Political Matter

Technoscience, Democracy, and Public Life

Bruce Braun and
Sarah J. Whatmore, Editors

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Species, and Posthumanist Theory. Chicago: University of Chicago Press.

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PART I

Rematerializing Political Theory: Things Forcing Thought

1 Including Nonhumans in Political Theory: Opening Pandora's Box?

ISABELLE STENGERS

How to Define Nonhumans?

LET US START with the obvious problem—the impossibility of giving an adequate definition of the term *nonhumans.* I will present three obstacles that stand in the way of such a definition.

The first obstacle is that the negative, *non,* does not correspond to any unifying category because we cannot use any longer the category of object. Objects, as opposed to subjects, will necessarily lead us back to problems of knowledge, whereas we must deal with nonhumans as existents.

It is true that theories of knowledge and of existences were conflated when existence was derived from a divine creation, with the human mind created as the image of the creator God. However, with modern philosophy, the theory of knowledge has been redefined with the finite subject as its organizing center. As Whitehead (1968, 74) lamented, "the question—'what *do* we know?'—has been transformed into the question, 'what *can* we know?'" this last question being that of a censor, or a judge, whose first concern is to respect a divide between legitimate objects of knowledge and fanciful speculations. Among those fanciful speculations is the claim that one way or another we *do* know that nonhumans have an existence of their own, an existence that demands to be addressed and that may impose on us obligations and duties. Duties and obligations belong to the realm of what Kant

called *practical reasons*, restricted to human subjects. Subjects, Kant stated, should never be used as means for our ends, the reciprocal, implicit statement being that we should never consider nonhumans as anything other than just such means.

However, as soon as we deny this grand divide, we are confronted with a disparate multitude. How to unify the Web; the AIDS virus; oil-devouring cars; hurricanes; neutrinos; the climate; genes; psychotropic drugs, be they legal or illegal; the great apes?

The second obstacle is that we may have to face the eventual demands of beings that were comfortably put away as creatures of human imagination. Pandora's box is open indeed. Beings that were excluded as speculative make their comeback, and we no longer have the appetite or the criteria of the censor to keep them at bay. Gods and goddesses, djinns and spirits are not objects for positive, factual knowledge; they do not even have the power to persuade all of us that they exist, in the way that Hurricane Katrina did—forcing even Bush to stop his vacations. However, to claim that the AIDS virus, neutrinos, or genes have such a power would put experimental sciences in the place of the old philosophical censor. When we do not deal with earthquakes, hurricanes, or tsunamis, which have the power to force unanimous recognition, only that which has acquired experimental recognition, that which has been able to satisfy experimental demands and to resist experimental tests, would be deemed truly to exist.

Accepting such a halfway solution would doom political theory. It would be forced to open itself to the question of living together with the creatures of technoscience that are put into action by those beings that have been accorded experimental existence. But it would leave outside the concerns of all humans, both individuals and populations, who *do* know that Gods, djinns, or the Virgin Mary matter. Those nonhumans would remain a matter of belief, protected by constitutional freedom to believe whatever you wish but asked to remain in the realm of private lives, with no public voice.

The third obstacle to defining the term *nonhumans* is that in the process we may well also lose the definition of the human as such. Indeed, if we admit the Virgin Mary, we may well have to admit also those existents we reduced previously to the status of human ideas. I am not speaking about the chimera we can deliberately forge. When

a philosopher discusses the good criteria for excluding the unicorn, for instance, she is unlikely to confront anybody claiming that the unicorn exists; there is no spokesperson for the unicorn, and it is just an ingredient in the answer she is constructing to a philosophical problem. However, this same philosopher will claim that the problem demands a solution nonetheless. The unicorn is an indifferent case, but the problem has an existence of its own because it has the power to demand a solution. Such a power has for its best witnesses those mathematicians who attribute some sort of a Platonic existence to mathematical beings, with theorems expressing what they are able to force us to attribute to them.

If we take seriously those nonhumans that are best characterized as forcing thought rather than as products of thought, the idea that the mathematician at work is a human is not false, obviously, but it is a rather poor idea, deserving only a quick "yes, of course." What we need to think about and address is not the empty generality of humans as thinking beings but something we usually reserve for expertise, the correlate of the classical definition of political agency: humans as spokespersons claiming that it is not their free opinions that matter but what causes them to think and to object, humans who affirm that their freedom lies in their refusal to break this attachment, even in the name of some common good.

Let us indulge here in a quick connection with Karl Popper's third-world creatures. Popper's idea of three worlds may have been a bit simple, too directly bound into his primordial concern with disentangling what he called *objective knowledge* from the question of subjective beliefs, however well founded. But this concern has the power to induce a true philosophical jump, daring a connection between ontology and the pragmatic demand for relevance. If the questions that follow a definition of objective knowledge in terms of beliefs are not relevant, if they confine philosophers in a labyrinth of dreary paradoxes while the producers of such knowledge seem free of such difficulties, no compromise should be accepted. We do not "believe in" the truth of a theorem; the theorem has the power to have mathematicians accepting it and working with it.

However, well before Popper, Alfred North Whitehead led us back, on a similar topic, to a rather original version of Plato. Plato, he claimed in *Adventures of Ideas*, proposed a definition of humans

on which every philosopher has implicitly agreed, whatever her claims, when engaging a philosophical practice. Humans would be those whose souls are moved by the erotic power of Ideas, a power to be distinguished from coercive force. Even those contemporary so-called naturalist philosophers, who ask us to accept that thought can be reduced to blind neuronal configurations, are witnesses for this power of Ideas because they trust that they can convince those they address, whose neuronal configurations are apparently sensitive to their arguments.

Plato's ideas are, as we know, part of an antidemocratic move, claiming that ideas are not ours to create and freely discuss. They rather authorize a measure of value by proximity and faithfulness, with philosophers who contemplate them at the head of the city, guiding those who live in the famous cave where they have only access to distorted reflections producing confusion and discord. However, we have also to recall that those who were allowed to take part in political debates in the Athenian democratic city were never humans as such, but citizens. Plato's proposition, even if it was meant to denounce democracy, is about humans and not citizens. In this, it can be understood as the ancestor of what would be accepted now as a consensual truth, that there is a defining feature that unites humans beyond our diverging cultures and opinions and that opposes us, as humans, to everything else. From this perspective, Whitehead's version of Plato's proposition has interesting, humorous consequences. What makes us human is not ours: it is the relation we are able to entertain with something that is not our creation. It should rather be said, following Whitehead's Plato, that those who now call themselves humans are thinking under the power of what can indeed be called an Idea, an Idea that causes them to define themselves as humans.

As Donna Haraway emphasized (in a joint seminar in Stanford, California, in April 2006), the sixth day of creation as told in Genesis 1:24–31 is also a story about human exceptionalism. During the same day God created not only Adam and Eve, in his own image, but also beasts of the earth according to their kinds and the cattle according to their kinds, and everything that creeps on the ground according to its kind. These creatures are defined not as individuals but according

to a "kind" that prepares them for use and classification by Adam and Eve. The very definition of the creation act prepares and justifies the dominion given to humans over everything else on earth.

I think we are allowed to conclude from these three obstacles that including nonhumans in politics cannot be reduced to taking an explicit account of the role they would already play in the fabric of political association and public life. I would claim that nonhumans were never cast out of the political fold, because this political fold mobilized the very category of humans, and that this category is anything but neutral as it entails human exceptionalism at its crudest—reducing (against Plato and the biblical God) what causes humans to think and feel to human productions. From this standpoint, the very drastic opposition between humans and nonhumans would then itself be the witness of the unleashed power of this (nonhuman) Idea that made us humans, as it allowed us to claim exception, to affirm the most drastic cut between those beings who "have ideas" and everything else, from stones to apes.

I will now come back a second and last time to Karl Popper, who both related Plato to a totalitarian society and came to affirm the need for a pluralist ontology, with his third-world creatures transcending human opinions and convictions. The twist Popper gave to Plato's ideas is rather interesting, as the power of his third-world creatures is not that of a model warranting the possibility of human agreement without political debates but that of problems able to have humans going against their convictions and most plausible opinions. In both cases, mathematics was a privileged example, but the example plays two diverging roles. For Plato the mathematical demonstration exemplifies the ideal to be generalized, that of certainty forcing agreement, while for Popper it is the mathematical problem who (and the "who" here is important as it relates to the problem as an individual being) has the power to cause human thought to invent, for instance, irrational numbers or complex numbers. This corresponds to two different images of thought, as Gilles Deleuze would say, and this difference may be useful as I turn now to another aspect of the problem: Bruno Latour's proposition that we should treat humans as well as we are treating nonhumans.

Mistreating Humans

Such a proposition may seem a bit paradoxical if we remember cattle or the famous brevetted *oncomouse*, with whom Donna Haraway asks us to think: she who was fabricated to suffer cancers and be an object of biomedical experimentation for the eventual well-being of human women in rich countries. The paradox, however, gets clarified if we understand that Latour was addressing social scientists and that he was contrasting the way they deal with humans to the way experimental sciences deal with their nonhumans—molecules, electrons, or neutrinos. He would probably agree with my proposition to exclude from those experimental sciences most of biomedical research and to include among those who treat nonhumans well those scientists and nonscientists who engage in adventures of co-becoming together with apes, dogs, or crows. The best witness for such a co-becoming is again Donna Haraway, who now thinks together with her dog Cayenne, with whom she practices agility sport and because of whom, she claims, she learned more about herself, and about power, love, and ethics, than ever with human partners (Haraway 2008).

What is the common feature uniting let us say, for instance, an experimental physicist coming to the Nobel-prize winning conclusion that neutrinos have a mass, and Haraway experimenting with what it takes to become a partner with Cayenne and her achieving a performance that a (human) jury will assess? It may be that some social scientists would say "social recognition," and this is where the problem begins, because this would be an insult against both the physicists and Haraway—even if, as she says, Cayenne manifests pride and elation after a good run.

Social recognition is one of those blanket categories the use of which is the reason why Latour talks about social sciences mistreating humans. Obviously, when physicists got the Nobel Prize for their now massive neutrinos, this recognition was important for them, and we are familiar with the nasty quarrels that can be generated by authorship priority or due credit not being given to a colleague whose work had been an ingredient in a published argument. However, though physicists were not insulted by the Mertonian sociology of science, readily accepting the importance of social recognition, they

would feel insulted if this were to become the social explanation for their involvement.

The outrage of scientists (remember the so-called Science Wars) is not exceptionalist or, at least, need not be. If a deconstructionist social scientist described a football game as no more than a matter of winning, with no difference between a beautiful collective move that results in scoring a goal and the corruption of players in the opposing team, he would be well advised to avoid sharing his "scientific" point with players and fans. Similarly, Donna Haraway tells us that those who judge or participate in agility sports will be pitiless in their opposition to those participants who would use punishing methods to train their dog.

Furthermore, in all these cases, the difference between the means is not, or not only, a matter of following rules if we associate rules with arbitrary connotations such that they could just as well have been otherwise. Nor is the difference a matter, or not only a matter, of obeying norms if we associate norms with ideally fixed values qualifying human behavior. Both rules and norms suppose that each particular case should be characterized in terms of conformity, whereas what I am trying to suggest is that the difference between the means is a matter of accomplishment—referring to an eventual *achievement*. Such an achievement does not designate a human being as such but as engaged with something else. When Donna Haraway learns how to address Cayenne, it is also and indissociably an achievement for Cayenne. As for the football player scoring a goal, he cannot be disentangled from an ever-changing relation with the other players and with a moving ball in a space put under tension by its limits, the goal line, and the goalmouth (Massumi 2002).

It is because an achievement is at stake that it is relevant to speak about the eventual reaction "we are insulted—this is war." To come back to what have been called the Science Wars, it did not surprise me. In fact, I had described it already as bound to happen in my *Invention des Sciences Modernes*, which was published in 1993. I knew that the sociological and cultural debunking of objectivity and its conclusion that objectivity was a matter of human agreement (with reality remaining mute, unable to make the imagined difference), whatever the experimenters claimed, was bound to be felt as

a hostile attack. In itself such a claim was not something new—if you read Quine, you will find him concluding that as a philosopher, he is unable to define any intrinsic difference between the entities of physics and the gods of Homer. But Quine was defining himself as a philosopher who respects scientists, not as someone engaged in a demystification enterprise. In 1993 a derisive but rather cool Stephen Weinberg would write in his *Dreams of a Final Theory*, "To tell a physicist that the laws of nature are not explanations of natural phenomena is like telling a tiger stalking prey that all flesh is grass. The fact that we scientists do not know how to state in a way that philosophers would approve what it is that we are doing in searching for scientific explanations does not mean that we are not doing something worthwhile. We could use help from professional philosophers in understanding what it is that we are doing, but with or without their help we shall keep at it" (21–22).

My position, as I developed it in *The Invention of Modern Science* (Stengers 2000), is in complete agreement with this quotation from Weinberg, including his analogy with the stalking tiger. Rather than a question of norms, what we are dealing with here is the question of what makes both the tiger and the physicist "in their element" when stalking what they trust may be captured.

The irony of the problem is that the debunking urge and critical claim that a general statement about a matter of fact cannot be anything else than a human interpretation is as old as Galileo himself. It can be found in his *Discorsi*, at the beginning of the "third day discussion," when Galileo-Salviati will introduce the most famous definition of the "naturally accelerated motion." And it is voiced by Sagredo, who here as everywhere acts as a foil, at the service of Galileo's claims. Galileo needs this objection to promote the exceptionality of his definition of the motion of falling bodies. While all abstract definitions may well be arbitrary, produced by a human author, he will show that his definition is not: it is the definition of the natural motion of the falling bodies. In this case, and because of what I would call the first intervention (*intervenire*, "to come between") of an experimental device—the inclined plane—facts have been given the power to make a difference that no rival interpretation can explain away. From this point of view Galileo and the debunking critique are twins. Indeed, Galileo developed an exceptionalist rhetoric, proposing to put everything in the same bag as nondecidable human fiction, except that which can be decided through facts. The critiques just add to this same bag the "objective knowledge" that Galileo and his successors claimed to be the exception to the skeptical rule.

However, Weinberg's stalking image is not part of this rhetoric. His is a *cri du cœur* that situates him in the theoreticoexperimental history initiated by Galileo, when it was discovered that it may be possible to achieve a framing of natural phenomena that gives them the power to act as reliable witnesses for the way they should be defined. Just as the stalking tiger does not have a "neutral" definition of the prey it has in its sights and, eventually, in its clutches, so the experimental definition is obviously not the definition of the "phenomenon in itself"; rather, the experimental achievement (verified by colleagues) is to attribute to the phenomenon responsibility for its definition, correlatively producing the scientist as the phenomenon's reliable, "objective" spokesperson. Weinberg's *cri du cœur* does not express the confidence that this achievement is fated to happen, that experimental achievement is somehow a "right of reason." It expresses the trust that it can, and may, happen. I would claim that this is the trust that gathers physicists, just as it is the trust that there is fleshy prey to catch that is the very life and soul of the tiger.

However, the stalking image is not relevant for agility sports as practiced by Haraway and Cayenne, and it is dangerous for any of those scientific practices that must proceed out of the lab because, in the field, facts are important as eventual clues but are usually not decisive as such. Indeed, the naturalist's field achievement does not have the power of a definition in terms of well-determined variables. It is rather a narrative with no guarantee that it will keep its relevance in other apparently similar cases.[1] And it cannot enter into technoscientific tales in which reproducibility is conquered and measuring devices, industrial procedures, and everyday artifacts eventually follow from an active networking activity connecting experimental labs to their many outsides.

The stalking image, furthermore, is quite interesting because it exhibits the disaster that follows when the experimental achievement is turned into a normative method after the Galilean rhetoric—

a data-based method that would be a general definition of the scientific approach as opposed to mere subjective opinion. When Latour asks that social scientists treat humans as well as experimental scientists treat neutrinos or falling bodies, the point is not to treat them in the same way; quite the contrary. If neutrinos or falling bodies can entertain an analogy with the prey of the stalking tiger, it is because catching them is an event, an achievement: the experimental achievement demands its prey to be recalcitrant. "Catching" humans, for scientists, is not an achievement if they are too ready to answer the scientists' questions and accept the setting they propose. Furthermore, a true experimental setting enhances the abilities of nonhumans as actors (see, e.g., Latour 1999a) in a demonstration, while human scientists too often produce settings that play down this ability because their first ambition is to produce data that avoid the accusation of having been suggested by the setting. Humans as such lack recalcitrance, and any method that mimics experimentation is thus mistreatment.

But mimicking experimentation is not the only possible mistreatment. Physicists felt insulted by the blanket categories used by sociologists to critically interpret scientific agreement and objectivity, and they manifested public recalcitrance. This reaction can surely be avoided by "soft" qualitative methods that would never risk insulting anybody. But these methods also profit from the human lack of recalcitrance as they require confidence and goodwill. In contrast, Bruno Latour's proposition—that humans are to be treated as well as nonhumans—entails learning from this recalcitrance as it offers the chance to learn from the physicists how to treat them well. This does not mean at all treating them the way they ask to be treated but rather accepting this recalcitrance as a challenge. Accepting also that the lack of recalcitrance against sociological interpretation by other groups is a matter of serious concern, it may well be that sociologists have the rather dubious habit of taking advantage of a "scientists know better" submission. How else explain that they think it is normal for people to accept and try to answer any question they ask—even those that de facto define them as easy prey for insulting blanket categories?

My understanding of Bruno Latour's proposition thus reinforces

my first remarks about the need, correlative to the problem of the inclusion of nonhumans, to decenter political theory from the abstract concept of "humans." As I already emphasized, humans have nothing to do together with nonhumans because their very definitions oppose them. But "human sciences," when they methodologically mimic the kind of objectivity that results from the event of an achievement in experimental sciences, demonstrate that the "denuded" humans required by their questions to provide access to "what is human in humans" are, above all, weak: complacently accepting to play the proposed role in the service of science. Are they not also playing a role, this time at the service of the functioning of democracy, when they fulfill their part through elections, for instance?

Diverging Minorities

What I call human Gilles Deleuze and Félix Guattari (1987), in *A Thousand Plateaus*, define as a "standard" (in French, an *étalon*, which means both a "standard" and a "stallion": meanings enjoined in the white, male, middle-class husband and father citizen). The standard hu-man has the power to define everybody else in terms of a deviation from what then becomes taken as normal. Yes, when submitted to the standard methods of social sciences, physicists were insulted, but it is because they are physicists. Yes, this one refused to answer my questions and even endeavored to criticize them, but it is because she belongs to that ecological group, and so on.

Marketing is already escaping such reasoning, using profiling techniques to target offers and information. However, what was interesting to Deleuze and Guattari was not the proliferation of microstandards but the positive, nonnumeric contrast between the majority and minorities.

If you accumulate specifications, whether targeting ten persons or one, you are still thinking in standard terms because you know that if you progressively suppress specifications, your group will become larger and larger: at the end comprising maybe the whole human species, with only deviant mavericks not joining the unanimous answer to questions such as "Would you choose to be rich and healthy rather than sick and poor?" In contrast, you are not free to define minorities and to ask them questions of your (methodological) choice: they

define themselves together with the questions that matter for them. And they never dream that those definitions and questions are the "normal ones" but rather experience their irreducible entanglement in the process of their own becoming a minority group.

In short, the Deleuzian difference between majority and minority plays on the two distinct meanings of the term *ensemble* in French: "set," in the mathematical sense, and "togetherness." A mathematical set can be defined from the outside; all its members are interchangeable from the point of view of this definition and, as such, may be counted. But those who participate "together" in a minority group cannot be counted, as participating is not sharing a common feature but entering into a process of connections, each connection producing, and produced by, a becoming of its terms.

The examples Deleuze and Guattari use of minorities were all "dissidents," threats against public order. My use of the concept of minority may be seen as a betrayal, as I wish to downplay the original oppositional connotation and affirm its relevance for the togetherness of what I call "practices,"[2] whose members can be described as "attached" to something that none of them can appropriate or identify with—a nonhuman—but that causes them to think, feel, and hesitate.

Physicists as practitioners certainly do not present themselves as a threat to public order. They even present objective science as what separates society from the rule of might. However, like the Proustian Baron de Charlus, I would say to them, "You do not really care about society, do you—little scoundrels!" What they really care about, as physicists, is rather what Bruno Latour called *Knots* and *Links* (Latour 1999b): Knots achieved with what they address and interrogate, Links with colleagues whose role is to put the Knot to the test (to try to part what has been connected) but who will also produce consequences for the eventual achievement by connecting it with their own questions, making it an ingredient of new Knots. What Bruno Latour calls the Allies—those who have to be interested in scientific production for it to get both the means to proceed and the possibility to have consequences "outside"—know rather well that scientists are not very loyal partners, always prone to divert the resources they have obtained for aims of their own or to distract

grounded interests in favor of speculative possibilities. As long as today's so-called new knowledge economy does not dissolve what links and gathers these scientists by putting each of them directly at the service of some partner's own priorities (as begins to be the case in biotechnology), the role scientists claim to play in the maintenance of public order will be a partial lie.

The concept of minority is relevant to affirm that any practice lies when it defines itself at the service of "human" needs or priorities. Correlatively, I would emphasize that if it indeed happens that minorities appear as a threat to public order, they are not defined by the desire to be such a threat, as would be the case with classical radical militant groups. What would rather define them is that they are threatened by the demands, rules, and priorities of public order.

I would define a practice through an attachment to a nonhuman in the enlarged sense (it could be a Popperian third-world creature, a river, or the Virgin Mary as the aim of a collective pilgrimage), an attachment that is not sentimental or habitual—I count on Thalys to go to Paris—but that has the power to make practitioners think, feel, and hesitate. Similarly, when Bruno Latour speaks of matters of concern, this does not just mean "to be concerned" by something. I may be concerned by a railway workers' strike if I intend to go to Paris, or by the AIDS epidemic, or by river pollution, but I know that my concern is about the same as anybody else's in a similar situation. As a philosopher, however, when I was working with the physicist Ilya Prigogine, our matters of practical concern were distinct. His was his struggle to produce a mathematical-physical formulation that would compel his colleagues to recognize that the arrow of time was to be accepted at the "fundamental level of physics." Mine was to become able to characterize the demanding, passionate character of his struggle without giving it a "metaphysical" character. You need to be a theoretical physicist for the arrow of time to be a problem, and as a philosopher, my problem was not this arrow. It was not to reduce the arrow of time to a "problem for physicists" either. It was rather to understand theoretical physics starting from the fact that this practice has given to the arrow of time the power to have its practitioners thinking and hesitating.

To develop the idea of practices, not in a descriptive way but

as actively linked with the concept of minority, the importance of "hesitation" will be my starting point, and it will be connected with nonhumans through the concept of "obligations." This will lead to a thesis that will bring me back to a question of political theory: practices diverge, and their divergence, not to be confused with contradiction, makes them recalcitrant to any consensual definition of a common good that would assign them roles and turn them into functional parts of public order, whatever its claims to excellence.

Hesitation is what differentiates a practice from a normative or rule-following activity. This does not mean that practices are free from rules or norms; rather, in cases that matter, practitioners have to wonder if those rules or norms are not called into question because *there is something more important* than conformity. What is more important depends on the practice, but the concept of practice I introduce generically demands that nobody is able to set the rule, to appropriate the norm, and to a priori silence hesitation.

If hesitation gathers practitioners, it is because rules and norms are discursive expressions tentatively formulating something that has no definitive, authoritative formulation and hence does not communicate through obedience—which I call "obligations." Obligations communicate with the possibility of their betrayal. If ever a practice exhibited this possibility, it is that of the Quakers, who, as we know, did not quake in front of their God but in front of the menace of silencing what was asked of them in a particular situation, answering it in terms of preset beliefs and convictions. I was also impressed by the active and explicit "culture of hesitation" implied by the so-called consensus techniques experimented with by nonviolent activists in the United States. In all cases, the betrayal of obligations means that the situation has not gained the power to have those it gathers thinking, feeling, and wondering. Such a power is denied as soon as a situation is considered as covered by generalities authorizing recognition or as rule governed.

I have already used the formula "what causes them to think and feel," and I hope it was obvious that cause does not here relate to a cause–effect reasoning of the type "this caused that." What is rather implied is that as a rule, situations do not have the power to make us think and feel, and this was why Popper saw fit to affirm the

irreducibility of his third-world beings to habits, convictions, conventions, and customs that all allow us to recognize how to deal with a situation without having us thinking or hesitating.

Situation is meant to be a neutral term, and it is now important not to use any word—such as the Popperian *problem*, for instance—that would privilege thinking as an intellectual business. In *La Vierge et le Neutrino* (Stengers 2006), I gave as an example of practice collective pilgrimages toward a place where the Virgin Mary is reported to manifest herself. This "situation" includes no theological discussions but rather pilgrims "preparing" themselves during the trip—that is, praying together, telling each other about their suffering and hope, and *learning to tell it* in the perspective of the eventual encounter with Mary. How to become able to receive and experience the grace associated with the presence and gaze of Mary is what the pilgrimage is about.

It is obvious that such an experience cannot be a reliable witness for the existence of Mary in the experimental sense as it is not meant to resist objections and counterpropositions. But in both cases my thesis is that we must resist the temptation to understand the achievement in terms of general categories. When "thinking" is related to a cause that forces thinking and feeling, it is not to be characterized in general terms, as a human production. Obligations express what a nonhuman, be it Mary or neutrinos, demands for a Knot to be created. About those Knots themselves, only one general statement can be made: those who enter into such a Knot, or trust that they may do so, will be insulted if a description reduces such a Knot to a human production, not allowing for nonhuman intervention.

Mary and the neutrinos entail divergent obligations but not contradictory ones as a contradiction implies a homogeneity of the terms, that is, in our case, a general, insulting reduction of all practices to human social activities, described by the same categories. More technically, if practices never contradict each other, it is because contradictions exist only between discursive formulations, whereas obligations may well be tentatively expressed through discursive formulations but they are not defined through such formulations. Mary and neutrinos, as "causes" (again, not as a cause that would define its effects and be defined by it!), refer to the possibility of a Knot that

may eventually be achieved, that is, to an achievement that requires what humans "as such" have not the power to produce. Obligations communicate with the possibility of this achievement, with the trust that it may eventually happen. This is why obligations primordially entail hesitation—bearing on "how" one is obliged, and communicating with the possibility of their betrayal—and this is why, when obligations are concerned, no discursive formulation may be final: such a claim would suppress hesitation and give a purely "human" definition, or reason, to the achievement.

The "how" is a question that exposes, and puts at risk, those who are obliged. This also means that only those who are obliged may take the risk of experimenting with changes in the formulation of their obligations, because only they are exposed by the question of an eventual betrayal, leaving them soulless and lifeless as practitioners, like a captive tiger for whom the difference between live prey and chunks of meat would no longer matter.

My approach aims at activating the feeling that we live in a cemetery of already destroyed practices that have been unable to defend their obligations against the "outside," be it because of persecutory violence (remember witch hunting, for instance); soft pressure to conform to the demands of public rationality; deconstructive human sciences relaying in the name of science a consensual climate of derision; or direct capitalist redefinition in the name of progress (think of the so-called economy of knowledge and the already instituted techniques of assessing academic "quality"). *Vulnerability,* the definition of their environment as problematic and sometimes threatening, is a common feature of practices, and that which escapes this vulnerability, through defining itself against its environment, we call sects.

If practices answer to diverging obligations, their convergence as demanded by a politically defined "common good" is part of what threatens them. Scientific communities' traditional claims for autonomy can be contested, and legitimately so, as the claim obscures the dense connections with Allies and networking activities. Moreover, it is a claim that demands exceptional privileges, thus happily ratifying the destruction of other practices. And finally, it entails such niceties as the distinction between sciences that serve

the technoscientific exploitation of the world (so-called applied research) and those that would serve humanity's true needs (so called blue-skies research). However, this claim must still be heard as it speaks to the vulnerability of practices; the way their environment may destroy them if its demands, whatever the intention, threaten to deny or dissolve their obligations. As such, practices put political theory at a bifurcation between two asymmetrical branches, a realist one and a speculative one.

Political Theory at the Crossroads

What I call the realist branch is realist because it ratifies what is the case anyway—that is, the process of destruction of what I call *practices.* It is even possible to define *technology* (a very difficult term to define) as requiring such destruction. Technology is not to be confused with interconnected technical practices. The *logos* is rather something that "happens" to practitioners, a networking operation that binds them and even commits them to the destruction of their own practice. This is obvious, for instance, with information and computing practitioners: what we call *technology* here characteristically demands of its practitioners that they work in ways that diminish themselves by producing procedures that make possible a chain of command to be faithfully executed. We can also think of genetically modified (GM) technology. Not only are genetically modified organisms (GMOs) not the crowning application of biology, they are the result of a rather poor molecular biology with inflated ambition (wait for the second generation!). Moreover, they herald the direct mobilization of biologists through the so-called economy of knowledge such that intellectual property rights are already a constitutive part of experimental research, including public research, with the power to stabilize the gene-oriented framing of biologists' questions. The point is not that scientific research would be in the process of being dissolved into engineering, because engineering itself is redefined in such a way that the difference between a technical achievement and a means for something else entirely is becoming radically undetermined.

In other words, the realist stance would be to conclude that all this business of practices and of nonhumans as what causes thought

and feeling is part of the past and cannot have the power to force political theorists to think. It could be all the more plausible as the authority invested in "theory," when we speak of political theory, which may well rest on following already paved ways and ratifying the process of destruction of what does not recognize the supremacy of public language and majority reasoning. I would just emphasize that ratifying the process that destroys practices is also ratifying the impossibility of including nonhumans as this same process is depriving them of their spokespersons. From the standpoint of "technology" (as I have characterized it), there are no longer any spokespersons, only stakeholders with no obligations. We deal no longer with politics but with governance—with situations deprived of the power to force thinking as they are defined by stakeholders' vested interests.

The second branch I discern is speculative. Part of the question here is to turn the consequences of technology, which are usually reduced to a question of necessary adaptation, into a political problem. Although we are beginning to take account of the destruction of biodiversity and the loss of traditional materials and spiritual cultures, we have yet to learn how, politically, to address the process of the destruction of our own practices! Indeed, the technologies associated with ranking or productivity evaluation at all levels today, which are characterized by experts who (unlike referees in the traditional sense) are no longer meant to read and think, are in the process of blindly modernizing research practices, that is, of destroying research communities. As with all practices, academic ones were in a state of "just surviving." To emphasize this point is not to give a special importance to our own destruction. The speculative challenge concerns the difference that could be produced if scientific communities were to succeed, in this time of need, in addressing different allies than the traditional ones—the State and Industry—which have now betrayed this alliance. To succeed, a prerequisite is that they learn how to present themselves in nonmajority terms.

However, the speculative challenge also concerns the question of new forms of political activism that are part of what brings nonhumans into the political fray. New spokespersons are making their presence felt, and where technology is concerned, I for one would

gladly present myself as a daughter to what I do not hesitate to call the *GMO event* in Europe. Naming what happened with GM as an event signals both an unpredictability (it failed to happen in the United States) and a capacity to transform present perspectives on both the past and the future. My standpoint would be that of a witness to what I learned because of this event, as having shared the collective transformative learning trajectory that made it an event.

The contestation of GMOs turned into an event when, far from isolating the mobilized opposition groups, the tentative answers of the public authorities served as both fuel and opportunity to extending the debate about expertise; the lack of reliable knowledge about consequences; the absence, or silencing, of field specialists; the limitations of the precautionary principle; and so on. As we know, this produced a reframing of GMOs themselves. Today they are no longer seen as worthwhile innovations whose risks should be accepted despite some possible problems. For many they are vehicles for intellectual property rights, the synonym of a capitalist expropriation strategy and of the unsustainable development that follows.

I would also present myself as a daughter of the possibilities associated with what I would call *minority techniques*. Those techniques are called *empowerment techniques*, but to resist the hijacking of empowerment by governance theory, it is important to emphasize that the stake here is emphatically *not* the empowerment of stakeholders but rather the empowerment of a situation: giving a situation that gathers the power to force those who are gathered to think and invent.

A situation, when defined in terms of the stable, vested interests of stakeholders, is always defined in majority terms, but when this situation gains the power to cause thinking, it induces a becoming that we may associate with the production of a minority—as none of the relations, knowledge, or agreements so generated can hold "in general" without this power. Stakeholders' gatherings can easily be assimilated by normalizing and normative procedures because they produce agreement and conventions that have the stability of the gathered interests. In contrast, empowering minority techniques are needed when this normalizing procedure is defined as a trap to be avoided because what matters then is a collective becoming that

humans could not produce "by themselves" but only because of the situation that generated the power to make them think.

We are used to associating techniques addressed to humans with manipulation, implicated in the exploitation of human weaknesses and suggestibility. This is part of the human–nonhuman divide and of the correlative ideal that politics should be the affair of autonomous citizens, free of manipulation and gifted with personal convictions and ideas. I am personally very interested by these empowering techniques, and especially by those that dare to include nonhumans as a necessary ingredient of the collective becoming they experiment. For instance, when the U.S. neopagan witch Starhawk (see, e.g., Starhawk 1997) writes about the Goddess as an empowering presence, and about rituals as a matter of experimentation[3] by which to learn how to invoke and convoke Her in different situations, or about magic as a craft for transforming conscious awareness, the point is clearly not a matter of belief in some supernatural power—just as neutrino physicists do not need to believe that there exist massive neutrinos waiting to be characterized. In both cases, the point is an achievement that cannot be reduced to general, purely human, categories, an achievement which demands that humans do not feel themselves as masters of the situation, as responsible for what is achieved.

The challenge for political theorists may then be to learn how to situate themselves in relation to such "empowering" experimentations, the role and importance of which can easily be dismissed or assimilated into the background noise, unable to seriously disturb established power relationships or, equally, to be misrepresented as a model embodying a new ideal of democracy. What theorists have to learn is how to relate to something that involves true experimentation on its own ground—experimentation in the actual possibility of laypeople taking part in the construction of knowledge, questions, and choices about the future, that is, becoming able to appropriate or reclaim the role that is formally theirs in a democracy.

It should be taken for granted that the outcome of this kind of experimentation is uncertain and that the business of political theory is not to predict the outcome—prediction is about plausible developments, not speculative possibilities. What may be a matter of relevant concern for political theorists is the way activists' experimentations

and actions are relayed; the irrelevant demands that may pervert them (do you have a program?); the irrelevant evaluations that promote them as "the voice of the civil society" or deride them as incapable of entering into a true confrontation with the real powers. The way theorists characterize such experimentations is part of this aspect of the question. There is no neutral position here. Critical thought that highlights the ways in which users' movements can be diverted into stakeholders' positions or tells disenchanted stories about the abandonment of local initiatives following the creation of procedures that required empowered participation has something redundant about it insofar as it relays and ratifies the general judgment that failure is the norm and that democracy is bound to remain formal. We face here the same challenge as the one imposed by what I called *practices*—approaching them from the point of view of their eventual particular achievement and what we can learn from it, not in the general terms a failure authorizes.

A Political Proposition

My proposition about political theory and the challenge it would face is not a neutral one. It is a way of relaying Gilles Deleuze's answer to the question of the distinction between right and left on the political scene. He gave this answer in 1985, at a time when the fashion was neither left nor right, and he resisted the fashion. For Deleuze the difference was not of degree, which would mean a common measure, it was a "difference in nature" *(différence de nature)*. *La gauche,* he affirmed, vitally needs people to think, and this is not a problem at all for *la droite,* which rather needs people to accept situations, questions, and prospects as they are already framed (Deleuze 1997, 174). Indeed it is amusing that right-wing politicians loudly protest when it is recalled how their forerunners opposed now consensual laws and regulations, limiting, for instance, the exploitation of workers. In a way, their protests have some justification because of the difference in nature between the past situation, when workers were thinking and fighting, and the present one, when what they have conquered has been assimilated and incorporated into the normal state of affairs. As a result, Deleuze emphasized that *la droite* has a normal relation with state power and, when in power, will never be

accused of betrayal, whereas *la gauche,* if it achieves political power, is by definition torn between the responsibility associated with the State and the proliferating questions and demands it should relay and take into account. This difference may be related to that between the majority and minorities, because when people are engaged in what Deleuze calls *thinking*—that is, not accepting the state of affairs in the (majority) proposed terms—it always means the emergence of diverging minorities.

Deleuze's proposition opposes any prospect corresponding to a reconciled society in which everybody will feel free to indulge in her own affairs and personal development under the benevolent care of the State, with some nice intersubjective debates between well-disposed citizens about priorities and values. Opposing such a prospect does not mean having insuperable conflicts become the dark truth that this nice order would obscure or repress. It is again a question of a difference of nature, this time between two images of collective thought (and for Deleuze and Guattari, any thought is always collective), the tree and the rhizome. The tree is the State ideal because it is the image of problems ordered from the more general to the more particular: a "leaf" question will never cause a "trunk" agreement to be contested. It is also the figure of discursive logic: if we agree on such and such, then only this or that remains open to discussion. In a rhizome, any two points may get connected without hierarchy, without the irreversible if *x,* then *y,* and nothing, no signification, can be characterized as settled. However, the rhizome is not a figure of sheer anarchy: for Deleuze and Guattari the brain itself functions as a rhizome, and there is no question but that it is functioning. If nothing is settled in a rhizome, if we have to follow and not deduce, it is because connections are not redundantly following an order that they merely make explicit: new connections may add dimensions and transform the very pragmatic identity of what gets connected. A connection is an event, never a derivation.

I would propose that including nonhumans in the guise I have characterized—that is, as causes for thinking—both leads to a rhizomatic situation and protects the rhizome image against any assimilation with a network, such as a technological one, when each connected term has for its only identity the way it is connected with others.

The production of rhizomatic connections must be characterized as events, and to do so, I will try to situate it in the frame of an *ecology of practices.* Using the term *ecology* means that practices are to be characterized in irreducibly etho-eco/logical terms—that is, in terms that do not dissociate the *ethos* of a practice and its *oikos,* not only the matter-of-fact environment but the way it defines its relation with other practices and the opportunities of the environment. From this point of view, new connections or a changing connection, or a change in the environment, are events indeed, a possible transformation of what we would have been tempted to accept as the identity of a practice. From this point of view, also, scientific practices, when they present themselves in majority terms, correspond to the simplest case of ecology—that of predator–prey. All scientific practices agree to define what is not scientific as prey, but each is potential prey for another that can claim to be more objective (chemistry has been defined as "applied physics only") and a predator for other, so-called weaker ones (neurosciences define in predatory terms the domain of human sciences). Connecting events, on the other hand, must not be characterized as a matter of goodwill but as achievements, the creation of new possibilities and new questions for the concerned parties. Finally, the idea of an ecology of practices entails that each practice has indeed its own recalcitrant, diverging manner of defining what matters, what I previously characterized in terms of obligation. The point is that there is no direct connection between such manners and the definition of a well-defined ethos. The ethos may be defined only in relation with its oikos. In other, Spinozist, terms, "we do not know what a practice can do." Such an idea is not a ready-made political program, for sure, because it addresses practices as if they were recognized in their guise of recalcitrant minorities. This is a very big "as if," indeed, which links ecology of practices with political fiction or speculation. However, as such, it may serve as a tool for thought, a tool to orientate thought, propose constraints, and help to resist some utopian dreams—in this case, dreams that would presuppose the taming of nonhumans and the freedom of humans to decide how to live together through intersubjective communication.

The idea of an ecology of practices openly refers to the wisdom of naturalists who have learned to think in the presence of ongoing

indicators of the past destruction of living species and will never accept any justification of such losses as the (unhappily necessary) price or condition for the progress of life on this earth. In other words, the ecology of practices openly refuses Capitalist, Marxist, and commonsense judgments about "practices condemned by History."

However, the ecology of practices is not a naturalist idea but a speculative one, because the very term *practice* is not descriptive. It does not address practices "as they are"—physics as we know it, for instance—but as they may become in different surroundings, when the analogy with interacting living species would become relevant in two senses: first, that belonging to a species means having a particular standpoint on one's environment, which means, for instance, that practitioners would be derided if they were to claim the privilege of speaking in the name of a general, transcending cause (human progress, common good, reason, the laws of nature, etc.); second, that in the absence of any general relations, nothing produced in a particular practical setting can be attributed a meaning or a value that would logically or consensually impose itself outside this setting.

For the analogy not to be a naturalizing one, it must be emphasized that even in natural ecology, the identity of a species is only a first approximation of the ethos of those belonging to a species; what they need, how they relate with each other, and their environment have no biologically grounded specific definition. Belonging refers to constraints, and each new variant ethos creates a new meaning for these constraints. Because of the passionate work of experimental ethologists exploring, for example, what kinds of active environments great apes require to learn, we even have to include into the contemporary definition of what an ape ethos may be those relational habits researchers call "speaking." As for the agility sport practiced by Haraway and Cayenne, it attests to a long story of co-learning entailing new kinds of ethos on both parts.

An ecology of practices is speculative because the whole point of it is the difference between belonging and identity, or the difference between obligations and fixed rules or norms that I have linked to the questions nonhumans impose on their practitioners. Obligations are constraints; they entail that a new practical ethos, with transformed relations with the environment, is a creation, not a change, that would

be a function of the environment. Such an ecology of practices takes as its motto a practical version of Spinoza's famous dictum about the body: we do not know what kind of relation their obligations make practitioners able or unable to entertain with their environment.

For the concerned practitioners, however, it is not a matter of knowing or not knowing. What is at stake is an event—an event that puts into question what Bruno Latour (2004), in his *Politics of Nature*, distinguishes as *essence* and *habit*. This distinction is never settled, and each time it is in question, settled habits, what makes the identity of practitioners, are bound to protest with the essential cry, "If you try and modify us, you kill us." I would propose that a crucial speculative point in the proposed ecology of practices is what might be called a *culture of hesitation* that enhances the distinction between obligations and rules or norms, or between essence and habits. The point would not be to denounce habits and rules but to define as important, as worth the positive attention of practitioners, the amplification of this distinction.

However, such an amplification does not imply a general reflexive stance. To be related to the possibility of an event, hesitation must be concrete, bearing on the possibility of new or modified connections of practitioners with their outside. This is why, for instance, the ecology of practices will never be concerned with a change in the relation between science and the public, two abstractions that are made to meet only through generalities (information, miscomprehension, goodwill, pedagogy). The point would rather be the relation of instituted, hardwired practices (sciences, law, medicine, etc.) with empowered minorities who have become collectively able to object, question, and impose as mattering aspects of situations that would otherwise be mistreated or neglected.

The idea of ecology entails another consequence: the refusal of any transcendent standpoint. No definition of the common good, no appeal to reason, and no ideal of peace can authorize an arbiter when conflicting demands clash. This, however, does not mean blind clash or insuperable contradiction. As I already emphasized, divergence is not contradiction. It just means that any agreement has the character of an event, which may well be an answer to a common matter of concern but without the concern having the power to define its even-

tual practical consequences. Correlatively, eventual agreements will always be local agreements between parts that keep diverging: a pact, not a convergence with a common aim overcoming the divergence. In other words, we deal here with rhizomatic connections, which cannot authorize a treelike representation with the trunk standing for what diverging practices would have recognized that they have in common—for instance, as human practices.

As Deleuze wrote, an idea always exists as engaged in a matter—that is, as "mattering" (we have an idea in music, or painting, or cinema, or philosophy, or . . .). A problem is always a practical problem, never a universal problem mattering for everybody. If the ecology of practices entails that we do not know what kind of relation their obligations make practitioners able or unable to entertain with their environment, it also entails learning about it. And learning here is always local because the rhizomatic connections practitioners are able or unable to forge do not obey general rules or reasons. I have named as diplomats those practitioners whose obligations designate the possibility of generating rhizomatic connections where conflict seems to prevail.

The Art of Diplomacy

The art of diplomacy, in contrast to what prevails today, presupposes that the affronted parties must be defined in terms of forces that all decide to "give peace a chance," that is, that all agree on a slowing down of all the good reasons everybody has to wage a justified war. This excludes negotiated surrender, the aim being in this case not to envisage the possibility of peace but rather to envisage the economy of costly military operations. It may well be that this art is no longer relevant for international relations, but it still relevant to introducing the challenge of an ecology of practices.

To speak about diplomacy is to speak about borders and the possibility of wars. Borders do not mean that connections are cut but that they are matters of arrangement. Reciprocity itself, if it exists, is part of an arrangement, with different risks and challenges for each involved party. Free circulation and general equivalency, that is, the disappearance of the need for diplomacy, mean devastation in the terms of an ecology of practices. But the imposition of the rules of

public language for a protest to be taken into account also means such devastation as public language defines all speakers as ideally interchangeable.

As such, the art of diplomacy does not refer to goodwill, togetherness, the sharing of a common language, or an intersubjective understanding. Neither is it a matter of negotiation between flexible humans who should be ready to adapt as the situation changes. It is an art of artificial arrangements that do not exhibit a deeper truth than their very achievement—the event of an articulation between protagonists constrained by diverging attachments and obligations in situations where contradiction seems to rule, a rhizomatic event without a ground to justify it, or an ideal from which to deduce it.

Such events have nothing to do with heartfelt reconciliation; neither are they meant to produce mutual understanding. Indeed, they are such that each party may entertain its own version of the agreement, just as in the famous example given by Deleuze of the *noce contre nature* (marriage against nature) of the wasp and the orchid. We get no wasp–orchid unity, he emphasizes, as wasps and orchids give each other quite another meaning to the relation that takes place between them.

This is why the art of diplomacy is usually despised as an art of hypocrisy and artificiality. Heartfelt reconciliation is then glorified as the only true way to achieve peace, against artificial constructions and arrangements. The rejection of what is despised as artificial is part of a very old legacy. The Christian faith in the saving power of truth—come and you will be free—as it is turned into the war cry of missionaries battling against "fabricated idols" testifies to the power of truth as defined against artifacts. Diplomacy is much older than Christianity, and it celebrates another conception of truth, a fetishist one, to refer to Bruno Latour's (1999c) very important analysis of our inveterate antifetishism as one version of the Great Divide.

The condition for diplomacy—that affronted parties slow down—means that they accept the possibility that a diplomatic proposition may eventually result in an arrangement, articulating what was a contradiction leading to war. But acceptance of this possibility does not mean acceptance of the proposition issued from the diplomats' encounter. This is why a diplomat will never say to another diplomat

belonging to the opposing party, "Why don't you just agree with this or that proposal" or "In your place I would . . ." Diplomats, if true to the art of diplomacy, know that they are all at risk and that they cannot share the other's risk. Will the kind of modification on which may depend the possibility of the peace they are negotiating be accepted by those people each diplomat represents? Or will the diplomats be denounced as traitors when they return home?

Thus another condition for the art of diplomacy is what I call a *culture of hesitation*, the capacity for the protagonists not to confuse belonging and identity, that is, not to take as a betrayal or a manifestation of weakness the acceptance of a proposition that implies a modification of their habitual formulation of who they are. As we know, radical direct democracy is often associated with the idea of an imperative mandate and the disavowal at any time of a representative who would betray it. This is an interesting and challenging proposal if, and only if, representatives can trust that those they represent will be interested in their account of the situation and know how to hesitate and consult before concluding that the mandate has been betrayed. If the notion of imperativeness excludes hesitation about the way the imperative is to be satisfied, the representative is a hostage, and the proposal is self-defeating.

Diplomats are not theorists, and they speculate little about the potential role of political theory for the practice of their art. However, it may be that the idea of an ecology of practices, and the correlative art of diplomacy, may serve as an active test for the very idea of a "political theory." The recalcitrant groups experimenting with what it takes not to be wiped out by the normative leveling of divergences may well be considered as producing something that should matter for political theorists, as the very nature of a political problem may be transformed if those who are concerned by this problem produce the ability to play an active part in the way it is formulated. But the active test is that political theorists must also accept that they themselves are part of the always problematic and often threatening environment of those experimentations. The art of diplomacy may be enlightening here because it is an art of divided loyalty, binding diplomats both with the group they represent and with other diplomats, whose loyalty is also divided. In the political theorists' case, the point is

not to represent, or to become, spokespersons. Yet divided loyalties remain necessary to sustain both the possibility that is concretely risking its actualization in such groups and the matters of concern that make the theorists themselves think. Such a position for theorists is not paradoxical. In fact, it already characterizes the cooperative symbiosis that exists between theoretical and experimental practices in sciences like physics and chemistry. Symbiosis is always between heterogeneous beings: theorists and experimenters need each other, but their practice entertains diverging constraints and obligations, which means that an achievement, or an interesting failure, entails different consequences for them. Symbiosis is about a culture of divergence, avoiding, for instance, what I would call theoretical voyeurism, when theorists do not respect the necessary distance and propose interpretations, the production of which is part of the experimentation and not the business of the theorist.

Such a distance has nothing to do with a form of neutrality. It is produced by the divergence of practices. However, for such a symbiotic culture of divergence to exist, *both* parts have to diverge. The question, then, is what causes political theorists to think and diverge for their own sake and, by the same token, what makes them accountable and in relation to what? This is the question of the obligations proper to their practice, and it may well be that it is in learning the demands of symbiotic relations with recalcitrant groups that such questions, which become vital in this case, may find the empowering beginning of an answer.

Notes

This text is an attempt to take seriously one of the questions addressed to the participants of the Stuff of Politics workshop from which this volume arose: what challenges does the inclusion of nonhumans hold for democratic theory? This is why it takes for granted, right from the beginning, that such an inclusion may be a matter for serious thought—at the risk of sounding like speculative (political) science fiction.

1 See about this Gould (1990). Gould compares the eventual achievement of coherence by the puzzled naturalist facing many disparate eventual clues with the "integrative insight" of Lord Peter Wimsey and not with the logical, deductive reasoning of Sherlock Holmes.
2 I began working with this term in *Cosmopolitics* (Stengers 1996–97) and it is at the center of *La Vierge et le Neutrino* (Stengers 2006).
3 That the same word, *experimentation,* is used for experimental sciences and for those minority techniques highlights two proximity points. The first point is that it is again a matter of *Knots* and *Links:* of the reciprocal causality between Knots created with a nonhuman and Links created among those who face a particular situation. The second point is that in both cases, we do not deal with *beliefs,* or revelation of a hidden truth, but with a deliberate pragmatic of the artificial, the truth of which rests in the contract between achievement, or efficacy, and failure.

References

Deleuze, Gilles. 1997. *Negotiations 1972–1990.* New York: Columbia University Press.
Deleuze, Gilles, and Félix Guattari. 1987. *A Thousand Plateaus.* Trans. Brian Massumi. Minneapolis: University of Minnesota Press.
Gould, Stephen J. 1990. "Triumph of a Naturalist." In *An Urchin in the Storm,* 157–68. New York: Penguin Books.
Haraway, Donna. 2008. *When Species Meet.* Minneapolis: University of Minnesota Press.
Latour, Bruno. 1999a. "From Fabrication to Reality." In *Pandora's Hope,* 113–44. Cambridge, Mass.: Harvard University Press.
———. 1999b. "Science's Blood Flow." In *Pandora's Hope,* 80–112. Cambridge, Mass.: Harvard University Press.

———. 1999c. "The Slight Surprise of Action." In *Pandora's Hope,* 266–92. Cambridge, Mass.: Harvard University Press.
———. 2004. *Politics of Nature: How to Bring the Sciences into Democracy.* Trans. Catherine Porter. Cambridge, Mass.: Harvard University Press.
Massumi, Brian. 2002. "The Political Economy of Belonging and the Logic Of Relation." In *Parables for the Virtual,* 68–88. Durham, N.C.: Duke University Press.
Starhawk. 1997. *Dreaming the Dark.* Boston: Beacon Press.
Stengers, Isabelle. 1996–97. *Cosmopolitiques.* 7 vols. Paris: La Découverte.
———. 2000. *The Invention of Modern Science.* Trans. Daniel W. Smith. Minneapolis: University of Minnesota Press.
———. 2006. *La Vierge et le Neutrino: Les scientifiques dans la tourmente.* Paris: Empêcheurs de Penser en Rond.
Weinberg, Stephen. 1993. *Dreams of a Final Theory.* London: Vintage.
Whitehead, Alfred N. 1968. *Modes of Thought.* New York: Free Press.

2 Thing-Power

JANE BENNETT

> I must let my senses wander as my thought, my eyes see without looking. . . . Go not to the object; let it come to you.
>
> —Henry Thoreau, *The Journal of Henry David Thoreau*

> It is never we who affirm or deny something of a thing; it is the thing itself that affirms or denies something of itself in us.
>
> —Baruch Spinoza, *Short Treatise II*

In the wake of Foucault's death in 1984, there was an explosion of scholarship on the body and its social construction, on the operations of biopower. These genealogical (in the Nietzschean sense) studies exposed the various micropolitical and macropolitical techniques through which the human body was disciplined, normalized, sped up and slowed down, gendered, sexed, nationalized, globalized, rendered disposable, or otherwise composed. The initial insight was to reveal how cultural practices produce what is experienced as natural, but many theorists also insisted on the *material recalcitrance* of such cultural productions.[1] Though gender, for example, was a congealed bodily effect of historical norms and repetitions, its status as artifact does *not* imply an easy susceptibility to human understanding, reform, or control. The point was that cultural forms