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**Bruno Latour**

A lecture at Harvard University Graduate School of Design

*February 17, 2009, immediately after the preceding lecture by Peter Sloterdijk*

# SPHERES AND NETWORKS: TWO WAYS TO REINTERPRET GLOBALIZATION





**Opposite** Louis Kahn, *Salk Institute for Biological Studies*, La Jolla, California, 1965. Photo: Ezra Stoller/ESTO.  
**Left** Bruno Latour, “Networks and Spheres,” February 17, 2009, GSD. Photo: Justin Knight.

I was born a Sloterdijkian. When, thirty years ago, I was preparing the proofs of *Laboratory Life*, I had included in the pictures, to the disgust of my scientist informants, a black-and-white photograph of the air-conditioned machinery of the *Salk Institute* in which I had done my fieldwork. “What does this has to do with *our* science?” they asked, to which I could only reply: “Everything.” Without knowing it, I had always been a “spherologist,” as I discovered about twenty years later when I became familiar with Peter Sloterdijk’s work in another locally situated, air-conditioned place: his school in Karlsruhe, which was separated by no more than one courtyard from the *Center for Art and Media*, where I twice had the great chance to experiment with installations and exhibitions—what, with Peter Weibel, we call a *Gedanke Ausstellung* or “thought exhibition,” the equivalent in art of a “thought experiment” in science.

We are assembled tonight for another thought experiment, namely to imagine on what conditions the world, at the time of globalization, could be made habitable—all of those contemporary metaphors have become important: sustainable, durable, breathable, livable—and also to explore what would be the ideal program, curriculum, or school to train its architects and designers (and “design” is taken here in the largest

sense of the word, since as we know from Peter, “*Dasein ist design*”).

Peter and I have proposed to introduce, each in our own way, two sets of concepts, one coming from spheres and the other from networks. And let me say at the beginning that I have to agree with Peter that what is usually called networks is an “anemic” conjunction of two intersecting lines that are even less plausible than the vast global space of no space that it pretends to replace. Fortunately my own notion of network, or rather of actor-network, has borrowed more from Leibniz and Diderot than from the Internet, and in a way, one could say that Peter’s spheres and my networks are two ways of describing monads: Once God is taken out of Leibniz’s monads, there are not many other ways for them but to become, on the one hand, spheres and, on the other, networks. I’d like to test those two concepts to see whether they begin to lead us to some testable conclusion—a thought experiment, remember, is indeed an experiment that, even though impractical, should be able to discriminate between arguments.

Spheres and networks might not have much in common, but they have both been elaborated against the same sort of enemy: an ancient and constantly deeper apparent divide between nature and society.

**“BEING HAS BEEN TOO SUPERFICIALLY CONSIDERED: DASEIN HAS NO CLOTHES, NO HABITAT, NO BIOLOGY, NO HORMONES, NO ATMOSPHERE AROUND IT, NO MEDICATION, NO VIABLE TRANSPORTATION SYSTEM EVEN TO REACH HIS HÜTTE IN THE BLACK FOREST.”**

# “THE WHOLE ENTERPRISE AROUND SPHERES AND NETWORKS—WHICH SUPERFICIALLY LOOKS LIKE A REDUCTION, A LIMITATION, TO TINY LOCAL SCENES—IS IN EFFECT A SEARCH FOR SPACE, FOR A VASTLY MORE COMFORTABLY INHABITABLE SPACE.”

Peter asks his master Heidegger the rather mischievous questions: “When you say *Dasein* is thrown *into* the world, *where* is it thrown? What’s the temperature there, the color of the walls, the material that has been chosen, the technology for disposing of refuse, the cost of the air-conditioning, and so on?” Here the apparently deep philosophical ontology of “Being qua Being” takes a rather different turn. Suddenly we realize that it is the “pro-found question” of Being that has been too superficially considered: *Dasein* has no clothes, no habitat, no biology, no hormones, no atmosphere around it, no medication, no viable transportation system even to reach his *Hütte* in the Black Forest. *Dasein* is thrown into the world but is so naked that it doesn’t stand much chance of survival.

When you begin to ask these naughty questions, the respective relations between depth and superficiality are suddenly reversed: There is not the slightest chance of understanding Being once it has been cut off from the vast numbers of apparently trifling and superficial little *beings* that make it exist from moment to moment—what Peter came to call its “life supports.” In one stroke, the philosopher’s quest for “Being as such” looks like an antiquated research program. As sociologist/psychologist Gabriel Tarde had anticipated a century ago, philosophers had chosen the wrong verb: “To be” has led them nowhere except to a melodramatic quandary of identity versus nothingness. The right verb should have been “to *have*,” because then, as Tarde says, no one can sever the two-way connections between the “having” and the “had.” (It is hard to imagine an audience finding tragic a Hamlet who would ponder, “To have or not to have, that is the question.”)

The same reversal of depth and superficiality was achieved when science studies began to “embed” the

practice of science—until then construed as the most implausible and most mysterious achievements of a disembodied set of invisible brains in the vat—into larger, more visible, more costly, more localized, and vastly more realistic vats, namely laboratories or better, networks of connected laboratories. Once the little shock of realizing that science, which until then had been able to meander freely through the vast expanses of time and space without paying any special price or even being embodied in any specific human, came to be suddenly restricted and circumscribed to tiny, fragile, and costly networks of practices to which it could not escape except by paying the full cost of its material extension—once this shock had been absorbed, it became quickly clear that science had found a much safer and more sustainable ground. Objectivity too had found its life supports; it had been reimplanted into plausible ecosystems. The truth conditions that epistemologists had looked for in vain inside logic had finally been situated in highly specific truth factories.

Now I beg you to consider the two moves at once because, taken in isolation, they produce the worst possible solution: If you understand what Peter did to *Dasein* in abandoning Heidegger and philosophy more generally (because he reconnected the naked human with its life supports), it means that you have confused the plug in of life supports with the invasion of “nature.” It is as if he had said: “Enough phenomenology. Let’s naturalize the whole goddamn human by using the most recent results of the hard sciences: neurology, biology, chemistry, physics, technology, you name them!” Conversely, if you think that by situating Science with a capital S inside the tiny loci of disseminated laboratories, we, the science students, have made it hostage of human vagaries, it means that you have confused

our enterprise with an appeal to “society,” as if we had been saying “enough belief in the objective view from nowhere. Let’s deconstruct science and make it a narrative among narrative inside a flow of narratives.”

The opposite strategies of naturalization and socialization are able to stupefy the mind only because they are always thought of separately. But as soon as you combine the two moves, you realize that nature and society are two perfectly happy bedfellows whose opposition is a farce, and that what Peter and I did was, in our own ways, to kick *both* of them out of their beds, and then to attempt something just as foreign to naturalization as it is to socialization—or, even worse, to “social construction.” Spheres and networks allow, in our view, a reclaiming of the little beings that make up the life supports without the superficial gloss the philosophy of natural sciences has provided them: The re-localization and re-embodiment of science allows us to extract, so to speak, the epistemological poison out of the sweet honey of scientific objectivity. You may throw *Dasein* into the world by redistributing its *properties* (a word, by the way, more easily connected to the verb “to have” than the verb “to be”), only if the world into which it is thrown is not that of “nature.” And the only way this world can be real, objective, and material without being “natural” is first to have redistributed and re-localized science. As the *altermondialistes* and anti-globalization folks chant so rightly: “Another world is possible.” Maybe, but on the condition that we are no longer restricted to the meager combat rations of nature and society.

When we ponder how the global world could be made habitable—a question especially important for architects and designers—we now mean habitable for billions of humans and trillions of other creatures that no longer form a nature or, of course, a society, but rather, to use my term, a possible *collective* (contrary to the dual notions of nature-and-society, the collective is *not* collected *yet*, and no one has the slightest idea of what it is to be composed of, how it is to be assembled, or even if it should be assembled into one piece). But why has the world been made uninhabitable in the first place? More precisely, why has it not been conceived as if the question of its habitability was the only question worth asking?

I am more and more convinced that the answer lies in this extremely short formula: *lack of space*. Paradoxically, the whole enterprise around spheres and networks—which superficially looks like a reduction, a limitation, to tiny local scenes—is in effect a search

for space, for a vastly more comfortably inhabitable space. When we speak of the global, of globalization, we always tend to exaggerate the extent to which we access this global sphere: In effect, we do nothing more than gesture with a hand that is never been much bigger than a reasonably sized pumpkin. Peter has a version even more radical than my pumpkin argument: There is no access to the global for the simple reason that you always move from one place to the next through narrow corridors without ever being outside. Outside you would as certainly die as would a cosmonaut who, much like the famed Capitaine Haddock, simply decides to leave the space station without a spacesuit. Global talks are at best tiny topics inside well-heated hotel rooms in Davos.

The great paradox of our two enterprises is that spheres and networks are ways first to localize the global so as, in a second move, to provide more space in the end than the mythical “outside” that had been devised by the nature-and-society mythology.

An anthropologist of the Moderns like myself cannot but be continually struck by how implausible, uncomfortable, and cramped have been the places that the architects of the Moderns have devised for them—and here I am not thinking only of card-carrying architects but also of people like John Locke or Immanuel Kant or Martin Heidegger. It is ironic that so many people on the Left, at least in Europe, complain that we live in a time when the wretched of the world are no longer longing for any utopia. For me, it is the whole history of the Moderns that offers up a most radical utopia in the etymological sense: The Moderns have no place, no topos, no locus to sit and stay. The view from nowhere, so prevalent in the old scientific imagination, also means that there is nowhere for those who hold it to realistically reside. Could you survive a minute as a brain in a vat separated by a huge gap from “reality”? And yet this is the posture you are supposed to hold in order to think logically. Could you survive much longer by having your mind turned into a computer-like brain? Modernists have no place, no hookup, no plugs-in for harnessing in any plausible way the revelations of science about what it is to be material and objective. I learned from Marshall Sahlins this joke: “Reality is a nice place to visit, but no one ever lives there”—Without doubt a Modernists’ joke: Realism is not their forte.

How can we account, as historians and anthropologists and philosophers, for this lack of space, a lack of space so radical that Modernists had to migrate into a continuously renewed utopia? One distinct possibility is the confusion of space with paper. Architects are

especially familiar with the manipulation of drawings, and this manipulation is now at the fingertips of any dumb-downed user of CAD design software or even Google maps. Manipulation of geometric forms is so intoxicating that it can lead some—notably my compatriot René Descartes—to imagine that this is also the way in which material things navigate and reside in *space*. My argument is that *res extensa*—taken for the “material world” and considered until recently as the stuff out of which “nature” is made—is an unfortunate confusion of the properties of geometrical forms on white paper with the ways material beings *stand*.

Let us be careful here: I am not saying that *human* intentional embodied mind and spirit never really look at the material world according to the laws of geometry. (The critique has been made often enough; the whole of phenomenology has explored this avenue already.) I am saying that even the material physical objects making up the world do not stand in the world according to what would be expected of them if they were thrown into *res extensa*. In other words, the “scientific world view” is unfair to human intentionality, spiritual values, and ethical dimensions does not bother me too much: I am much more concerned if it is even more unfair to the peculiar ways electrons, rocks, amoebas, lice, rats, plants, buildings, locomotives, computers, mobiles, and pills have a hold and a standing in this world. Nothing, absolutely nothing, ever resided in *res extensa*—not even a worm, a tick, or a speck of dust—but masses of beings have been exquisitely *drawn* on white paper, engraved on copper, photographed on silver salt-coated plates, modeled on the computer, etc.—including worms, ticks, and grains of dust. *Res extensa* pertains to art history, to the history of the publishing press, to the history of computers, to the history of perspective, to the history of projective geometry, and to a host of other disciplines, but it is definitely *not* part of natural history. Among the most puzzling features of the Moderns is how extremely difficult it is for them to be materialist: What they call matter remains even today a highly idealist projection.

What would be amusing, if it had not been such a waste of time, is that “spiritualists” have exerted themselves for three centuries trying to save from the diluvium the little arch of the human soul floating on the vast ocean of the ever-mounting *res extensa*, without realizing that this ocean was but a trickle of highly localized techniques to allow on paper—and later on screen—the manipulation of figures by conserving a certain number of constants. The achievements of what I have

called *inscription* and *immutable and combinable mobiles* are admirable, but they should not be confused either with a catastrophic diluvium or with the magnificent advent of Reason on earth. Far from being what the world is made of—and thus out of which the *res cogitans* should flee as far as possible—they are no more than a few of the many components *contained* inside the world of spheres and networks. The global is a form of circulation inside those sites, not what could contain them. The Latin etymology of the *res extensa* contains, to be sure, an *extensibility* that borders on the infectious, but this is no reason for sound minds to let it trespass beyond the narrow confines of inscription practices—and even less to imagine that it is such a mimetic description of the world that the whole real world of living organisms should migrate out of the *res extensa*, now construed as “space,” as the only thing that really stands. This absurdly extensive definition of the *res extensa* is probably the most hidden but the most potent source of nihilism. Imagine that—the real world confused with the white expanse of a piece of paper!

There is probably no more decisive difference among thinkers than the position they are inclined to take on space: Is space what *inside which* reside objects and subjects? Or is space *one* of the many connections made by objects and subjects? In the first tradition, if you empty the space of all entities there is something left: space. In the second, since entities engender their space (or rather their spaces) as they trudge along, if you take the entities out, nothing is left, especially space. Tell me what your position on space is, and I’ll tell you who you are: I suspect such a touchstone is equally discriminating for philosophers, architects, art historians, and others.

In the case of Peter and me, I hope it’s clear that we belong to the same side of the divide: Spheres and networks have been devised to suck in the *res extensa*, to bring it back to specific places, trades, instruments, and media, and to let it circulate again but without losing a moment of what in the industry is called its traceability. Peter has even succeeded in devoting a whole volume of his trilogy, *Sphären*, to the rematerialization and re-localization of the global itself, so that thanks to his painstaking redescription, even the famous “view from nowhere” has found a place, a specific architecture, generally that of Domes and Halls and frescoes, a specific lighting, a specific posture. History of thought is now being made part of the history of art, of architecture, of design, of intellectual technologies—in brief a branch of spherology. The global is part of local histories.

# “THE NOTION OF ‘ENVIRONMENT’ BEGAN TO OCCUPY PUBLIC CONSCIOUSNESS PRECISELY WHEN IT WAS REALIZED THAT NO HUMAN ACTION COULD COUNT ON AN OUTSIDE ENVIRONMENT ANY MORE: THERE IS NO RESERVE OUTSIDE WHICH THE UNWANTED CONSEQUENCES OF OUR COLLECTIVE ACTIONS COULD BE ALLOWED TO LINGER AND DISAPPEAR FROM VIEW.”

Such an important turn in the history of rationality should not be overlooked: Whereas in earlier periods, the advent of Reason was predicated on the nonlocal, nonsituated, nonmaterial utopia of mind and matter, it is now possible to dissipate those phantoms and to observe them move inside specific spheres and networks. At any rate, we might now be slightly more realistic about what it is to be thrown into the world and attached to objects. “The Sleep of Reason” may “Produce Monsters” but also sweet dreams: It has taken some time for Reason to finally wake up from those as well.

I recognize that at first this could seem like a bizarre contradiction: How could we claim that spheres and networks provide more space when their first effect is to shrink everything that was outside and un-situated inside precisely delineated arenas? To be sure the critical effect is clearly visible: The global is accompanied back to the rooms in which it is produced; the laws of nature are situated inside the quasi-“parliaments” where they are voted on, and no one is allowed to jump outside as if there existed a room of no room. But how could we keep pretending that this shrinking enterprise provides in the end *more* space for a more comfortably habitable world, that it is not just a critical move, a clever but in the end only negative mean of humiliating the arrogance of materialists and spiritualists alike?

Well, to understand why it is not a contradiction or a paradox, or even a critical move, you have to consider the alternative: a vast outside that is so un-situated as to be totally implausible, where the only choice offered to its inhabitants is between two forms of inhumanity:

one provided by naturalization (a human made up of idealized bits extracted from all the scientific disciplines parading as matter), the other provided by socialization (a human extracted from the life supports and air-conditioning that allow it to survive).

The choice is not between nature and society—two ways of being inhuman. The real choice is between two utterly different distributions of spatial conditions: one in which there is a vast outside and infinite space but where every organism is cramped and unable to deploy its life forms; the other in which there are only tiny insides, networks and spheres, but where the artificial conditions for the deployment of life forms are fully provided and paid for.

Does it make a difference? You bet. Do you realize that organisms are still homeless in the strictures of Modernism? That we are still unable to define what a tool, a technique, and a technology are, without alternating between hype and nostalgia? That there is still no space for making sense of the billions of migrations that define the “global” but in effect not-so-global world? That, as it became pretty clear last fall, we still don’t have, after two centuries of economics, a remotely realistic portrait of what an economy is, of the simple phenomenon of confidence, trust, and credit? That we are unable to find space for gods except by putting them into the cesspool of the mind? That psychology is still a tramp looking for a plausible shelter?

Every winter in France we are faced with the same *crise du logement*, the same building crunch. Well, there is a *crise du logement* of truly gigantic proportion

in our total inability to find rooms for the homeless of Modernism. Indeed, Modernism itself is homeless, forcing its inhabitants to dream of a place to live that is uninhabitable—dare I say it?—by construction. What we need is more room for a new type of *real* or *realist estate*. (In a strange sense and in spite of so much work on Modernist architecture, the links to be made between Modernism and architecture have not even begun yet—and this might be the reason why, strangely enough, so many intellectual enterprises, after a detour through Romance language departments in the 1980s, have recently migrated from deserted philosophy departments to design and architecture schools.)

There is some urgency in concluding the thought experiment I invited you to make, because the outside is in short supply today anyway. It is not by coincidence that spheres and networks have been proposed as an alternative to the nature-and-society quandary just at the moment when the ecological crisis began to throw the very notion of an outside in doubt. As is now well known, the notion of “environment” began to occupy public consciousness precisely when it was realized that no human action could count on an outside environment any more: There is no reserve outside which the unwanted consequences of our collective actions could be allowed to linger and disappear from view. Literally there is no outside, no *décharge* where we could discharge the refuse of our activity. What I said earlier, rather philosophically, that the problem was “lack of space,” now takes a much more radical, practical, literal, and urgent meaning: No outside is left. As usual, Peter has a striking way to bring this up when he says that the earth is finally round: Of course we knew that before, and yet the earth’s rotundity was still theoretical, geographical, at best aesthetic. Today it takes a new meaning because the consequences of our actions travel around the blue planet and come back to haunt us: It is not only Magellan’s ship that is back but also our refuse, our toxic wastes and toxic loans, after several turns. Now, we sense, we suffer from it: The earth is round for good. What the churches had never managed to make us feel—that our sins will never disappear—has taken a new meaning: There is no way to escape our deeds. And it burns like hell!

The disappearance of the outside is certainly the defining trait of our epoch. We are trying to crowd billions of humans and their trillions of affiliates into cramped loci, and there is no space. And even more troubling than the lack of space is the lack of *place*—of placing, of placement.

Everything happens as if the ecological crisis had taken the Moderns totally unprepared: There is not the slightest chance for nature-and-society to be able to handle the crowding of organisms clamoring for a place to deploy and sustain their life forms. Modernism is good at displacing, at migrating in various utopias, at eliminating entities, at vacuuming, at breaking with the past, and at claiming to go outside, but if you ask it to place, replace, sustain, accompany, nurture, care, protect, conserve, situate—in brief, inhabit and deploy—none of the reflexes we have learned from its history are of much use.

Worse, Modernism has had the added consequence, even more dangerous at the present juncture, of identifying the taste for habitation with the past, with the innocent, with the natural, with the untrampled, so that, just at the moment when what is needed is a theory of the *artificial* construction, maintenance, and development of carefully *designed* space, we are being drawn back to another utopia—a reactionary one this time—of a mythical past in which nature and society lived happily together (“in equilibrium,” as they say, in “small face-to-face communities” without any need for artificial design). Even worse, Modernism has so intoxicated the very militants of ecology (those, you might have thought, who had the most interest in rethinking what it is to situate and to place) that they have proposed to reuse nature-and-society, this time to “save nature,” promising us a future where we should be even “more natural”! Which means, if you have followed me, even less human, even less realistic, even more idealist, even more utopian. I am all for recycling, but if there is one thing not to recycle, it is the notion of “nature”!

It is hard to realize that the trouble with nature is tied to the notion of space that has come from the confusion—instigated in the *res extensa*—between the ways we come to know things and the ways things stand by themselves. In a quite radical fashion, spheres and networks are two ways of defusing the notion of *res extensa*: spheres because they localize the *Umwelt* that could serve as a cradle to house the things-in-themselves, networks because they allow us to respect the objectivity of the sciences without having to buy the epistemological baggage that drags it down. For the first time since the *bifurcation of nature* (a phrase Whitehead proposed to point out the strange 17th-century divide between primary and secondary qualities), we might have a way to throw *Dasein* into the world without misrepresenting either *Dasein* or the world into which it is thrown. ♦