
The Agency of Assemblages and the North American Blackout

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The Agency of Assemblages

Globalization names a state of affairs in which Earth, no longer simply an ecological or geological category, has become a salient unit of political analysis. More than locality or nation, Earth is the whole in which the parts (e.g., finance capital, CO₂ emissions, refugees, viruses, pirated DVDs, ozone, human rights, weapons of mass destruction) now circulate. There have been various attempts to theorize this complex, gigantic whole and to characterize the kind of relationality obtaining between its parts. Network is one such attempt, as is Michael Hardt and Antonio Negri's empire.¹ My term of choice to describe this whole and its style of structuration, is, following Gilles Deleuze, the *assemblage*.²

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1. See Michael Hardt and Antonio Negri, *Empire* (Cambridge, Mass.: Harvard University Press, 2001) and *Multitude: War and Democracy in the Age of Empire* (New York: Penguin, 2004).

2. An assemblage is, first, an ad hoc grouping, a collectivity whose origins are historical and circumstantial, though its contingent status says nothing about its efficacy, which can be quite strong. An assemblage is, second, a living, throbbing grouping whose coherence coexists with energies and countercultures that exceed and confound it. An assemblage is, third, a web with an uneven topography: some of the points at which the trajectories of actants cross each other are more heavily trafficked than others, and thus power is not equally distributed across the assemblage. An assemblage is, fourth, not governed by a central power: no one member has sufficient competence to fully determine the consequences of the activities of the assemblage. An assemblage, finally, is made up of many types of actants: humans and nonhumans; animals, vegetables, and minerals; nature, culture, and technology.

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The electrical power grid is a good example of an assemblage. It is a material cluster of charged parts that have indeed affiliated, remaining in sufficient proximity and coordination to function as a (flowing) system. The coherence of this system endures alongside energies and factions that fly out from it and disturb it from within. And, most important for my purposes here, the elements of this assemblage, while they include humans and their constructions, also include some very active and powerful nonhumans: electrons, trees, wind, electromagnetic fields.

I will be using the idea of an assemblage and offering an account of the blackout that struck North America in August 2003 in order, first, to highlight the conceptual and empirical inadequacy of human-centered notions of agency and, second, to investigate some of the practical implications, for social scientific inquiry and for politics, of a notion of agency that crosses the human-nonhuman divide.

The *International Herald Tribune*, on the day after the blackout, reported that the "vast but shadowy web of transmission lines, power generating plants and substations known as the grid is the biggest gizmo ever built. . . . On Thursday [August 14, 2003], the grid's heart fluttered. . . . Complicated beyond full understanding, even by experts—[the grid] lives and occasionally dies by its own mysterious rules."³ What can it mean to say that the grid's "heart fluttered" or that the grid lives "by its own rules"? What is this power it wields? Can it be described as a kind of agency, despite the fact that the term is usually restricted to intentional, human acts? What happens to the idea of an agent once nonhuman materialities are figured less as social constructions and more as actors and once humans are themselves assessed as members of human-nonhuman assemblages? How does the agency of assemblages compare to more familiar notions, such as the willed intentionality of persons, the disciplinary power of society, or the automatism of natural processes? How does recognition of the nonhuman and nonindividuated dimensions of agency alter established notions of moral responsibility and political accountability?

My strategy is to focus attention on the distributive and composite nature of agency. Are there not human, biological, vegetal, pharmaceutical, and viral agents? Is not the ability to make a difference, to produce effects, or even to initiate action distributed across an ontologically diverse range of actors—or *actants*, to use Bruno Latour's less-anthropocentric term?⁴ Some actants have sufficient coherence to appear as entities; others, because of their great volatility, fast pace

3. James Glanz, "When the Grid Bites Back," *International Herald Tribune*, August 18, 2003.

4. Bruno Latour defines an *actant* as something that modifies "other actors through a series of trials that can be listed thanks to some experimental protocol." Latour, *The Politics of Nature*, trans.

of evolution, or minuteness of scale, are best conceived as forces. Moreover, while individual entities and singular forces each exercise agentic capacities, isn't there also an agency proper to the groupings they form? This is the agency of assemblages: the distinctive efficacy of a working whole made up, variously, of somatic, technological, cultural, and atmospheric elements. Because each member-actant maintains an energetic pulse slightly "off" from that exuded by the assemblage, such assemblages are never fixed blocks but open-ended wholes.⁵

Before elaborating such a distributive and composite notion of agency, let me say a bit about the materialist ontology with which it is allied. This faith, or better, this wonder, can be described as a kind of vitalism, an enchanted materialism. Within this materialism, the world is figured as neither mechanistic nor teleological but rather as alive with movement and with a certain power of expression.⁶ By "power of expression," I mean the ability of bodies to become otherwise than they are, to press out of their current configuration and enter into new compositions of self as well as into new alliances and rivalries with others.⁷ Within the terms of this imaginary, there are various sources or sites of agency, including the intentionality of a human animal, the temperament of a brain's chemistry, the momentum of a social movement, the mood of an architectural form, the propensity of a family, the style of a corporation, the drive of a sound-field, and the decisions of molecules at far-from-equilibrium states.

Catherine Porter (Cambridge, Mass.: Harvard University Press, 2004), 75. "An" actant can itself be a composite entity: scientists and machines may form an actant called "the lab," which is itself a member of a larger and more diverse assemblage, for example, the pharmaceutical industry, which under other circumstances would be the relevant actant.

5. Patrick Hayden, in "Gilles Deleuze and Naturalism: A Convergence with Ecological Theory and Politics," *Environmental Ethics* 19 (1997): 185–204, calls these "non-totalizable sums." For Henri Bergson, the universe as a whole is a non-totalizable sum, a "whole that is not given" because its evolution produces new members and thus an ever-changing array of effects. The world is "an indivisible process" of movement and creation, where there is "radical contingency in progress, incommensurability between what goes before and what follows—in short, duration." See Henry Bergson, *Creative Evolution* (New York: Dover, 1998), 29n1.

6. I develop this materialism in *The Enchantment of Modern Life* (Princeton, N.J.: Princeton University Press, 2001) and "The Force of Things: Steps toward an Ecology of Matter," *Political Theory* 32 (2004): 347–72, drawing upon Henry David Thoreau's notion of the wild, Lucretius's contention of an unpredictable motility intrinsic to matter, Baruch Spinoza's claim that bodies have a natural propensity to form groups, and complexity theory accounts of the autopoietic or self-organizing capacity of some physical systems.

7. A material body is always in the process of dissolving and reforming, albeit with periods of deceleration or relative arrest. Such bodies are alternately expressive and impressive: initially arrayed in one way, they eventually press out of one configuration and then, newly organized, can again impress upon other bodies.

So, my profession of faith (with a nod to the Nicene Creed): I believe in one Nature, vibrant and overflowing, material and energetic, maker of all that is, seen and unseen. I believe that this "pluriverse" "is continually *doing things*, things that bear upon us . . . as forces upon material beings."⁸ I believe that this "generative mobility"⁹ "resists full translation and exceeds our comprehensive grasp."¹⁰ I believe that to experience materiality as vital and animated is to enrich the quality of human life. Or, as Spinoza suggests, the more kinds of bodies with which a human body can productively affiliate, the greater the prospects for an intelligent way of life: "as the body is more capable of being affected in many ways and of affecting external bodies . . . so the mind is more capable of thinking."¹¹

More needs to be said to flesh out this materialism. But let me return to the focus of this essay: a distributive, composite notion of agency; an agency that includes the nonhumans with which we join forces or vie for control. Back, then, to the blackout of August 2003.

The Blackout

The electrical grid is a volatile mix of coal, sweat, electromagnetic fields, computer programs, electron streams, profit motives, heat, lifestyles, nuclear fuel, plastic, fantasies of mastery, static, legislation, water, economic theory, wire, and wood—to name just some of the actants. There is always some friction among the parts, but for several days in August 2003, in the United States and Canada, the dissonance was so great that cooperation became impossible. The North American blackout was the end point of a cascade—of voltage collapses, self-protective withdrawals from the grid, and human decisions and omissions. The grid includes various shutdown valves and circuit breakers that disconnect parts from the assemblage whenever they are threatened by excessive heat. Generating plants, for example, shut down just before they are about to go into "full excitation,"¹²

8. Andrew Pickering, *The Mangle of Practice: Time, Agency, and Science* (Chicago: University of Chicago Press, 1995), 6.

9. For a subtle review of how the notion of generative negativity is differentially developed in poststructuralism, phenomenology, and critical theory, see Diana Coole, *Negativity and Politics: Dionysus and Dialectics from Kant to Poststructuralism* (New York: Routledge, 2000).

10. Romand Coles, "The Wild Patience of Radical Democracy: Beyond Žižek's Lack," in *Radical Democracy: Politics between Abundance and Luck*, ed. Lars Tønder and Lasse Thomassen (Manchester: Manchester University Press, forthcoming).

11. Baruch Spinoza, *Ethics* (New York: Hackett, 1992), 199.

12. Damir Novosel, "System Blackout Causes and Cures," www.energypulse.net/centers/article/article_display.cfm?a_id=495.

and they do the same when the "system voltage has become too low to provide power to the generator's own auxiliary equipment, such as fans, coal pulverizers, and pumps."¹³ What seems to have happened on August 14 was that several initially unrelated generator withdrawals in Ohio and Michigan caused the electron flow pattern to change over the transmission lines, which led—after a series of events, including a brush fire that burned out a transmission line and several tree-wire encounters—to a successive overloading of other lines and a vortex of "disconnects." One generating plant after another separated from the grid, placing more and more stress on the remaining participants. Within a one-minute period, "twenty generators (loaded to 2174 MW) tripped off line along Lake Erie."¹⁴

Investigators still do not understand why the cascade stopped—on its own—after affecting 50 million people over approximately twenty-four thousand square kilometers and shutting down more than one hundred power plants, including twenty-two nuclear reactors.¹⁵ The U.S.-Canada Task Force report was more confident about how the cascade began, insisting that there were a variety of agential loci.¹⁶ These include electricity, with its internal differentiation into "active" and "reactive" power (more on this later); the power plants, which are understaffed by humans but overprotective in their mechanisms; the wires of transmission lines, which tolerate only so much heat before they refuse to transmit the electron flow; the brush fire in Ohio underneath a transmission line; FirstEnergy and other energy-trading corporations, who, by legal and illegal means, had been milking the grid without maintaining its infrastructure; consumers, whose demand for electricity is encouraged to grow without concern for consequences; and the Federal Energy Regulatory Commission, whose Energy Policy Act of 1992 deregulated the grid, separated the generation of electricity from its transmission and distribution, and advanced the privatization of electricity. Let me say a bit more about the first and the last of these actants in this assemblage.

First, the nonhuman actant: electricity. Electricity is a stream of electrons

13. U.S./Canada Power Outage Task Force, "Initial Blackout Timeline: August 14, 2003, Outage Sequence of Events," September 12, 2003, www.nrcan-rncan.gc.ca/media/documents/Blackout_Summary.pdf.

14. U.S./Canada Power Outage Task Force, "Initial Blackout Timeline," 6. According to Novosel, "evaluation of disturbances shows that protection systems have been involved in 70% of the blackout events." Novosel, "System Blackout," 2.

15. Jodi Di Menna, "Grid Grief!" *Canadian Geographic*, special feature, www.canadian-geographic.ca/blackout_2003/grid.html (accessed November 20, 2003).

16. The task force was appointed by Canadian prime minister Jean Chrétien and U.S. president George W. Bush. The first report of the task force (issued September 12, 2003) was a description of about twenty grid "events" occurring from 2:02 p.m. until 4:11 p.m. (EST) on August 14, 2003.

moving in a current, which is measured in amperes; and the force of that current, the pressure pushing it through the wires, is measured in volts. In a system like the North American grid, electrical current and voltage are constantly oscillating like a pair of waves.¹⁷ When the two waves are in phase with each other (rising and falling at exactly the same time), there exists "active power," or the type of power used most heavily by lamps, blow-dryers, and other appliances. But some devices (such as the electric motors in refrigerators and air conditioners) rely also on "reactive power," where the waves are not in sync. Reactive power, though it lends no help in physically rotating a motor, is nevertheless vital to the active power that accompanies it, for reactive power maintains the voltage, or "electricity pressure," needed to sustain the electromagnetic field required by the system as a whole. If too many devices demand reactive power, then a deficit is created. One of the causes of the blackout was a deficit of this reactive power. In order to understand how this deficit occurred, we need to turn to a human actant, the Federal Energy Regulatory Commission.

In 1992, the Commission gained U.S. congressional approval for legislation that separated the production of electricity from its distribution: companies could now buy electricity from a power plant in one part of the country and sell it to utilities in geographically distant locations. This greatly increased the long-distance trading of electric power—and greatly increased the load on transmission wires. But here's the rub: "as transmission lines become more heavily loaded, they consume more of the reactive power needed to maintain proper transmission voltage."¹⁸ Reactive power doesn't travel well, dissipating over distance, so it is best if it is generated close to where it will be used.¹⁹ Technologically speaking, power plants are quite capable of producing extra amounts of reactive power, but they don't have a financial incentive to do so, for reactive-power production reduces the amount of salable power produced. What is more, under the new regulations, transmission companies cannot compel generating plants to produce the necessary amounts of reactive power.²⁰

Reactive power, vital to the whole, was a profitless commodity and thus became in short supply. Here emerged what Garrett Hardin has called a tragedy

17. The grid is an AC (alternating current) system. For a fascinating historical account of the development of electrical systems, see Jill Jonnes, *Empires of Light: Edison, Tesla, Westinghouse, and the Race to Electrify the World* (New York: Random House, 2003).

18. U.S./Canada Power Outage Task Force, "Initial Blackout Timeline," 2.

19. Novosel, "System Blackout," 2.

20. Eric J. Lerner, "What's Wrong with the Electric Grid?" *Industrial Physicist*, October–November 2003, www.aip.org/tip.

of the commons. Though it is rational for each individual user of reactive power to increase demand, the aggregate effect of such acts is disastrous: in a world of finite resources, "freedom in a commons bring ruin to all."²¹ The reactive power deficit was an effect unanticipated by the lobbyists who pushed the new regulations in order to create a huge, continentwide market in energy trading. But the market economy was not the only site of surprise. Electricity too contributed swerves and quirks—idiosyncrasies, deviations, and declinations internal to the functioning of the grid system. Electricity is a *flow* of electrons, and because its essence is this mobility, it always is going somewhere. But where this will be is not entirely predictable. "In the case of a power shipment from the Pacific Northwest to Utah, 33% of the shipment flows through Southern California and 30% flows through Arizona—far from any conceivable contract path."²² What is more, in August 2003, after "the transmission lines along the southern shore of Lake Erie disconnected, the power that had been flowing along that path" dramatically and surprisingly changed its behavior: it "*immediately reversed direction and began flowing in a giant loop counterclockwise from Pennsylvania to New York to Ontario and into Michigan.*"²³ Seeking to minimize its role in the blackout, a spokesman for FirstEnergy, the Ohio-based company whose Eastlake power plant was an early actant in the cascade and an early target of blame, said that any analysis needed to "take into account large unplanned south-to-north power movements that were part of a phenomenon known as loop flows, which occur when power takes a route from producer to buyer different from the intended path."²⁴

This condensed account of the blackout identifies an assortment of agentic sites, from quirky electron flows to cocky economists' assumptions about market self-regulation. It sketches a world where agency is distributed along an ontologi-

21. Garrett Hardin, "The Tragedy of the Commons," *Science* 162 (1968): 1243–48.

22. John A. Casazza and George C. Loehr, eds., *The Evolution of Electric Power Transmission under Deregulation: Selected Readings* (Hoboken, N.J.: Wiley), www.elucem.com/outlet/books/ieeexcerpt.html.

23. U.S./Canada Power Outage Task Force, "Initial Blackout Timeline," 7; my emphasis.

24. Matthew L. Wald, "Report on Blackout Is Said to Describe Failure to React," *New York Times*, November 12, 2003. FirstEnergy was formed from the merger of seven utilities (Toledo Edison, Cleveland Electric, Ohio Edison, Pennsylvania Power, Pennsylvania Electric, Metropolitan Edison, and Jersey Central Power & Light) and has very close ties to George W. Bush. As indicated by Tyson Slocum in "Bush Turns Blind Eye to Blackout Culprit," August 21, 2003, www.corpwatch.org/issues/PID.jsp?articleid=8131, "First Energy President Anthony Alexander was a Bush Pioneer in 2000—meaning he raised at least \$100,000—and then served on the Energy Department transition team. H. Peter Burg, the company's CEO and chairman of the board, hosted a June event that raised more than half a million dollars for Bush-Cheney '04."

cal continuum of beings, entities, and forces, and it offers an example of what it means to say that a grid lives a life of its own.

How does this preliminary understanding of a distribution of agentic capacities compare to more conventional notions of agency? In the next section, I survey several philosophical approaches to the notion of agency, including the phenomenology of Maurice Merleau-Ponty, who, though he recognizes a kind of body-intentionality, refuses the idea of nonhuman materiality as agentic. I look also at the notion operative in the "agency-structure" debate within anthropology, sociology, and political science, where agency attaches exclusively to persons and where social structures "act" only insofar as they *thwart* human agency. Taken as a whole, these discussions suggest that the concept of agency is very closely bound to a desire to celebrate the distinctive power of human intentionality and, more generally, to elevate the human mode of being above all others. They also reveal a close link between this human exceptionalism and the notion of moral responsibility. To affirm that agentic capacity is distributed along a continuum of ontological types, and that it issues also from composite groupings of them, is to unsettle a host of inherited concepts, including cause, time, culture, nature, event, life, kinship—and also responsibility. The fear is that to distribute agency more widely would be to jeopardize attempts to hold individuals responsible for their actions or to hold officials accountable to the public. I respond to these challenges in the final section of the essay.

Human Exceptionalism

Immanuel Kant, whose impact upon our thinking about agency remains profound, conceived of agency as the capacity for morality, where moral agency consists in rational obedience to the moral law, whose form is inscribed in the minds of all men. The agentic act is rational in the sense that submission to the form of law is untainted by sensuous motive or influence. Kant's image of this moral autonomy, like his vision of the mind as an elegant composition of faculties capable of an ethereal, disembodied kind of action, is quite arresting. My guess, however, is that few nonphilosophers recognize themselves to be practitioners of such fantastic agency, which is as indifferent to sense perception as it is to the social consequences of an action.²⁵

Recent philosophical accounts of agency focus more on intentionality and

25. "The moral law is the sole motive of the pure will." See Immanuel Kant, *Critique of Practical Reason*, pt. 2, ed. and trans. Mary Gregor (Cambridge: Cambridge University Press, 1997), 115.

decision than on obedience and submission. The regulative ideal operative here is agency as the accurate translation of ideas into effects. This approach too chafes against everyday experience—where it seems that one can never quite get things done, where intentions are always bumping into (and only occasionally trumping) the trajectories of other beings, forces, or institutions. But its advocates acknowledge this: the extensive literature on intentionality is full of subtle and refined accounts of the conditions of possibility and complexities of intentionality—conditions that are of course absent in the ideal case.²⁶ And so challenges to this approach must do more than charge that the ideal is unrealizable in practice. The issue for me, rather, is whether figurations of agency centered around the rational, intentional human subject—even considered as an aspirational ideal—understate the ontological diversity of actants.

A phenomenological conception of agency, in the tradition of Martin Heidegger or Merleau-Ponty, cautions against placing more weight on intellectual reason than it can bear. Instead, a theory of agency must begin by acknowledging the essentially embodied character of human action and the intersubjective field of all human acts. This is because, as Diana Coole puts it, “the operation of agentic capacities . . . will always exceed the agency exercised by rational subjects,” even as these subjects “acquire differential agentic capacities depending upon their intersubjective context.”²⁷ Instead of agents, Coole speaks of a variety of agentic capacities distributed across a spectrum: discrete, reflective selves occupy the middle range, with the human body and its “motor intentionality”²⁸ at one end and a nonpersonal phenomenal force field at the other. Coole rightly emphasizes that not all agentic capacities are possible at every location on the spectrum, precisely because different actants are differently embodied. The self-conscious intentionality (occasionally) exercised by humans finds a counterpart—not an equivalent—in the feedback loops operative in nonhuman (e.g., chemical) systems.

Coole’s attempt to dislodge agency from an exclusive mooring in the individual, rational subject is an important touchstone for my attempt to extend agency

26. For example, Donald Davidson says that “a man is the agent of an act if what he does can be described under an aspect that makes it intentional,” but what he means by this is complicated. See Davidson, *Essays on Actions and Events* (Oxford, U.K.: Clarendon, 1980), 46.

27. Diana Coole, “Rethinking Agency: A Phenomenological Approach to Embodiment and Agentic Capacities,” *Political Studies* 53 (2005): 124–42.

28. As Maurice Merleau-Ponty describes it in *The Phenomenology of Perception* (New York: Routledge, 1962), 110, motor intentionality is a kind of directionality inside the motion of an arm or a hand that is not reducible to any subjective or self-conscious decision.

even beyond embodied intersubjectivity, to materiality per se, and thus to human-nonhuman assemblages. But Coole restricts her spectrum to a range of *human* actants because her interest in agency is tied to a political project (a kind of radical democracy) and politics is for her an exclusively human affair. Here I disagree. Though human reflexivity is indispensable for transforming political life, on many occasions and in a variety of ways the efficacy of political change is not a function of humans alone. It is better understood, I think, as the conjoined effect of a variety of kinds of bodies. The prevention of future blackouts, for example, will depend upon a whole host of cooperative efforts: Congress will have to summon the courage to fight industry demands at odds with the common good, but reactive power will also have to agree to do its part, on condition that it's not asked to travel too far.

In short, though Coole's phenomenological account tries not to hierarchize agentic sites and though it names bodies as bearers of agentic capacities, it continues to give conceptual hegemony to human actants. A distributive theory of agency does not deny that human persons are capable of reflective judgments and thus are crucial actants in many political transformations. But it attempts a more radical displacement of the human subject from the center of thinking about agency. It goes so far as to say that effective agency is *always* an assemblage: even what has been considered the purest locus of agency—reflective, intentional human consciousness—is from the first moment of its emergence constituted by the interplay of human and nonhuman materialities.²⁹ Everyday events—blackouts, traffic jams, power surges, upset stomachs, mood swings—repeatedly indicate the presence of a wide variety of actants, some that are personal and some that don't take the form of persons. But even persons are always engaged in an intricate dance with nonhumans, with the urgings, tendencies, and pressures of other bodies, including air masses, minerals, microorganisms, and for some people, the forces of fate, divine will, or karma.

Perhaps the "agency-structure debate" of the last several decades in the social

29. Bernard Stiegler contends, for example, that conscious reflection first emerged in protohumans (millions of years ago) when they began to use stone tools. The stone tool is the first known exteriorization of memory and anticipation. Conscious interiority *emerges through* the incorporation of this nonhuman exteriority, articulated in parallel in the material evolution of the brain (corticalization). The materiality of the tool functions as an exterior "archive" of its function, recalling to consciousness its projected and recollected use, thereby producing the first interiorization, the first hollow of reflection, by way of this nonhuman outside. Stiegler, *Technics and Time, 1: The Fault of Epimetheus*, trans. George Collins and Richard Beardsworth (Stanford, Calif.: Stanford University Press, 1998). I am grateful to Ben Corson for this point. See his "Speed and Technicity (a Derridean Exploration)" (PhD diss., Johns Hopkins University, 2000).

sciences was initially provoked by a similar hunch about the agentic capacity of collectivities. But the very terms of the debate precluded more explicit articulation of this insight. The active power of assemblages is concealed under the rubric of (social) structures, (cultural) contexts, (religious) settings, (economic) climates, or (environmental) conditions—terms which denote passive backgrounds or, at most, states of affairs whose sole power is the negative one of constraint or resistance.³⁰ Structures, surroundings, contexts, and environments name background settings rather than spirited actants. Expressly creative or productive forms of activity remain the preserve of humans, and should an active form of power—an agentic capacity—seem to issue from a governmental institution, a virus, an architectural structure, or an arrangement of public space, this vitality is nervously referred back to its origin in persons—to avoid the mortal sins of anthropomorphism, vitalism, or fetishism.³¹

Let me state the obvious in order to make it a problem: wherever it looks, social science tends to see only the social activity of *humans*. The agency it examines, describes, or explains is normally confined to that exercised by humans, exercised directly in the case of individuals and indirectly in the case of collective practices, institutions, or rituals. The agentic power of human-nonhuman assemblages (e.g., of artifacts, weather, conscious desires) appears as merely an effervescence of the originary agency of persons.

The actor-network theory of Bruno Latour, Michel Callon, and John Law is a powerful voice contesting this anthropocentric tendency.³² Seeking to theo-

30. This tendency to figure the efficacy of human-nonhuman groupings in passive terms is exemplified in the following quotation, which describes the consensus within archaeology: "All agree that agency refers to the intentional choices made by men and women as they take action to realize their goals. . . . [But all also insist that] these actors are socially constituted beings . . . embedded in sociocultural and ecological surroundings that both define their goals and constrain their actions." Elizabeth Brumfield, "On the Archaeology of Choice," in *Agency in Archaeology*, ed. Marcia-Anne Dobres and John E. Robb (New York: Routledge, 2000), 249. Or, as the sociologist Margaret Archer puts it, people are "both free and enchained, capable of shaping our own future and yet confronted by towering . . . constraints." Archer, *Realist Social Theory: The Morphogenetic Approach* (Cambridge: Cambridge University Press, 1995), 65.

31. The debate over which is more potent, agency or structure, seems to have been settled with the view that agential individuals and constraining social systems are mutually constitutive—as per Anthony Giddens's dialectical notion of structuration or Michel Foucault's idea of a disciplinary power which engenders the individual as a responsible, moral agent. But despite Foucault's insistence upon the *productive* power of collective agency, most social scientists continue to conceive of social forces as exercising only a *passive* or restraining kind of efficacy—that is, the power to block or interrupt the more active agency of purposive individuals.

32. The extensive literature on actor-network theory is usefully summarized at the Actor-Network Resource, www.comp.lancs.ac.uk/sociology/ant.html.

size agency without presupposing the priority of human intentions, projections or even behaviors, it refuses the conceit of a humanity that pictures itself as the wellspring of any agency deserving of the name. A branch of science studies, it affords natural-technological materialities a more active role than that possessed by surroundings, structures, or contexts. In *Aramis* (1996), for example, Latour shows how the machinic equipment (the cars) and the material forces (electricity, magnets) of an experimental Parisian mass transit system enacted agential powers in an assemblage with human bodies, words, and regulations.³³ Latour's later work continues to chastise social science for reducing vital materiality to the passivity of an object: "Why don't things count? Why are social scientists afraid? Because they can't imagine roles for things other than the typical boring roles that they have in their social science journals. Firstly, things carry necessity. . . . Secondly, they are plastic and are just there to bear the human ingenuity. . . . Thirdly, [they form] . . . a simple white screen to support the differentiation of society."³⁴ It might be added that social scientific models of agency tend also to ignore the efficacy of materialities which, though they operate inside the human body, are neither unique to human bodies nor susceptible to the intentions of the individual and thus are not quite "human." Examples of this include the chemical-electrical relays that enable brain activity or the various hormonal agents connected to them.

Parsing Agency

Curled up inside the idea of human agency are several related notions, including efficacy, directionality, and causality. These form what Theodor Adorno would have called a *constellation*: a sticky web whose "elements entwine into a more and more total context of functions."³⁵ Efficacy names the productivity of agency, its power to create. It points to the fact that something new has been made to appear or occur. In much of moral philosophy, in order to qualify as efficacious,

33. See Bruno Latour, *Aramis, or, The Love of Technology*, trans. Catherine Porter (Cambridge, Mass.: Harvard University Press, 1996). See also the elegant account of *Aramis* in Eric Laurier and Chris Philo, "X-Morphising: Review Essay of Bruno Latour's *Aramis, or, the Love of Technology*" *Environment and Planning A* 31 (1999): 1047-71, www.geog.gla.ac.uk/~elaurier/text.

34. Colin Barron, "A Strong Distinction between Humans and Non-Humans Is No Longer Required for Research Purposes: A Debate between Bruno Latour and Steve Fuller," *History of the Human Sciences* 16, no. 2 (2003): 77-99; quote at 81.

35. Adorno writes that it is simply not possible to "unseal" a concept (e.g., agency) by dividing it neatly into constituent parts; one can only "circle" around it. See Theodor Adorno, *Negative Dialectics*, trans. E. B. Ashton (New York: Continuum, 1999), 166.

an effect needs to bear a sufficiently close relationship to a preexisting plan (i.e., is not accidental or random); it needs to have come into existence through a parsimonious process (i.e., in the fewest possible steps); and it must be of sufficient magnitude (i.e., have changed the situation in a way that matters to its participant-residents).

A distributive notion of agency does not so much reject this model of efficacy as shift its focus. Instead of honing in on a single effect, it pays attention to a linked series of them, for an unstable cascade spills out from every "single" act. To take the cascade as the unit of analysis is to locate intentions within an assemblage that always also includes their wayward offspring. An intention becomes like a pebble thrown into a pond, or an electrical current sent through a wire, or a neural network: it vibrates. Actants are "entities with uncertain boundaries, entities that hesitate, quake, and induce perplexity";³⁶ each one harbors a simultaneous variety of virtual modes of expression, and which subset will be actualized at any given moment is not predictable with confidence.

To focus on the cascade of becomings is not to deny intentionality or its force but to see intentionality as less definitive of outcomes. It is to loosen the connection between efficacy and the moral subject and bring efficacy closer to the idea of the power to make a difference, to generate changes that call for responses. This is a power possessed by an ontologically diverse range of actants. Neither does this understanding of efficacy claim that anything can happen at any time, that there is no limit to the variety of effects likely to emerge from an initial impetus. The cascade of effects, precisely because it is a *material* process, tends to follow a habitual trajectory; action in a material world tends to form grooves and follow patterns.

Thus we arrive at the second item in the constellation of agency, directionality, or the sense that agency entails a movement away from some initial condition or configuration and toward something else. In moral philosophy, this directionality is typically figured on the model of purposiveness or as a goal-directedness linked to a mind with a capacity for choice and intention. Hegel depicted this orientedness as *Geist*, an increasingly self-conscious purposiveness in nature and history; and in at least one strand of Catholic theology, directionality is figured as an unfolding of divine intentionality. Jacques Derrida offers an alternative to such consciousness-centered conceptions of directionality in his notion of "messianicity," by which he means the *promissory* quality of a claim, image, or object. This promise of something to come is for Derrida the very condition of possibility

36. Latour, *Politics of Nature*, 76.

of phenomenality: things appear to us only because they tantalize and hold us in suspense, alluding to a fullness that's elsewhere and a future restlessly on its way. For Derrida, this promissory note is not and can never be fully redeemed: the "straining forward toward the event" never finds relief. It entails instead a waiting "for someone or something that, in order to happen . . . must exceed and surprise every determinate anticipation."³⁷ Derrida argues that it is not only phenomena that obey this logic: language, and thus thought too, operates only in the promissory mode.³⁸

In framing the directionality of perception and language as an unfulfillable promise, Derrida offers one way to think about an open-ended kind of directionality, a directionality delinked from the strict logic of purpose or intentionality. I myself remain agnostic about whether messianicity names the very structure of experience. Instead of the aporia of a promise continually deferred, my materialism suggests that at the heart of things is a matter-energy tending toward some settlements and not others, an impetus issuing from material assemblages whose elements include an ontological variety of actants.

The idea of impetus brings us to the third, and perhaps trickiest, item in the constellation of agency: causality. Again, the easiest way to imagine causality is as "efficient causality," where an active force is isolated as the author of a clearly identifiable effect. To understand agency as distributive is not to deny this kind of causality. George W. Bush and his advisers, for example, can be said to be the efficient cause of the post-9/11 invasion of Iraq. But if one extends the time frame or widens the angle of vision on the action, such billiard-ball causality falters and appears as only one of the operative modes of causality. Alongside singular and integral agents, one finds a more diffuse or distributed series of actants, with partial, overlapping, and conflicting degrees of power. Henri Bergson, for example, notes that in addition to efficient causality, there is also the causality of "releasing" and "unwinding":

The billiard-ball, that strikes another, determines its movement by *impelling*. The spark that explodes the powder acts by *releasing*. The gradual relaxing of the spring, that makes the phonograph turn, *unwinds* the melody inscribed on the cylinder. . . . What distinguishes these three cases

37. Jacques Derrida, "Marx and Sons," in *Ghostly Demarcations: A Symposium on Jacques Derrida's Specters of Marx*, ed. Michael Sprinker (London: Verso, 1999), 248–51. Disappointment is absolutely essential to messianicity: the "promise is given only under the premises of the possible retraction of its offering." Werner Hamacher, "Lingua Amissa: The Messianism of Commodity-Language and Derrida's *Specters of Marx*," in *Ghostly Demarcations*, 202.

38. Derrida, "Marx and Sons," 253–56.

from each other is the greater or less solidarity between the cause and the effect. . . . Only in the first case, really, does cause *explain* effect; in the others the effect is more or less given in advance, and the antecedent invoked is—in different degrees, of course—its occasion rather than its cause.³⁹

Emergent causality is another way of conceiving a nonlinear, indirect causality, where instead of an effect obedient to a determinant, one finds circuits where effect and cause alternate position and redound back upon each other. If efficient causality seeks to rank the actants involved, treating some as external causes and others as dependent effects, emergent causality places the focus on the process as itself an actant, as itself in possession of degrees of agentic capacity.⁴⁰ This sense of a melting of cause and effect is also expressed in the ordinary usage of the term *agent*, which can refer both to a human subject who is the sole and original author of an effect—as in “moral agent”—and to someone or something that is the mere vehicle or passive conduit for the will of another—as in “literary agent” or “insurance agent.”

If ordinary language intuits the existence of a nonlinear, nonhierarchical, non-subject-centered mode of agency, Hannah Arendt makes the point explicitly by distinguishing between cause and origin in her discussion of totalitarianism. “Causes” entail singular, stable, and masterful initiators of effects, while “sources” invoke a complex, mobile, and heteronomous enjoiner of forces:

The elements of totalitarianism form its origins if by origins we do not understand “causes.” Causality, i.e., the factor of determination of a process of events in which always one event causes and can be explained by another, is probably an altogether alien and falsifying category in the realm of the historical and political sciences. Elements by themselves

39. Henri Bergson, *Creative Evolution* (New York: Dover, 1998), 73.

40. According to William Connolly “emergent causality is causal . . . in that a movement at [one] . . . level has effects at another level. But it is emergent in that, first, the character of the . . . activity is not knowable in precise detail prior to effects that emerge at the second level. [Moreover,] . . . the new effects become *infused* into the very . . . organization of the second level in such a way that the cause cannot be said to be fully different from the effect engendered. . . . [Third,] . . . a series of . . . feedback loops operate between first and second levels to generate the stabilized result. The new emergent is shaped not only by external forces that become infused into it but *also by its own previously under-tapped capacities for reception and self-organization.*” Connolly also says that an emergent cause is one in which the new effect is one about which we lack a clear concept before it occurs. See William Connolly, “Method, Problem, Faith,” in *Problems and Methods in the Study of Politics*, ed. Ian Shapiro, Rogers M. Smith, and Tarek E. Masoud (Cambridge: Cambridge University Press, 2004), 342–43.

probably never cause anything. They become origins of events if and when they crystallize into fixed and definite forms. Then, and only then, can we trace their history backwards. The event illuminates its own past, but it can never be deduced from it.⁴¹

For Arendt, it is impossible to discern in advance the cause of totalitarianism. Instead, the political phenomenon is such that its sources can only be retroactively revealed. These sources are necessarily multiple, made up of elements unaffiliated before the crystallization process began. In fact, what makes the event happen is precisely the contingent coming together—the crystallization—of a set of elements. Here Arendt's view is consonant with a distributive notion of agency. But if we look at what spurs such crystallizations for her, we see her revert to a more traditional, subject-centered perspective. Whereas the theorist of distributive agency would answer that anything could touch off the crystallization process—a sound, a last straw, a shoe, a blackout, a human intention—Arendt concludes that while the “significance” of an event can exceed “the intentions which eventually cause the crystallization,” intentions are nevertheless the key to the event. Once again, human intentionality is positioned as the most important of all agential factors, the bearer of an exceptional kind of power.⁴²

Shi

The history of agency as a philosophical concept is, in general, a history of attempts to mark the uniqueness of humans. Extraordinary attention has been given to a relatively small subset of human actions, that is, those whose effects appear to have been faithful to our intentions. It might be asked, then: if the *raison d'être* for the concept of agency is this desire to celebrate the distinctive power of humanity, why insist upon applying the concept to something like electricity and to the assemblage of humans and nonhumans called the grid? Why not speak more modestly of the capacity of materialities to form a “culture,” or to “self-organize,” or to “participate” in effects?⁴³

41. Hannah Arendt, “On the Nature of Totalitarianism: An Essay in Understanding” (1953), Hannah Arendt Papers of the Library of Congress, Washington, D.C., memory.loc.gov/cgi-bin (accessed November 2003). The essay is now available to researchers at three locations; see lcweb2.loc.gov/ammem/arendthtml/arendthome.html. My thanks to John Docker for this reference. See also his “Après la Guerre: Dark Thought, Some Whimsy,” *Arena Journal* 20 (2002/2003): 3–16.

42. Other readings suggest that Arendt, especially given her notion of “action,” may be even more amenable to a distributive notion of agency than I suggest. My thanks to Paul Saurette for this point.

43. I am grateful to George Shulman and Bonnie Honig for raising this issue to me.

While such vocabularies are worthy of theoretical exploration, I am not ready to yield the term *agency* to humans alone, to one side of an "agency-structure debate." This is because, first, it seems to me that the rubric of material agency is a more effective counter to human exceptionalism, to, that is, the human tendency to understate the degree to which people, animals, artifacts, technologies, and elemental forces share powers and operate in dissonant conjunction with each other. And, second, no one really knows what human agency is, or what humans are doing when they are said to act. In the face of every analysis, human agency remains something of a mystery. If we don't know just how it is that human agency operates, how can we be so sure that the processes through which nonhumans make their mark are qualitatively different? A more plausible hypothesis is that both share a series of family resemblances, even operate isomorphically.

Humans and nonhumans live and act in open wholes that pulse with energies, only some of which are actualized at any given time and place. The point that I would like again to underline is that, in addition to the agential propensity of each member of an assemblage, there is also the agency proper to the grouping itself. Gilles Deleuze and Félix Guattari describe this force field as a milieu, the agentic force of human-nonhuman assemblages: "Thus the living thing . . . has an exterior milieu of materials, an interior milieu of composing elements and composed substance, an intermediary milieu of membranes and limits, and an annexed milieu of energy sources and actions-perceptions."⁴⁴

Something like this agency, which attaches to assemblages, is called *shi* in the Chinese tradition. Shi helps to "illuminate something that is usually difficult to capture in discourse: namely, the kind of potential that originates not in human initiative but instead results from the very disposition of things."⁴⁵ Shi is the style, energy, propensity, trajectory, or élan inherent to a specific arrangement of things. Originally a word used in military strategy—a good general must be able to read and then ride the shi of a configuration of moods, winds, historical trends, and armaments—shi names the dynamic force emanating from a spatiotemporal configuration rather than from any particular element within it.

But again, the shi of an assemblage is vibratory; it is the mood or style of an open whole where both the membership changes over time and the members themselves undergo internal alteration. Each member "possesses autonomous

44. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (Minneapolis: University of Minnesota Press, 1986), 313.

45. François Jullien, *The Propensity of Things: Toward a History of Efficacy in China* (New York: Zone, 1995), 13.

emergent properties which are thus capable of independent variation and therefore of being out of phase with one another in time."⁴⁶ When a member-actant, in the midst of a process of self-alteration, becomes out of sync with its (previous) self—when, if you like, it is in a “reactive power” state⁴⁷—it can form new sets of relations within the assemblage, leaning toward a different set of allies. The members of an open whole never melt into a collective body but instead maintain an energy potentially at odds with the shi. Deleuze invented the notion of “adsorbsion” to describe this part-whole relationship: *adsorbsion* is a gathering of elements in a way that both forms a coalition and yet preserves something of the agential impetus of each element.⁴⁸ It is because of the creative activity *within* actants that the agency of assemblages is not best described in terms of social “structures,” a location which designates a stolid whole whose efficacy resides only in its conditioning recalcitrance or capacity to obstruct.

Like the agency of individual actants, the shi of a milieu can be obvious or subtle. It can operate at the very threshold of human perception and detection or more violently. A coffeehouse or a schoolhouse is a mobile configuration of people, insects, odors, ink, electrical flows, air currents, caffeine, tables, chairs, fluids, and sounds. Their shi might at one time consist in the mild and ephemeral effluence of good vibes and at another in a more dramatic force capable of engendering a philosophical or political movement—as it did in the cafés of Jean-Paul Sartre and Simone Beauvoir’s Paris and in the Islamist schools in Pakistan.

Responsibility and Distributive Agency

The electrical grid, by blacking out, lit up quite a lot: the shabby condition of the public utilities infrastructure, the law-abidingness of New York City residents during the blackout, the disproportionate and accelerating consumption of energy by North Americans, and the element of unpredictability marking assemblages composed of intersecting and resonating elements. Thus spoke the grid. One might even say that it exhibited a communicative interest. It will be objected that such communication is possible only through the intermediary of humans. But is this really an objection, given that even linguistic communication necessarily entails intermediaries? My speech, for example, depends upon the graphite in my

46. Archer, *Realist Social Theory*, 66.

47. Recall that reactive power is when the waves of current and voltage in an electron stream are ninety degrees out of sync.

48. Hayden, “Gilles Deleuze and Naturalism,” 187.

pencil, the millions of persons, dead and alive, in my Indo-European language group, not to mention the electricity in my brain and laptop computer. (The human brain, properly wired, can light up a 15-watt bulb.) Humans and nonhumans alike depend upon a "fabulously complex" set of speech prostheses.⁴⁹

To be clear: the agency of assemblages of which I speak is not the strong kind of agency traditionally attributed exclusively to humans. To make such a claim would be simply to anthropomorphize. The contention, rather, is that if one looks closely enough, the productive power behind effects is always a collectivity. Not only is human agency always already distributed in tools, microbes, minerals, and sounds, it only emerges as agentic *by way of* a distribution into the "foreign" materialities its bearers are eager to exclude. My essay, which speaks of a radical kinship of people and things, is indebted to a rich and diverse tradition of ecological thinking, including a variety of pantheisms, vitalisms, and materialisms. Its ontological monism is a riff on the ecological theme that "all things are interconnected." There was never a time when human agency was anything other than an interfolding network of humanity and nonhumanity. What is perhaps different today is that the higher degree of infrastructural and technological complexity has rendered this harder to deny.

Does the acknowledgment of nonhuman actants relieve individual humans of the burden of being held responsible for their actions? The directors of the FirstEnergy corporation were all too eager to make this point in the Task Force Report: no one really is to blame! Though it's unlikely that the energy traders share my ontological imaginary—a kind of distributive monism where organic and inorganic possess shares of agency—I too find it hard to assign the strongest or most punitive version of moral responsibility. Autonomy and strong responsibility seem to me to be empirically false, and thus their invocation seems tinged with injustice. In emphasizing the ensemble nature of action and the interconnections between persons and things, a theory of vital materialism presents individuals as simply incapable of bearing *full* responsibility for their effects.

A distributive notion of agency does interfere with the project of blaming, but it does not thereby abandon the project of identifying (what Arendt called) the sources of harmful effects. To the contrary, such a notion broadens the range of places to look for sources. Look to long-term strings of events: to selfish intentions and energy policy that provides lucrative opportunities for energy trading while generating a tragedy of the commons; but look also to the stubborn directionality of a high-consumption social infrastructure, the unstable power of electron flows,

49. Latour, *Politics of Nature*, 67.

wildfires, ex-urban housing pressures, and the assemblages they form; and to the psychic barriers to acknowledging the link between American energy use, American imperialism, and anti-Americanism. In each of these cases, humans and their intentions participate but are not the sole or necessarily the most profound actant in the assemblage in play.

Though it would give me great pleasure to assert that deregulation and corporate greed are the real culprits in the blackout, the most I can honestly affirm is that corporations are one of the sites where human efforts at reform can be applied, that corporate regulation is one place where intentions might initiate a cascade of effects. Perhaps the responsibility of individual humans may reside most significantly in one's response to the assemblages in which one finds oneself participating—do I attempt to extricate myself from assemblages whose trajectory is likely to do harm? Do I enter into the proximity of assemblages whose conglomerate effectivity tends toward the enactment of nobler ends?

In a world where agency is distributed, a hesitant attitude toward assigning blame becomes a virtue. But sometimes moral outrage, akin to what Plato called *thumos*, is indispensable to a democratic and just politics. The doctrine of preemptive war, the violation of human rights and the Geneva accords at Guantanamo Bay, the torture of prisoners in Iraq, the restriction of protesters at President Bush's public appearances to a "free speech zone" out of the view of television cameras, the U.S. military's policy of not keeping a count of Iraqi civilian deaths—all these are outrageous. Outrage will not and should not disappear completely, but a politics devoted too exclusively to moral condemnation and not enough to a cultivated discernment of the web of agentic capacities can do no good. A moralized politics of good and evil, of singular agents who must be made to pay for their sins—be they Osama bin Laden or George W. Bush—becomes immoral to the degree that it legitimates vengeance and elevates violence to the tool of first resort. A distributive understanding of agency, then, reinvokes the need to detach ethics from moralism, and to produce guides to action appropriate to a world of vital, crosscutting forces.

These claims need more flesh and even then remain contestable. Other actants, enmeshed in other assemblages, will surely offer different diagnoses of the political and its problems. It is ultimately a matter of political judgment what is more needed today: should we acknowledge the distributive quality of agency in order to address the power of human-nonhuman assemblages and to resist a politics of blame? Or should we persist with a strategic understatement of material agency in the hope of enhancing the accountability of specific humans?

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**The Agency of
Assemblages**

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