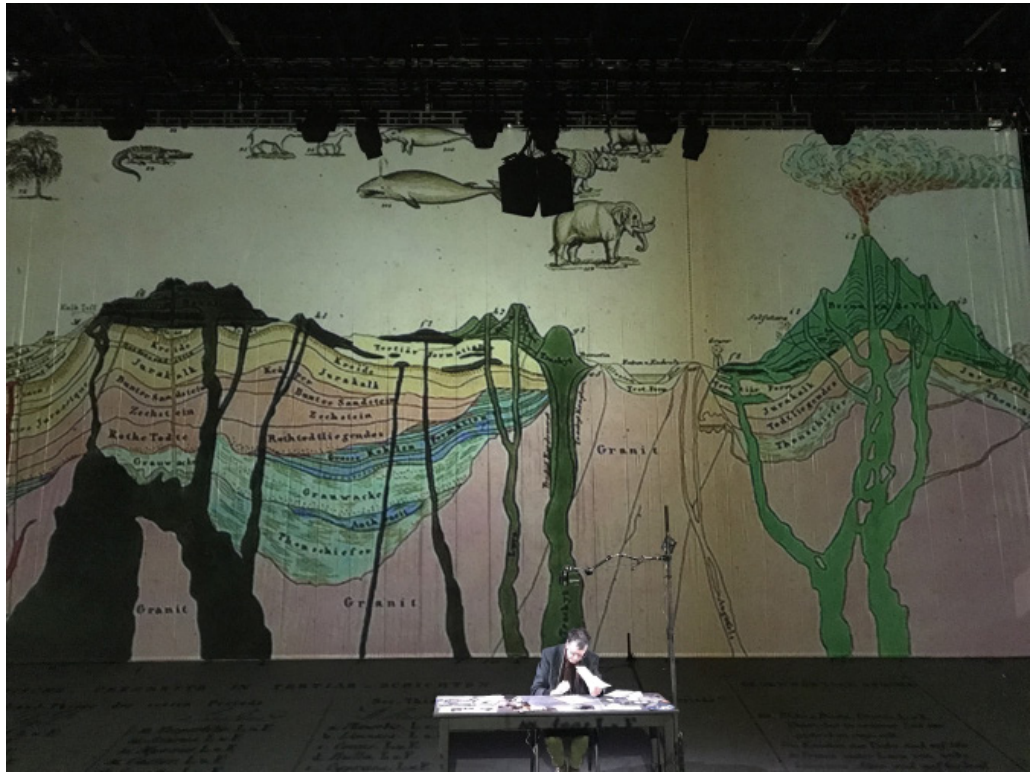
I love the idea of theater as this perfect laboratory to explore new kinds of emotions as they might relate to climate change or other issues. At the same time, I'm also specifically interested in how you're evoking those emotions and the role of architectural mock-ups and models as part of the theatrical production, as well as how they are used in pursuit of cultivating those passions, such as humor, despair, etc.

F.A.T.:

That's more difficult, but also a very interesting question because you are actually bringing up two of my obsessions that I'm not used to putting together. To do so, we have to go back to the history of the theater a little bit because, in a way, the idea that theater is a laboratory for emotion comes from the idea that theater is a place for humans. It comes from the Greek tragedy, but even more specifically, I would say, from the French tragedy, where they

2 *Gaïa Global Circus*, a play by Pierre Daubigny, from an idea by Bruno Latour, dir. Frédérique Aït-Touati and Chloé Latour, premiere in Toulouse in September 2013, then on tour at the Comédie de Reims, ZKM in Karlsruhe, Switzerland, New York, Canada, Bloomsbury Theatre, London.

forget about the architecture itself. This is in contrast to the Baroque Theater, in which machinery was deemed to be very important and compelling. When you concentrate on human emotions, you can have an empty stage in some sense. So, this idea of theater being a place for emotions is very much linked to the idea of it being very human. What is interesting about Bruno arriving at the theater is that, of course, you suddenly have the arrival of the non-humans and lots of other things.



A scene from *Moving Earths*, 2019. Bruno Latour in front of Alexander von Humboldt's 1841 drawing, which shows the cross-section of the Earth's crust. A play by Frédérique Ait Touati and Bruno Latour. © Zone Critique Company.

The idea of non-humans is not only about animals and plants, but also everything around us—the geology, the cosmic forces. In that sense, suddenly architecture comes back, as in the theater world, architecture is set design decor. We have been discussing a lot with Bruno how to change our relationship to the decor or the architectural setting of theater. What interests us is that this decor is not merely a decor anymore—the architectural aspect of theater cannot be limited to that. The architectural aspect is actually part of making the world, and it is suddenly re-animated as part of the discussion and the political negotiation. How to go beyond the division between the theater of the world (of humans) and the theater of nature, which has been mostly addressed by science? To put it another way, how do we re-include architecture and set design as critical actors into the discussion of planetary imagination?

This is something we did with the play *Gaïa Global Circus*, in a very naïve way, by using the set design as a kind of model for Gaïa, which is the personification of the Earth in reference to Greek mythology. I invented a big canopy with helium balloons, pursuing the idea that the decor had to be one of the actors. So, I had four actors on stage, plus “the fifth actor,” which was this kind of huge puppet that became the model for this new character, Gaïa. Here, we were in between architecture, set design, puppet show, acting, and emotions. I'm not completely convinced that it worked, but I like the fact that we tried, and that from the beginning of my theatrical endeavors with Bruno, set design and architecture have always been very much at the center of our thinking. In terms of the agency of the architectural set, we have inherited the history of what happened in the 17th century Baroque Theater and architecture. So, we absolutely need to go back on stage, into the theater, where lots of things,

and especially the very idea of space, was partly designed; the *res extensa*, the “extended thing” in Latin, as Descartes calls space, was invented then. Henry Turner’s beautiful book, where he compares the notion of plot with *plat*, the idea of geometrical space, argues that the two were closely linked.³ Considering that the very notion of space was partly invented or at least enacted through the theatrical space, we need to question that space with the tools of architecture and theater.

Melis Uğurlu:

In relation to understanding theater as a tool, I would like to focus the discussion on theater being an instrument through which we can understand and see the world differently. You talk about how you’ve merged your own two interests of academic research—your Ph.D. on the microscopist Robert Hooke and fictions of the cosmos—and the theater on the platform of the stage, where you say that you saw the possibility to “make the invisible visible.”⁴ In the case of the microscope, it’s a technological invention that allows us to see things that we have not been able to before (smaller particles, microbes, etc.). Similarly, in the discussions of climate change, you argue that we need new visualization tools, and it’s a matter of building these right tools that will allow us to render those previously or otherwise invisible visible. Can you tell us about your discovery of understanding the theater as a medium and a tool for discussing ideas and making them visible? In this way, how are the theater and the microscope alike and different?

F.A.T.:

Since the beginning of my research, especially during my Ph.D., I have been extremely interested in making the invisible visible, as well as in the history of science, and you’re very right in the history of optical instruments. But I didn’t initially realize their link to theater, or to what extent they were linked. It was a kind of *impensé*, the unthought. But yes, I now conceive of theater as a visualization tool in at least three ways. First, considering the etymology of the word theater, its origins in Greek, it is “the place from which you see.” Already, in this context, it becomes clear that studying the optical instruments of Hooke, studying astronomy, and doing theater are all part of the same obsession. Theatre is just another medium to explore.

Second, considering the strange link between theater and laboratory, the use of the tools developed for experimentation, especially in Britain in the 17th century, was very much linked to the development of the laboratory life—the Royal Society, which Hooke was a part of, and even telescopes and microscopes involved in the special making of the building. Again, architecture is part of the history. Hooke built observatory sites, for instance, in the Royal Society building,⁵ in order to install his machines and tools of observation. All that already draws the link between architecture, science, and visualization. But here, one can also see science becoming a kind of theater. And that’s quite interesting because the whole idea of proof and experiment, as we know in the history of science, is linked to what Simon Schaffer, my great mentor from Cambridge University, and Steven Shapin call the “virtual witnessing.”⁶ Basically, to make an experiment and to make proof in science is to build a little theatre for an audience. With that little theater, you make an epistemological proof. So, in that sense, there is this

3 Henry S. Turner, “Practical Knowledge and the Poetics of Geometry,” in *The English Renaissance Stage: Geometry, Poetics, and the Practical Spatial Arts 1580-1630* (Oxford: University of Oxford Press, 2006), 43–83.

4 Frédérique Ait-Touati, *Fictions of the Cosmos: Science and Literature in the Seventeenth Century* (Chicago: The University of Chicago Press, 2011).

5 Frédérique Ait-Touati, “‘Give me a telescope and I shall move the Earth’: Hooke’s Attempt to Prove the Motion of the Earth from Observations,” *History of Science* 50, no. 1 (March 2012): 75–91.

6 Simon Schaffer and Steven Shapin, *Leviathan and the Air-Pump* (Princeton: Princeton University Press, 1985).

very robust historical link between theater and laboratory, between proving and demonstrating.



A scene from *Viral*, 2021. A play by Frédérique Aït Touati and Bruno Latour. © Zone Critique Company.

Third is the way I practice theater, where I indeed refer to the laboratory, to the experiment, and to the optical tools. For instance, for a new play I am working on at the moment (*Viral*, the third part of *The Terrestrial Trilogy*), I have created a kind of optical tool for the stage. It's a round room in the middle of the stage, where everything—the walls, the ceiling, the table—is white, and therefore everything can be projected on. The audience will be on stage during the performance. For me, this strange little room that is the center of a labyrinth is many things at once: a structure of a cell, an architectural labyrinth, a planetarium, a petri dish, a microscope table, and an observation site. In the end, this strange set design is a mixture of all the possible optical instruments I'm interested in and could think of, and it's also a way to move between scales.

If we go back to your question on making the invisible visible, it has to do with my desire to reconnect these ideas with current political problems. To me, one of the questions today about our geopolitical crisis, and our place on Earth, is linked to our earlier discussion on the ways to adjust affects. The other is how to find representational tools—and here, I do not only mean tools for visualization but also what the art historian Svetlana Alpers calls “the art of describing.”⁷

M.U.:

As we are talking about the arts of visualization and describing, in the “Soil” chapter of your book *Terra Forma*, the soil map allows us to see the Earth as a material thickness, a material strata, and a section.⁸ Could you talk a little bit about the importance of understanding Earth as complex soil strata? In relation to this, how does the way you understand the drawing itself as a medium helping you to articulate these ideas?

7 Svetlana Alpers, *The Art of Describing* (Chicago: University of Chicago Press, 1983).

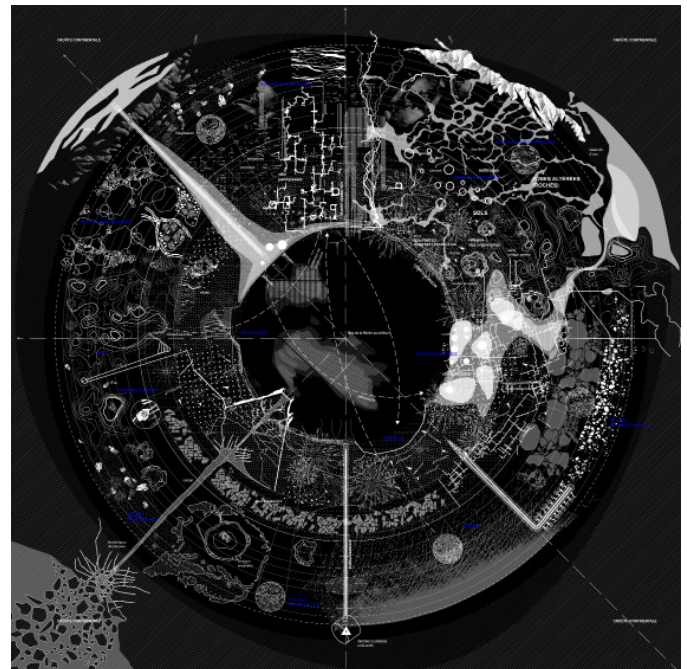
8 Frédérique Aït-Touati, Alexandra Arènes & Axelle Grégoire, “Terra Forma, Mapping Ruined Soils,” in *Feral Atlas: The More-Than-Human Anthropocene*, ed. Anna L. Tsing, Jennifer Deger, Alder Saxena Keleman, and Feifei Zhou (Stanford University Press, 2020), digital publication. <https://feralatlantlas.supdigital.org/index?text=terra-forma-mapping-ruined-soils&tttype=essay&cd=true>. Also see, Frédérique Aït-Touati, Alexandra Arènes and Axelle Grégoire, *Terra Forma: A Book of Speculative Maps* (Cambridge: MIT Press, 2022), forthcoming.

F.A.T.:

What I find most fascinating about those questions is that they absolutely cannot be answered alone, and they absolutely cannot be answered with one discipline. As humans, we cannot know or do everything alone; we rely on each other. In this context, what I have found so intriguing in recent years is that now I find it completely irrelevant to do a project on my own, simply because if I want to try to grasp a little bit those questions, I absolutely need others. For the Terra Forma project especially, it is the result of a collaboration between two landscape architects and a historian/theatre director (myself).

In regard to the soil map, what we have done in the book is to take the “normal” representation of the Earth and completely reverse it—inside out, like a glove. The ambition was twofold; first, it was to try and represent the soil with its depth, thickness, and not just as a surface. This drawing is a kind of an anamorphosis: we had to distort the image, so to speak, in order to see it better, which I find very much linked to theater. You have to make something strange—not realistic—if you actually want to have a sense of realism. In a very concrete, material, and direct way, this is what I learned with the Terra Forma book and this collaborative work with my co-authors Alexandra Arènes and Axelle Grégoire.

Here I can also say that the missing link between the two things we discussed earlier—the history of science about how to make invisible visible and the theater as a kind of optical tool—is the Terra Forma project. To me, Terra Forma is yet another way to use Hooke’s optical tools, i.e., to invent new optical lenses. In that way, I don’t really see a difference between my research in the history of science, my cartographic experiments with architects, and my theater projects. To me, they are all part of the same attempt to redefine our relationship to space.



A section of the Earth showing the soil map at multiple depths, which is composed of an assemblage of organisms native to the soil as well as human made objects. Frédérique Ait-Touati, Alexandra Arènes, Axelle Grégoire, Terra Forma (Paris: Éditions B42, 2019).

I.E.:

It would be great to continue the topic of interdisciplinarity and return it to our earlier discussion of science in general. In your book *Fictions of the Cosmos: Science and Literature in the Seventeenth Century*, you describe the way in which science relied on the fictive as a tool of conceptualization, for instance, in the work of the German astronomer, mathematician, and astrologer

Johannes Kepler in the 17th century.⁹ Yet, despite this historical interconnectivity, modernity has seemingly divided and siloed these disciplines. How do the theatrical dimensions of other scientific, cultural, and literary forms relate to our current climate crisis, and what might be the value of these now discrete fields converging and intertwining again? If, as Donna Haraway beautifully puts it, “it matters what stories we tell to tell other stories with,”¹⁰ can you talk about the role of storytelling in the context of disciplinary exchange?

F.A.T.:

When I started my work on *Fictions of the Cosmos*, I was fascinated by the idea of how to go beyond dichotomies and dualisms, and one of the stronger ones is, of course, between science and literature. I became interested in the 17th century because there I could find examples of the inseparability between such disciplines: if you take the most challenging sciences of the time—astronomy or optics—the beginning of the modern science, or the scientific revolution, you can see how important fiction was in the making of it. When something extremely new arises, like the idea of new cosmos or a new cosmology, for instance, you need to use all the available tools. For the astronomers of the time, these tools were rhetorics, the descriptive power of fiction (to create new images of the Earth seen from afar, for instance), and the architectonic power of narration. Thus, I found that it was impossible to separate science and literature.

In a way, Kepler and the 17th-century literature are amazing examples that helped me to equip myself conceptually to understand what we are experiencing today: what we call the ecological crisis or climate change is, in fact, a cosmological change—we are, in some sense, in the middle of a cosmological revolution. Indeed, we are completely changing the way in which we situate ourselves or measure ourselves in the world.

On the topic of storytelling, I find Haraway’s idea of *Speculative Fabulation* very fruitful and fascinating. It echoes very much my own research: the making of a new cosmos through literature in the 17th century. I called it *fiction cosmologique*, and quoting Kepler, *cosmopoetic*, which refers to a way of building the cosmos with words—the *poiesis*, etymologically driven from *poiein* in Greek, meaning “to make.”

Our words have the power to make a cosmos—or at least to completely reconfigure and reshape our understanding of it. You see how this notion of *cosmopoetic* is close to Haraway’s *Speculative Fabulation*, the idea that depending on the way you “fabulate,” to use Haraway’s words, depending on the kind of stories you imagine, the way you see the world changes. For me, there this also a nuance between fiction and narrative. And in *Fictions of the Cosmos*, I tried to differentiate the two: you can have a fictional narrative (a “story”), but you can also have fiction without a narrative, which is a pure hypothesis—I have studied the very strong, epistemic link between fiction and hypothesis. Sometimes fiction is very much akin to a thought experiment. On the one hand, I was interested in this function of fiction, and on the other, I was also interested in the way in which narrative fiction re-builds the world.

M.U.:

Picking up on this conversation on fiction, something that I found very intriguing in *Terra Forma* was that you describe the book to be written in the literary genre of “exploration narrative,” which can be seen in the way you write about the Earth as a subject throughout the chapters. With your word choices, etc., you talk about it almost as a new “discovery,” or an unfamiliar territory that has not yet been discovered or explored in quite this way. We discussed the medium of drawing and theatre during this conversation; perhaps we can talk

9 Frédéric Ait-Touati, *Fictions of the Cosmos: Science and Literature in the Seventeenth Century* (Chicago: The University of Chicago Press, 2011).

10 Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham: Duke University Press, 2016).

about writing now and your decision of utilizing this particular literary tool in your writing?

F.A-T.:

Yes, of course, it's directly linked to my fascination for the 17th-century fiction *cosmologique*; I can admit that it is also linked to my teenage taste for science fiction. And it also goes back to the question of affects; we, as humans, are fascinated by the idea and the affects of discovery and exploration. This affect, as you know, has been captured by modernity and is very much a drive or a passion that has defined a certain relationship to modernity (exploration, conquest, colonization, etc.).

In all my works (in research as well as in theatre), I'm trying to recapture this affect for our endeavor, which is not one of colonialism and conquest. So how can you keep the affect of discovery without using it to conquer? Well, you do that by not forgetting, at least this is my take on it, the taste for the unknown, the curiosity, and the desire to know and the desire to see—again, seeing is so important here. But then you try to redirect it towards the Earth (instead of Mars, for instance). So that our Earth becomes the most interesting *terra incognita* to explore, cherish, and care for.

To give a bit more context, the name of the book, *Terra Forma*, comes from the concept of terraforming, which is most commonly used for Mars and means to take the features of a habitable planet, like the Earth, and put it artificially on a new planet in order to colonize it. But what we did in the book was just the contrary; the whole conceptual gesture of *Terra Forma* was actually to take this idea of terraforming and say, "Look, you don't need to fly on Mars to do that; you can actually do that on Earth just by looking around and seeing how much our Earth has been terraformed by the living beings"—and not only by the humans, of course, but also by other living things, mostly bacteria, as Lynn Margulis taught us.

I think one of the key questions today is the idea of aesthetics. This question is related to the choice of aesthetic forms: how do we choose the aesthetic forms we are making? One of the problems of ecology, and I'm not the only one to say it, is that it's been seen as dull, as repressive, as boring, as limiting, and we absolutely need to make it desirable again. To look back to *Terra Forma* or the theatre I'm trying to do, I realize that a common goal has always been to try to find where the desire, the intensity, or the drive is. The reason why I keep using narrative discovery not as a pretext but as a genre, is because I think it's one of the most exciting ways to embark a reader or spectator. I like the idea of using science fiction as a tool to talk about the Earth. It is a *terra incognita*: we don't actually know much about the Earth around us. We can re-discover it, and we have to explore it afresh. I like this idea, because it helps me go through our strange and difficult historical time.

About the author

Frédérique Ait-Touati is a theatre director and a historian of literature and modern science. Her research focuses on the relationship between fiction and knowledge (Fictions of the Cosmos, 2011; Terra Forma, 2019). She has collaborated with Bruno Latour for ten years on theatrical ways to test new hypotheses with her company Zone Critique.