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The Leaf Blower, Capitalism, and the Atomization of Everyday Life

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The use of leaf blowers has become endemic to landscaping, groundskeeping, and yard care in the United States. The National Gardening Association (2008) found that each year between 2002 and 2007, approximately 6 million U.S. households purchased leaf blowers.[1] The 2010 National Gardening Survey discovered that an estimated 4.9 million households purchased power blowers the previous year (Butterfield 2011). This profusion of leaf blowers does not come without environmental and social costs. According to the U.S. Environmental Protection Agency (1997), as people across the United States re-fuel their leaf blowers and lawnmowers, they slop approximately 17 million gallons of gasoline onto the ground each summer, gas that seeps into the water we drink and evaporates into the air we breathe. To put that number in perspective, the *Exxon Valdez* oil spill in 1989 dumped 10.9 million gallons of Prudhoe Bay crude into Prince William Sound, Alaska (National Oceanic and Atmospheric Administration 1989).

On top of that, leaf blowers discharge a cocktail of contaminants into the air, from hydrocarbons and carbon monoxide—which combine with other greenhouse gases to form ozone—to the carcinogens benzene, acetaldehyde, and formaldehyde. The California Environmental Protection Agency's Air Resources Board (2000, 50, 3) estimates that the average commercial, gas-powered leaf blower manufactured in 1999 emits the same amount of hydrocarbons in one-half hour as a car traveling 7,700 miles at 30 miles per hour. Over that half hour, the same leaf blower pumps out as much carbon monoxide as a car driving 440 miles at 30 miles per hour. Leaf blower operators inhale this toxic concoction, while they're simultaneously barraged with ear-popping noise, a problem that is exacerbated by the fact that few of them—less than 10 percent according to one study—wear protective ear gear.[2]

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[1]While leaf blowers are used widely across the United States, the Midwest and the South are the two regions with the highest leaf-blower ownership rates (Athavaley 2009).

[2]Comparatively, the average homeowner's leaf blower racks up hydrocarbon emissions equal to driving 2,200 miles and carbon monoxide emissions equal to 110 miles of driving (California Environmental Protection Agency Air Resources Board 2000, 54). The Occupational Safety Health Administration has deemed noise above 85 decibels dangerous. Yet some leaf blowers crank at 90 decibels and above. Leaf blower manufacturers have responded to noise complaints by reducing the decibel level to a more tolerable and safe 65 decibels, though many older-model leaf blowers are still in circulation (Athavaley 2009).

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Leaf blowers—the shrill tool *du jour* for groundskeepers—have caused many a quibble between neighbors, which has resulted in numerous localities passing ordinances that restrict or ban the use of the tool. In Los Angeles's upscale neighborhood of Brentwood, the noise generated by a neighbor's leaf blower led actor Julie Newmar—the original Catwoman on television—to scratch back. Using black spray paint, she scrawled "*ruido*"—the Spanish word for noise—on an alley wall adjacent to her neighbor's house in an effort to quiet the neighbor's Latino gardener who was using a high-decibel leaf blower. When she perceived police were slacking in their enforcement of a Los Angeles City Council ordinance banning the use of gas-powered leaf blowers within 500 feet of a residence, Newmar—along with equally irked neighbors like actor Meredith Baxter—organized a vigilante enforcement crew called ZAP (Zero Air Pollution) that set up a telephone hotline to anonymously report ordinance violators, created a database for the names and addresses of alleged leaf-blower law-breakers (which they shared with police), and issued warning letters informing neighbors they were committing a misdemeanor (Gumbel 1997).[3] Such fervent NIMBYism brings to mind Michel Foucault's (1995, 296, 223) laterally enforced "supervision of normality" within disciplinary society, the "panopticisms of every day" that mark modern social relations.

But leaf blowers not only rankle upper-class NIMBYists; they also make an imprint on how we think and relate to each other under neoliberal capitalism. In *Lawn People: How Grasses, Weeds, and Chemicals Make Us Who We Are*, geographer Paul Robbins (2007, 135) argues that we need to pay attention to "the active role of nonhumans in capitalized ecosystems." Nonhumans, he asserts,

> act in different (and potentially contradictory) ways to produce the "subject" we recognize as ourselves. And to the degree that these "objects" obey their own rules. . .it is their rules that set the pace and character of subjected lives. They do so tied to the exigencies of capitalist power, to be sure, but with independent, prior, and often ultimate authority.

This chimes with Marx's (1976, 286) insight in *Capital* that "Instruments of labor not only supply a standard of the degree of development which human labor has attained, but they also indicate the social relations within which men work." Such instruments "of a mechanical kind" help reveal an epoch's social relations and their attendant dysfunctionalities.

As such, the leaf blower is not simply a garden tool you can drop on your foot, but a metaphor that helps us better understand how technology can reorganize space and alter social relations. Henri Lefebvre (1976, 21) noted that

[3]The battles in Southern California continue to this day, with the Newport Beach City Council banning gas-powered leaf blowers in March 2011 (Reicher 2011).

> capitalism has found itself able to attenuate (if not resolve) its internal contradictions for a century, and consequently, in the hundred years since the writing of *Capital*, it has succeeded in achieving "growth." We cannot calculate at what price, but we do know the means: *by occupying space, by producing a space*.

The leaf blower helps us sharpen our focus on a complex reticulation of socio-spatial relations, including the amplification of ecological destruction. The leaf blower embodies within itself the essential anti-ecological gesture of capital as it annihilates the cyclical flow and exchange between ecosystems upon which nature has built its intrinsic integrity. The leaf blower also illuminates a range of relations, from the psychological propensity to disperse responsibility to the encouragement of hyper-individualized behavior to the intensification, racialization, and aggravation of labor relations. To illustrate the racial implications of this particular garden tool, Christopher David Ruiz Cameron (1999, 1089) argues that bans on leaf blowers are "a way to enforce Latina/o invisibility and to subvert attempts by Latinas/os to assimilate into Anglo society." Here, the leaf blower throws light on the pathologies of capitalism and how these pathologies inform the formation of neoliberal subjectivities that corral us into certain kinds of neoliberal citizenship. "What is at issue," geographer Doreen Massey (2005, 147) succinctly notes, "is the constant and conflictual process of the constitution of the social, both human and non-human." In this ever-unfolding interplay between the material and the discursive, it is the non-human actors that all too often are left out.

Temporally, the emergence and increased use of the leaf blower parallels the rise and fortification of neoliberal capitalism and the intensification of ecological devastation. The leaf blower, as a metaphor, reveals the ideological and psychological latticework for a political-economic system driven by despoliation and the diffusion of responsibility, or what economists call the imposition of negative externalities. This process creates perverse incentives to socialize capitalism's unseemly underbelly, and without a democratic referendum. The out-of-sight-out-of-mind mentality inherent to both the leaf blower as technological apparatus and as metaphor is buoyed by rampant atomization, a social mechanism that thwarts collective action through multifarious quotidian vectors.

Leaf Blowers: Born in the U.S.A.

The earliest versions of what eventually became the leaf blower emerged in 1899 with Charles Beariks' invention of a portable garden sprayer in Peshtigo, Wisconsin. Beariks (1899) asserted in his patent for the machine that the sprayer could be "adapted for other purposes" like "washing windows or as a fire extinguisher." By the 1920s, this invention had been transformed by George Clements (1923) into "a hand blower for cleaning machinery which may be quickly and easily converted into a suction device." In 1931, Walter M. Guedel (1931) of Los Angeles first patented a device that was explicitly designed for "cleaning leaves, papers, and other light debris

from lawns, hard dirt or gravel yards, concrete walks, driveways and the like.'' By the late 1940s, inventors had applied for patents for ''portable motor-blower units'' (Breuer and Lanter 1948) replete with shoulder straps for more convenient use. By the late 1950s, the technology had been commercialized as with Toro's ''Wind Tunnel innovation'' and the lawn-blower-like, leaf-blowing ''tornado-on-wheels'' (Banister 1965). In 1973 *Popular Science* reviewed the Toro and Jacobsen leaf blowers, offering a praiseful appraisal that sounded a lot like ad copy: ''they did a fast job of whisking leaves from large areas. They are also great for blasting wind-driven leaves, husks, papers, and debris from shrubs and hedge'' (Dunnes 1973).

To understand the rise of the leaf blower in the U.S., one must first scope back to at least 1910, when the City of Los Angeles constructed an aqueduct that mercilessly slurped freshwater from Owens Lake, which sat 250 miles north at the southern end of the Owens River Valley, a significant watershed for the eastern Sierras, ultimately draining the 112-square-mile water body (Davis 1998, 22) so that Los Angeles could eventually blip, blink, and bling with the most affluent of global cities. This decision put the metropolis on the whipsaw path of volatile nonlinearity—what Mike Davis (1998, 9) has dubbed ''the dialectic of ordinary disaster''—that would roil the region from abundance to drought and back again. Southern California has a long history of technology-induced spatial tradeoffs that have created a tenuous, human-made terrain in need of a long-term environmental plan. As Davis notes, ''For generations, market-driven urbanization has transgressed environmental common sense.'' Such transgressions have triggered an array of unintended consequences.

While leaf blowers—or at least their component parts—were around in one form or another since the dawn of the 20th century, they were not popularized until the mid-1970s when California experienced a severe drought that not only threatened the state's massive agricultural industry, but also propelled suburban homeowners to figure out ways of removing plant debris form their driveways and sidewalks without using up precious water (*New York Times* 1976). According to academic geographer Orman Granger (1979), in 1976 and 1977 California suffered the most intense two-year dry spell in 125 years. In response, the State of California's Department of Water Resources issued a number of reports that highlighted both the severity of the drought as well as the need to come up with water conservation measures (State of California, The Resources Agency 1976a, 1977). Such ''drought strategies'' for ''reductions in noncritical water uses'' included the suggestion that ''Recommendations on watering of home landscaping for best plant growth with a minimum amount of water should be sent out with the water bill to all customers'' and that ''Information on ways to conserve water within the home should also be distributed'' (State of California, The Resources Agency 1976a, 69). In a ''Special Report on Dry Year Impacts in California,'' the Department of Water Resources recommended that California residents ''Cut down on outdoor washing of cars and eliminate washing of paved areas'' (State of California, The Resources Agency 1976b,

24). The leaf blower, by then commercially developed, was there to help. The City of Los Angeles went so far as to mandate their use for cleaning sidewalks and driveways in order to cut down on the waste of much-prized water (National Gardening Association Editors n.d.).

Leaf blower sales spiked. Unlike Las Vegas, what happens in California doesn't stay in California; by 1990 nationwide annual sales of the leaf blower had surpassed the 800,000 mark, and by 1998 almost 2 million were flying off the shelf each year. Ten years later, these sales numbers more than doubled (California Environmental Protection Agency 2000, 7; Butterfield 2011). Commenting on the droughts L.A. experienced in the neoliberal era, David Rieff (1991, 250–251) notes, "it was almost as if the ghosts of the farmers of Owens Valley were finally exacting a gaunt revenge." This parched payback gave rise to a technology they would not likely have envisioned: the leaf blower.

An inconvenient truth about leaf blowers is that it is not uncommon for people who use them to relocate leaves, dirt, and weeds into their neighbor's yard or out onto the street for the city or municipality to deal with rather than collecting, bagging, and disposing of the leaves themselves. This is not only an antisocial manifestation of out-of-sight-out-of-mind mental processes, but also an unequivocal passing of the social buck that relates to what social psychologists have called "diffusion of responsibility." In 1968, John M. Darley and Bibb Latané published a seminal study called "Bystander Intervention in Emergencies: Diffusion of Responsibility." They found that bystander inaction in the face of a victim's plight was less the result of anomie, apathy, or alienation—the explanatory frontrunners of the time. Rather, a bystander's response—or lack thereof—stemmed from the bystander's perception of the observers on hand. In an experiment, subjects were led to believe they were overhearing someone having an epileptic seizure; the result was that the number of bystanders the subject believed were present was a major factor in the likelihood she would report the supposed emergency. The fewer observers in the vicinity, the more likely the subject was to intervene to assist the victim (Darley and Latané 1968, 100–106). This individualized conception of cognition in relation to the dynamic of non-intervention except in extreme circumstances is hardwired into the neoliberal order with the state's relative abdication of social assistance responsibilities.

When you add anti-social technology like leaf blowers to such social-psychological processes and stir, you get powerfully reverberative dynamics that click puzzle-piece-like with the machinations of capital under neoliberal conditions. Political theorist Timothy Mitchell (2002, 298–299) reminds us:

> An economy is assembled out of a variety of agencies and forces, some human and some nonhuman. The powers that combine to make an economy include those of

> machines, humans, corporations, money, electrical and other forms of energy, technology, and chemical and biological processes, among others.

He goes on to note,

> The nonhuman agencies enter into human partnership not just as passive elements to be costed and arranged, but as dynamic and mobile forces with their own powers and logics. Economic practice always comes into being in combination with these noneconomic elements, which it cannot fully contain or account for.

This follows Robbins' claim that in order to better understand ourselves as subjects caught in a discursive and material maze of multinational capital, we must explore "the intimate influences of nonhuman 'objects' in our daily life" (2007, 135). He writes that

> the most persistent and powerful influences making us who we are seem to populate the world around us as a concrete universe of things. . .[T]he landscape is filled to the horizon with co-inhabitants of our ecological metropolis, all "working on us" in different ways. (2007, 137.)

Leaf blower logic illuminates this "concrete universe of things"—one of Mitchell's "nonhuman" forces—and reveals who we are and what we accept as normality.[4]

Technology and Capitalism: "The ideas that are lying around"

The upsurge in commercial use of the leaf blower happened to coincide with neoliberalism's big boost. As is well known, neoliberalism emerged out of the global economic recessions of the 1970s, the New York fiscal crisis, and the perceived failures of Keynesian welfarism. Neoliberal architect Milton Friedman (2002, xiv) famously wrote, "Only a crisis—actual or perceived—produces real change. When that crisis occurs, the actions that are taken depend on the ideas that are lying around."

As the world economy gyrated in the mid-1970s, proponents of neoliberalism—such as Friedman and Friedrich August von Hayek—posited that the best "ideas that are lying around" included bolstering private property rights, prioritizing

[4]The leaf blower *shapes* our thinking, but it does not *determine* it. I'm not peddling a technological determinist scheme here. For a short history of technological determinism in the United States, stretching back to the industrial revolution, see Merritt Rose Smith (1994, 1–35).

entrepreneurialism, promoting open markets, and removing barriers to trade. All this would be accomplished through deregulation, privatization, and the state's removal from most modes of economic planning and ownership. Friedman and Hayek envisioned and worked to bring about the day when constraints on the mobility of capital were removed, financial flows and trade relations were liberalized, and state interventionism in economic matters ceased except in extreme instances. The ostensibly oafish, coercive, and inefficient state was replaced by competitive market relations rooted in competition and choice.

In the 1960s this version of capitalism remained a utopian intellectual current. That changed in 1975 when investment bankers performed a *coup d' finance*, essentially bankrupting New York City. This fiscal crisis led to austerity policies and economic reforms previously untested in such broad fashion in the global North, with the mayor of New York transmogrifying into a powerless puppet while the city's Emergency Financial Control Board pulled the economic strings (Tabb 1982). On either side of the Atlantic, Margaret Thatcher and Ronald Reagan grabbed the baton from Friedman and Hayek and aggressively pushed their policies and ideas, with Thatcher famously invoking the self-fulfilling dictum of TINA: there is no alternative. By the end of the 1980s this mentality had jumped scale to the transnational sphere where the "Washington Consensus"—the International Monetary Fund, World Bank, and U.S. Treasury Department—helped ossify politicized policy into received wisdom. This ideologically drenched "received wisdom" is self-naturalizing and self-reinforcing neoliberalism has become the naturalized ideology humming at an inaudible octave, dished up in our quotidian victuals.

Through privatization, deregulation, individualization, marketization, trade liberalization, and financialization, neoliberalism has become capitalism's new normal, and this has been disastrous for the environment. Joel Kovel notes our contemporary era is marked by "*structural forces that systematically degrade and finally exceed the buffering capacity of nature with respect to human production, thereby setting into motion an unpredictable yet interacting and expanding set of ecosystemic breakdowns*" (2002, 21, italics in original). As Kovel points out, capitalism provokes "a twofold degradation": while nature is relentlessly commodified, negative externalities are devalued and socialized on the altar of capital accumulation (2002, 40). This places us on the path toward "twofold alteration," whereby commodities are concurrently "ecodestructive and profitable"(2002, 53). Those who both implement and long for these commodities are "changed in an 'anti-ecological' direction," thereby becoming implicated in processes of ecological calamity (2002, 53). In that track, economist Robin Hahnel (2011, 83) summarizes what he calls the neoliberal "tragicomedy:"

> A social species, hard-driven to compete for status in a hierarchical society, is fast becoming like the proverbial lemmings, trapped in an economy where the primary means of demonstrating social status is through competitive consumption

> that yields diminishing aggregate benefits even as it accelerates destruction of the environment we depend upon.

Like a leaf blower gusting leaves onto the neighbor's yard or into the street for someone else to deal with, ecological problems get externalized as other people's problems. We are encouraged to reorganize our thinking psycho-spatially and to seek out technical, market-oriented solutions to our ecological tribulations. Thinking metaphorically, the leaf blower helps us downshift scale from the macro-policies of neoliberalism to the micro-physics of socio-political relations that underpin anti-ecological actions.

The historical exploration of technology as an integral facet of capitalism inexorably leads one into a political-economic thicket. Marx was an early adopter of technology analysis and the idea that one could understand macro-economic processes by considering technological developments and their effects on labor. In the midst of writing Chapter 13 of *Capital*, Marx wrote in a letter to Engels that "The clock is the first automatic machine applied to practical purposes, and the whole theory of production of regular motion was developed on it." He concluded that key technologies had "an extraordinary influence on the imagination" (Marx 1979, 68). This thread of thought surfaced in an important footnote in *Capital* where Marx (1976, 493) asserted, "Technology reveals the active relation of man to nature, the direct process of the production of his life, and thereby it also lays bare the process of the production of the social relations of his life, and of the mental conceptions that flow from those relations." In other words technology helps interiorize—through the everyday interactions that join together to create social relations—particular conceptualizations of our relationship to nature. By thinking through technology and how it "reveals" and alters our daily interactions with nature and the "mental conceptions that flow from those relations," we can come to better understand the dysfunctionalities that pock our collective relationship to ecology. If we want to understand our interrelations with nature, we must interrogate our social relations; if we want to understand social relations and the emergent "mental conceptions" at play, examining our relationship to nature is vital. Technology, both as literal instrument and as metaphor, can assist in this dialectical excavation. And this endeavor, in the spirit of Marx, should be steeped in co-evolutional analysis rather than lacquered with positivistic, linear causality.

The leaf blower influences the intensity and pace of labor, inducing what David Harvey (1996, 242–244) calls "time-space compression." This particular garden tool also alters our "mental conceptions" of the ideal yard. J.L. Mey (1996, 228) writes:

> [W]e start thinking differently about the operation itself of yard-cleaning, which the new tool allows us to carry out in a novel way. And it is here that technology has its true impact on the mind: it affects our mental attitude towards ourselves and our environment.

Thus, Mey continues:

> [W]e start to see the entire operation of garden upkeep in a different manner. Whereas we earlier might have tolerated a certain level of unorderliness (say, a certain number of leaves on the grass would be permitted, since it would be near-impossible to get them all out, using a hand-held rake or broom,) the leaf blower forces us to think of a garden lawn as a living room carpet on which even the tiniest white thread is a thorn in the eye and the possible igniting fuse of violent, domestic dispute. (1996, 228)

Rather than the leaf blower becoming a technological appendage of the working gardener, the worker becomes an appendage of the leaf blower. This links laterally to the work of Martin Dodge and Rob Kitchin, which highlights the role of ''technicity'' in the perpetual transformation of everyday life as mediated by technology. To Dodge and Kitchin (2005, 169), technicity signifies ''the extent to which technologies mediate, supplement, and augment collective life; the extent to which technologies are fundamental to the constitution and grounding of human endeavor; and the unfolding or evolutive power of technologies to make things happen *in conjunction* with people.'' As such, ''technicity is contingent, negotiated, and nuanced; *it is realized through its practice by people in relation to historical and geographical context*'' (Dodge and Kitchin 2005, 170, emphasis added).

The leaf blower as a spatial metaphor helps us understand the post-Keynesian, neoliberal moment with its naturalized ideological insistence on individualization processes that discourage cooperation. As with the individual groundskeeper working under intensified labor conditions, we are encouraged to view ourselves as autonomous units maximizing utility and speed. The leaf blower creates an ever more meticulous social construction of the acceptable (leaf-less) grounds, which encourages worker stress and strain. The skyrocketing leaf-blower sales numbers for individuals in the United States promotes possessive individualism at the same time it foments individualization.

Space is crucial to the leaf blower as a metaphor. As Massey (1992, 70) asserts, ''society is necessarily constructed spatially, and that fact—the spatial organization of society—makes a difference to how it works.'' Space is not an empty container waiting to be filled but dynamic, ever-unfolding and socially negotiated. As such, ''the spatial is integral to the production of history, and thus to the possibility of politics'' (Massey 1992, 84). Actual leaf blowers perpetually enforce a certain kind of rigid order on the unordered, persistently tidying the inherent messiness of the yard. The leaf blower as a metaphor extends this to social relations as we are encouraged to slap agentic band-aids onto structural flesh wounds.

Social relations and their concomitant ''mental conceptions'' play themselves out in numerous, quotidian ways. The tendency to otherize responsibility is subtly embedded into our social and political expectations, imbricated in everyday gestures,

and entrenched into custom, familiarity, normality. As Lefebvre (1991, 13–14) notes,

> The most extraordinary things are also the most everyday; the strangest things are often the most trivial, and the current notion of the ''mythical'' is an illusory reflection of this fact. Once separated from its context, i.e. from how it is interpreted and from the things which reinforce it while at the same time making it bearable—once presented in all its triviality, i.e., in all that makes it trivial, suffocating, oppressive—the trivial becomes extraordinary, and the habitual becomes ''mythical.''

Leaf blower logic reveals refashioned social relations through the habitual, the seemingly innocuous everyday gestures we internalize and replicate into hyper-individualized mythical fixity. ''There are a lot of things that don't matter,'' writes avant-garde poet Robert Fitterman (2001), ''and they add up.'' As such, leaf blowers provide a window into understanding neoliberalism's requisite psychological interiority where Kovel's ''twofold degradation'' and ''twofold alteration'' are inscribed.

A century after Marx's letter to Engels, Herbert Marcuse (1964, xv) captured the double-edged nature of technology when he wrote, ''Technology serves to institute new, more effective, more pleasant forms of social control and social cohesion.'' Technology can encourage constrained subjectivities while simultaneously spurring possibilities for enhanced communication and connection. The latter notion is perpetually trumpeted in popular culture, with the celebration of social media like Facebook and Twitter and their purported roles in political processes (e.g., the recent Egyptian revolution) and person-to-person meaning-making. Yet, the former element of Marcuse's shibboleth—technology's social control capacity—also deserves our attention. The material leaf blower and its evolving technicity points us toward the glitzy gerbil wheel of technological innovation or what Guy Debord (1990, 11–12) derisively dubbed ''incessant technological renewal.'' Technological innovation often produces unintended consequences, what Bruno Latour (1999, 281) calls ''the slight surprise of action.'' He notes that, ''whenever we make something *we* are not in command, we are slightly *overtaken* by the action.'' Real-world examples of this phenomenon abound. Antibiotics may help us cure one infectious malady while advancing the spread of even more unstoppably virulent strains of bacteria. Pesticides may allow crop yields to skyrocket before dribbling into the groundwater where they stultify biodiversity. The internal combustion engine allowed for industrial expansion while it paved a carbon path for global warming. The rise of hard-shell ski boots may decrease ankle fractures while opening the door to both a false sense of security and an increase in serious knee injuries. All too often, convenience and foresight in one facet of life leads to nuisance and peril in another. Leaf blower logic lays bare the social diffusion of ecological responsibility as well as technology's unintended socio-cultural effects.

Social Mechanisms and the Atomization of Everyday Life

Aihwa Ong (2006, 3) notes that the ''spread of neoliberal calculation as a governing technology'' is ''a historical process that unevenly articulates situated political constellations.'' The uneven geographical development of neoliberalism need not be treated as singularly extant and spatially specific. This is where social mechanisms come in as a useful methodological tool that can help us understand the making and remaking of capitalism under neoliberal conditions.

The development of social mechanisms owes a great deal to the sociologist Robert K. Merton (1968, 39–40) who insisted social scientists eschew both grand theory as well as singularistic historiographies in favor of ''theories of the middle range'' that ''deal with delimited aspects of social phenomena.'' A social mechanism is ''a delimited class of events that alter relations among specified sets of elements in identical or closely similar ways over a variety of situations'' (McAdam, Tarrow and Tilly 2001, 24). Political scientist John Gerring (2007, 166) parsimoniously pegs the essence of a social mechanism as ''a causal pathway or process leading from X_1 to Y.'' Social mechanisms allow for explanation as they improve the suppleness of a theory, though they cannot be applied universally to all situations. They are analytical constructs that help us identify causal patterns across a variety of historical situations. Nestled in the theoretical stratum between laws and descriptions, between grand theory and historiography, mechanisms are the ''workhorses of explanation'' that are key to carrying out meso-level social science research interested in causation (McAdam, Tarrow and Tilly 2001, 30). Social mechanisms can help us understand the machinations of micro-physical power and how this contributes to neoliberalism's persistent reconfiguration of macro-power in society.[5]

In physics, atomization is the act of separating particles into discrete units. It entails breaking down—or atomizing—a bulk liquid into a multiplicity of smaller droplets or mist particles. Similarly, in the social sciences, atomization is a social mechanism whereby collective units (e.g. families, unions, classes) are reduced to individualized units consisting of one person rather than many. (Recall Margaret Thatcher's catchy yet controversial statement that there was no such thing as ''society'' but rather, only individuals and their families). Masquerading as the end of the social, neoliberalism encourages individuals to ''go it alone'' and maximize their ''utility.'' Atomization allows the technologies and rationalities of neoliberalism to interiorize within the skulls of individualized subjects, marking the marketization of everyday life.

[5]Gerring (2007, 167) notes that for some, ''the attraction of a mechanisms-base causal account is motivated by the prospect that micro-level relations might be *easier* to observe than macro-level relations. From this perspective, the finer pieces of the puzzle—the micro-foundations of causation—can be studied with greater clarity than the larger ambient structures.'' This micro-foundational predilection should not be conflated with methodological individualism.

This tendency toward atomization stretches far back in history. In *Capital*, Marx (1976, 187) wrote that people are

> related to each other in their social process of production in a purely atomistic way. Their own relations of production therefore assume a material shape which is independent of their control and their conscious individual action.

Building from a Marxian foundation, Lefebvre (1991, 151) laconically asserted atomization is "a class weapon." In the contemporary era, where neoliberal processes of production dialectically inflect subjectivization, Marx's "purely atomistic" individual is no less hemmed into the individualized fate, despite neoliberalism's glimmering promise of freedom.

Atomization is related to what sociologists Ulrich Beck, Elisabeth Beck-Gernsheim (2001, xxii), and Zygmunt Bauman (2001) call "individualization." As Beck and Beck-Gernsheim note, the hallmark of individualization is that "society tells us *to seek biographical solutions to systemic contradictions.*"[6] To be sure, individualization—like Marx's "purely atomistic" individual—was around prior to the advent of neoliberalism. Yet atomization has exacerbated this trend under neoliberal capitalism. Atomization is the causal mechanism; hyper-individualism is its structural effect. Atomization undergirds processes of subjectification and hyper-individualization, promoting an anomic orientation as it de-tethers individuals from their social frameworks and networks, replacing lateral collectivities with political-economic individualism. The rational, atomized subject optimizes his or her independence from both other subjects as well as the state apparatus. This social mechanism helps sequester causality and social responsibility, whereby the hyper-atomized social structure encourages us to think that agency matters more than structure. Thus atomization converts citizens into consumers at the strip-mall of governance without government.

Atomization is a regulatory social mechanism that reorganizes space in the service of capital formation and socio-spatial exclusion. Highlighting the role of atomization in this process, Harvey (2005, 64) notes that neoliberalism provides

> the institutional arrangements considered essential to guarantee individual freedoms. The legal framework is that of freely negotiated contractual obligations between juridical individuals in the marketplace. . .The sanctity of contracts and the individual right to freedom of action, expression, and choice must be

[6]Beck (2001, 2) asserts there are two important aspects of individualization: (1) "the disintegration of previously existing social forms—for example, the increasing fragility of such categories as class and social status, gender roles, family, neighborhood, etc." and (2) "new demands, controls and constraints are being imposed on individuals. Through the job market, the welfare state and institutions, people are tied into a network of regulations, conditions, provisos." I prefer the term atomization so as to prevent conflation of the terms individuality, individualism, and individualization.

> protected. The state must therefore use its monopoly of the means of violence to preserve these freedoms at all costs.

The new subjects this process creates are encouraged to view themselves as customers (who aren't always right!), consumers and clients who are encouraged to look after their own interests at the expense of the collective good. This is the microphysics of the leaf blower metaphor shedding light on the macro-picture, with atomization reverberating at multiple scales simultaneously.

Atomization fragments social relations under the banner of the apolitical, or ''post-political.'' Describing the atomized neoliberal subject operating under the influence of flexibilized labor, Bourdieu (1998) writes that hyper-competitiveness:

> is extended to individuals themselves, through the individualisation of the wage relationship: establishment of individual performance objectives, individual performance evaluations, permanent evaluation, individual salary increases or granting of bonuses as a function of competence and of individual merit; individualised career paths; strategies of ''delegating responsibility'' tending to ensure the self-exploitation of staff who, simple wage labourers in relations of strong hierarchical dependence, are at the same time held responsible for their sales, their products, their branch, their store, etc. as though they were independent contractors. This pressure toward ''self-control'' extends workers' ''involvement'' according to the techniques of ''participative management'' considerably beyond management level. All of these are techniques of rational domination that impose over-involvement in work (and not only among management) and work under emergency or high-stress conditions.

As such, atomization and neoliberalism go hand-in-glove, with such technologies of rule found in an array of sites: from barracks to boardrooms, from schools to slums, from workplaces to welfare agencies, and from garages to gardens. We're encouraged to view ourselves as active, atomized subjects ''going it alone'' and ''maximizing our utility'' to improve our lives. This dynamic plays itself out constantly in social relations and consistently in public opinion polls.

In *The Protestant Ethic and the Spirit of Capitalism*, Max Weber (1996, 222) wrote, ''The expression of individualism includes the most heterogeneous things imaginable.'' Nevertheless, public opinion researchers have operationalized individualism and routinely touted it as a key variable—a ''core value''—for explaining U.S. American political culture (Feldman 1988). Economic individualism has long shaped political opinion in the United States, with strong majorities in recent polls putting forth the belief that hard work will help individuals get ahead and that individuals determine their own success in life. Almost three-in-five U.S. Americans (58 percent) believe freedom to pursue their own goals is more important than making sure no one is in need. These results differ sharply from most of the rest of the world's beliefs regarding individualism, personal empowerment, and the notion

that success is determined by forces outside our control (Pew Research Center 2004; Pew Research Center 2005, 116–117). These trends are exacerbated by the fact that the number of unionized workers in the private sector has been reduced to a quarter of what it was at the dawn of the neoliberal era. With the market as one's alibi, utter disregard for those hunched at the bottom of the economic ladder becomes socially acceptable behavior.

There's a flipside to the coin of intensified individualism under neoliberalism: social isolation has increased, with people identifying fewer people they can confide in regarding matters that actually matter to them. As a recent comprehensive study noted, the typical U.S. American's "core confidants" have shrunken measurably with people more reliant on ties with a spouse/partner. Researchers concluded: "The types of bridging ties that connect us to community and neighborhood have withered as confidant networks have closed in on a smaller core group." (McPherson, Smith-Lovin, and Brashears 2006, 372.) Perhaps more memorably, Beck (2001, 33) contends, "community is dissolved in the acid bath of competition," which "causes the isolation of individuals within homogeneous social groups." To be sure, individualism is only a pale proxy for the atomization process. And it should be remembered that individualism—since the days when Tocqueville hailed it as a defining feature of U.S. American society—is a massively elastic term with different meanings in different eras (Thomson 1989,1992).

Spaces of Resistance?

Lamenting humanity's alienation from the natural world and communalism, Henry David Thoreau (1960, 30) wrote in *Walden*: "Men have become the tools of their tools." This aphorism most assuredly applies to the leaf blower, a garden tool that illuminates what Marx viewed as "the process of the production of social relations. . .and the mental conceptions that flow from those relations."

Since their commercial introduction to the U.S. market, leaf blowers have been repurposed in numerous ways. One can attach a spray system to the end of a leaf blower to disperse a pesticide in a fine mist in order to create "an extraordinarily effective mosquito killing machine" (*Drug Week* 2008). After the attacks of September 11, 2001, the Environmental Protection Agency (2007) used leaf blowers in its Residential Dust Cleanup Program to direct exhaust air against walls, ceilings, floors, and other surfaces before carrying out air sampling. In Iraq, the U.S. military has strapped leaf blowers to the front of military vehicles to expose improvised explosive devices by blowing away the dirt and debris that often conceal them (Megerian 2007). When leaf blowers are placed under the socio-political microscope—and it's rare that they are—the focus is most often on: (1) greenhouse gas emissions; (2) noise pollution; or (3) local ordinances and laws related to those two categories. But leaf blowers also serve as a useful, spatially-oriented metaphor for

the hyper-individualistic, out-of-sight-out-of-mind mentality that bolsters and exacerbates the destructive tendencies of contemporary capitalism.

While we do well to focus on how neoliberal economic doctrine is flung through the funnel of institutionalized political processes to achieve the restoration and reformation of capitalist class power, it is also important to zero in on neoliberalism's ideational apparatus, which affects our quotidian interactions, rationalizations, and judgments. Mitchell writes:

> The practices that attempt to frame the economy are not only those that regulate the act of market exchange. They include other forms of social network, powers of desire, technologies of control, and modes of government. Each of these, like the regulations of the market, constitutes both a limit and a horizon, opening the economic to other forces and logics. (2002, 295–296)

Atomization is one such non-market social force that helps plug individuals into the marketized practices of neoliberal capitalism. As a key ideational technology of governance under neoliberalism, atomization slices at the sinews of resistance, defanging dissent as it devalorizes collective action and undercuts the potential for political contestation.

Social-movement scholars have identified key preconditions for collective action, factors that structurally, organizationally, strategically, or tactically make dissent more possible. These preconditions include the ability to: (1) maintain solidarity; (2) attract new recruits; (3) create, nurture, and support movement leaders; (4) generate preferably favorable media coverage; (5) mobilize support from potentially sympathetic bystander publics; and (6) carve out the tactical freedom to pursue social-change goals (rather than put resources toward defensive maintenance needs) (Boykoff 2006, 290). Atomization undercuts achieving these vital preconditions, thus contributing to the stultification of collective contention. This is where space reenters the picture.

As previously discussed, space is socially produced: ''the dimension of dynamic simultaneous multiplicity'' and ''the sphere of continuous production and reconfiguration of heterogeneity in all its forms—diversity, subordination, conflicting interests'' (Massey 2005, 59). Space is constituted through active material practices on the uneven terrain of power relations and structured via enclosure and flow. Clearly, within the whirling swirl of ''conflicting interests,'' technology can swerve the social production of space in particular directions, often with unintended consequences. Atomization and leaf blower logic help colonize social space. As Marx (1976, 563) wrote: ''It would be possible to write a whole history of the inventions made since 1830 for the sole purpose of providing capital with the weapons against working-class revolt.''

Yet, since the process of atomization is spatial, it is also fundamentally social in character, and thus resistance is not out of the question, especially since, as Massey (2005, 100) notes, space "is forever incomplete and in production." She continues: "The open-ended interweaving of a multiplicity of trajectories (themselves thereby in transformation), the concomitant fractures, ruptures, and structural divides, are what makes it in the end so unamenable to a single totalizing project" such as neoliberalism. Since space and place are structured by material politics, we, like the leaf blower, can alter space as we move through it, if a little at a time.

Should we wish to move toward a more equitable "relational ethics" whereby we eschew hyper-individualized conceptions of ethical agency as encouraged by leaf blower use and technology more generally, Sarah Whatmore (2002, 159) argues we need to collectively press toward "ethical praxis" that "emerges in the performance of multiple lived worlds, weaving threads of meaning and matter through the assemblage of mutually constituting subjects and patterns of association that comprise the distinction between the 'human' and the 'non-human.'" In this endeavor, the production of relational space is vital. Harvey (1973, 13) defines relational space as "being contained *in* objects in the sense that an object can be said to exist only insofar as it contains and represents within itself relationships to other objects." Space, he contends,

> is neither absolute, relative or relational *in itself*, but it can become one or all simultaneously depending on the circumstances. The problem of the proper conceptualization of space is resolved through human practice with respect to it.

Rolled together, the "human practice" vis-à-vis the leaf blower and the leaf blower as a spatially oriented metaphor accentuate an array of micro-geographical relations: from the socio-cultural peer pressure for the manicured yard to labor dynamics that tee up nativist anti-immigration sentiment, from seemingly mindless environmental degradation to the technology-induced annihilation of time on steroids.

There may well be a silver lining in the carbon-dioxide-drenched cloud of neoliberalism's recent floundering on the global stage. Because of the collapse of the global economy, people in the U.S. have been forced to collectively hunker down while coming up with new forms of solidarity and collectivity to fight through the morass. Such creative collectivity under duress—the recent protests in Madison, Wisconsin being a shining example—brings to mind a military-speak phrase U.S. troops used in the first Gulf War: "embrace the suck," meaning the situation may be bad, but we need to re-group and deal with it constructively. Contra the social tendencies revealed by the leaf blower, collectivism may now be becoming more of a survival strategy than a political decision for an ever-widening swathe of the population.

Milton Friedman (2002, xiii–xiv) made it his job to concertedly repudiate the ''enormous inertia'' inherent in the ''tyranny of the status quo.'' While Friedman was decidedly wrong on numerous fronts, he may have been right about one thing when he wrote that is was the basic function of intellectuals ''to develop alternatives to existing policies, to keep them alive and available until the politically possible becomes the politically inevitable.'' Shelving the leaf blower could be a constructive step in undermining neoliberalism's ''tyranny of the status quo'' while simultaneously wedging open discursive and material space for progressive political principles and ecosocialist action.

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