# Just Another Manic Monad: Of Glass, Bees, and Glass Bees

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## The Garden in the Machine

> We are all haunted by the possibility that there may be some hope for the future.
>
> —Ernst Jünger

Coal mines have canaries, but aboveground we have bees.[1] Colony collapse disorder is often considered a sign that the entire ecological machine is about to seize, sputter, and die. As with the global economy, the environment appears at once fragile, in peril, mysterious, vengeful, and somewhat numinous. It transcends our ability to think it holistically even as it affects our lives in very tangible and direct ways. Given the extent to which human industry impacts climate and species, the very distinction between economy and ecology—itself a modern phenomenon—may soon seem impossibly quaint. The bees, who are as industrious as any entrepreneur, seem to be the latest sacrifice to our Malthusian economic overlords.[2]

Beginning in the 1930s, Austrian naturalist Karl von Frisch opened humanity's two meager eyes to the honey bee's remarkable society. Over a lifetime of painstaking experimentation and

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observation, Frisch realized that bees communicate both food sources and potential new hive sites through an alien choreography he dubbed "the waggle dance." Suddenly the presumed human monopoly on symbolic communication was under threat, as bees were observed conveying information "by social convention, tacit agreement, or explicit code."[3] In his brilliant book *Insectopedia,* Hugh Raffles peels back the complex scientific, political, historical, and ethological layers around Frisch and his enigmatic buzzing objects of study. Raffles highlights the paradoxes and ambivalences of a scientific mind persecuted by the Nazis (Frisch refused to allegorize the hive for the propaganda purposes of national socialism). But he was also perfectly comfortable with mutilating hundreds of individual bees—a creature he was inordinately fond of—in sadistic experiments designed to yield their collective secrets. On occasion, Frisch would become disappointed with specific subjects or an entire colony when they did not reveal enough or appeared to prefer "resting" than diligently performing for his interspecies ethnography. On other occasions, the bees seemed almost *too* obliging in respect to his hypothesis to the extent that Frisch would begin to suspect that his own presence helped create "a sort of scientific bee."[4]

Born in 1895, nearly a decade after Frisch, novelist, soldier, and entomologist Ernst Jünger also became interested in bees, especially scientific ones.[5] Whereas Frisch once put a Trojan wooden bee in one of his observation hives, only to watch it be stung mercilessly by the real inhabitants as an alien intruder, the erudite warrior wrote a novel about a near future featuring a swarm of glass bees, superseding their organic models. Written in 1957, Jünger's *The Glass Bees* uncannily predicts and depicts the cybernetic world in which we find ourselves today: a world in which "we are all watched over by machines of loving grace" (to quote Richard Brautigan).[6] While others have written on the specific place and significance of this novel within Jünger's biography, philosophy, and dynamically evolving thinking about the nature of war, technology, and, well, "nature" itself, I am more interested in the ways in which this singular text "speaks to" the present with its own voice and with its own uncanny urgency. (This uncanniness is amplified by its proleptic descriptions of today's dispirited Zeitgeist, in terms of neoliberal labor practices, technocultural arrangements, domesticated eschatologies, [post]historical impasses, interpersonal reifications, managed affects, and ecological dread. The world that Jünger depicts is a somewhat abstract portrait of a serene bucolic work campus shot through with distributed dystopian moments and materials.) What follows is not a historicist literary analysis of *The Glass Bees,* even as it

takes "history"—as the name for a certain type of collective exhaustion or foreclosure—to be one of the book's primary themes. Rather, it is a discussion of the ways in which this text anticipates and "premediates," in Richard Grusin's sense, the stagnant form of accelerated pseudoprogress embodied and even celebrated by our technocratic telepresent.[7] Jünger's unsettling vision will help us craft some lenses with which to launch a respectful critique to some emerging philosophies of technology, especially the loose school of thought known as object-oriented ontology (OOO) and especially in relation to its wager concerning the radical isolation of the object from its environment, no matter how "networked" or connected the latter appears to be.

The novel's story introduces readers to Captain Richard, an ex-cavalryman waiting rather apprehensively in the serene garden of the legendary Zapparoni, a postmodern entrepreneur and powerful public figure whom Bruce Sterling, in his introduction to the new English edition, anachronistically describes as a hybrid between Bill Gates and Walt Disney. Richard waits in this garden for a job interview, although the vacant position is unclear (later revealed to be something along the lines of industrial arbitration). Very little happens in the novel, since the "action" (or rather inaction) seems to occur in real time, each hour spent by the reader of the text matching the wait time of the captain. And yet we are given access to the job applicant's inner thoughts as he meditates on the epochal shifts he has lived through whereby "technics have become destiny."[8] These psychosocial changes are no less significant than the passage from the human to the posthuman. Speaking of horses, for instance, Richard explains that "[e]verywhere they had been replaced by automatons. Corresponding to this change was a change in men: they became more mechanical, more calculable, and often you hardly felt that you were among human beings."[9]

Indeed, "Zapparoni's specialty was lilliputian robots." The mogul's first step in conquering the world had been inventing and deploying "tiny turtles" called "selectors": essentially nanobots, "designed for picking and choosing."[10] These worked with everything from money to gems, explosives, viruses, and radioactive materials. In the present of the novel, sufferers of allergies sing the praises of these miniature mechanisms, now that they have successfully sifted away the world's surplus pollen (yet another example of the inextricable "nature" of economy and ecology). Mindful of the fact that one must also seduce the imaginations of the people in order to truly profit from them, Zapparoni also creates his own kind of immersive cinema, which he "had brought to an almost fabulous perfection with his robots and automatons."[11] Actors are

replaced by androids so perfect and vital that young men hurl themselves into the Thames when their amorous overtures to the latter are rejected. What at first seems like an anachronism—Jünger's seeming inability to fully anticipate the computer-generated virtual realm—turns full circle, for while the world of the novel still talks of actual "puppets" or high-tech "marionettes," it also repeatedly hints at mysterious new organic connections. Moreover, with the new remix cultures (in both senses) of synthetic biology in our own world, perhaps computer-generated imagery will soon be a sideshow, or parallel platform, for neo-Frankensteinian hybrids and experiments conducted by half-bored middle school classes. In any case, Captain Richard foresees a time beyond the cyborg entertainers of this new age to a time when "mechanics would become refined to a degree that would no longer require any crude embodiment. Lights, words, yes even thoughts, would be sufficient."[12] In other words, the frame of screen-based entertainment has begun to dissolve, allowing the spectator to step inside a virtual world.[13] "Here," he notes with some trepidation, "a principle operative only in dreams—namely, that matter thinks—seemed to be realized." Zapparoni's "industrial temporal objects" appropriates pan-psychic energies and channels them toward the paparazzi.[14]

Without question, Jünger is spookily prescient when it comes to neoliberal practices and repercussions. Employee files resemble police dossiers. Businessmen have private police, while the public force no longer fulfill its traditional function, reinforcing hired "security" for commercial interests. Even so, control is not so much exercised from a nerve center, since sophisticated automatons enjoy independence of action. What is more, there are no restrictions on the labor schedule, and work goes on "almost continually."[15] Highly skilled artisans work in teams, their creative work owned outright by the company. Moreover, insecurity reigns for this new precariat:[16]

> [W]e live in times when words have lost or changed their meaning and have become ambiguous. This also holds true for the word "house," formerly the very essence of stability and permanence. For some time now a house has become a sort of tent, but without giving the freedom enjoyed by nomads. Buildings are pushed up high, and jerry-built structures rise by the thousands. This would not be so bad if, at least for a short while, one could feel safe in one's own and untouchable home. The opposite is true: today the man who has the courage to build himself a house constructs a meeting place for the people who will descend upon him on foot, by car, or by telephone. Employees of the gas, the electric, and of the water-works will arrive; agents of life and fire insurance companies;

> building inspectors, collectors of the radio tax; mortgage creditors and rent assessors who tax you for living in your own home.[17]

In such a scenario, politics—or economics, so to say—infects everything around it with an unprecedented intensity, scale, and impact. "In the automaton, abstract power becomes concrete and returns into the object," observes Captain Richard. "I noticed nothing of this directly; it was more a question of atmospheric perception."[18] Richard is essentially describing the all too familiar ambient ecologies of homeopathic dread wherein no space seems safe; no site is uncontaminated by the invisible, toxic plumes of neoliberal business as usual.[19] For Jünger, who lived through both the "storm of steel" of World War I and then the even more apocalyptic sequel, commerce and conflict are not only coconspirators but also share a kindred methodology: "hot machinework."[20] "[E]ven war was no longer war. . . . After all, peace is no longer peace."[21] In other words, "the struggle for power had reached a new stage; it was fought with scientific formulas. The weapons vanished in the abyss like fleeting images, like pictures one throws into the fire. New ones were produced in protean succession."[22]

Zapparoni Works is thus a combination of Industrial Light and Magic and General Electric, forging weapons of both destruction and distraction, while Zapparoni himself is revealed to be "the connoisseur and developer of automatons as objects of play, entertainment, and luxury."[23] In describing not only this company but also the global order it helps crystallize, Jünger is anticipating the kind of technical-historical nihilism that finds ever new ways of manifesting itself: Martin Heidegger's "enframing" refracted through Theodor Adorno's disgust of the culture industry. It speaks of the monstrous brood created when Steve Jobs's frozen semen finds a fertile home in Silvio Berlusconi's lurid ambitions. And yet, the productively sterile order of things trumps any breaches of discipline planned by the libido, for "one had the impression that even the molecules were controlled."[24]

Channeling figures such as Jean Baudrillard, Paul Virilio, and J. G. Ballard, avant la lettre, Jünger's narrator notes that "[a]t a certain point in time we can begin to speak of a dynamite civilization (it is no accident that the highest prize for cultural achievements is provided from a dynamite fund): the world is filled with the noise of explosions—from the rapid, diminutive explosions which set in motion myriads of machines, to the explosions which threaten continents."[25] (Let us note in passing that in 1973 Frisch received the Nobel Prize for his work on bees.) Zapparoni is not just an architect of men and human history; he is the (post)human equivalent

of Heidegger's electric dam. Once Zapparoni establishes a standing reserve of resources—especially of those previously not found in nature—then the very concept of nature begins to unravel. Human history has arrived at the point that Timothy Morton calls "peak nature"—"an empty category looking for something to fill it."[26] According to Jünger,

> [W]hen saints like Zapparoni began to appear, the earth itself was threatened. The peaceful stillness of the forests, the depth of the ocean, the outermost part of the earth's atmosphere were in danger. Even in peace they had brought about greater evils than any tyrant or warlord had ever imposed; they prepared poison which no one before had imagined or even known by name. Each day their machines took a toll equal to the casualty list of a single battle, and the yearly toll equaled that of a war—and in what a ghastly manner.[27]

As a consequence of the ruthlessness of "accelerated production," "bread is no longer bread, and wine is no longer wine. They are doubtful chemicals. At present one really has to be unusually rich to avoid being poisoned."[28] Indeed, "[i]n the good old days one sometimes came upon places which 'smelled of powder.' Now a threat is more anonymous, more atmospheric; but it can be sensed. One enters 'zones.'"[29] Scary times indeed, especially when "a half-witted mathematician could cause more damage in a second than Frederick the Great in his three Silesian campaigns."[30]

Historically, pastoralism flowered differently around the world in response to different time frames and cultural contexts. Heidegger retreated to his hut in the black forest in order to condemn the calculating march of technics. Henry David Thoreau took refuge in his own cabin at Walden Pond in order to rail against the encroaching railroads and all the cacophonous modernity they would bring in their wake. The American literary woodsmen had a machine in the garden, while Captain Richard—perched firmly in the next century—finds a garden in the machine.

## The Jünger Games: From Zapparoni Works to Google Glass

> If the condition of things which we were made for is not yet, what were any reality which we can substitute? We will not be shipwrecked on a vain reality. Shall we with pains erect a heaven of blue glass over ourselves, though when it is done we shall be sure to gaze still at the true ethereal heaven far above, as if the former were not?
>
> —Henry David Thoreau, *Walden: Or Life in the Woods,* 1854

The job candidate continues to sit patiently in Zapparoni's Garden of New Eden, as if in the bucolic, civilized bosom of Silicon Valley itself. He tries to fight off the drowsiness encouraged by the hypnotic hum of bees in the nearby flowerbeds. It seems that he has forgotten Zapparoni's warning "Beware of the bees!" But in a surreal moment of mental refocusing, Captain Richard realizes that these reassuringly familiar insects are in this case not as they appear. They move too efficiently, and their bodies are made of a different substance. *These* bees have been made in Zapparoni's workshop. "I at once had the impression of something undreamed-of," he notes, "something extremely bizarre—the impression, let us say, of an insect from the moon. A demiurge from a distant realm, who had once heard of bees, might have created it."[31]

This key moment in the novel,[32] when Richard realizes the extent to which Zapparoni's machines have colonized the wider world, reminds the reader that contending with a broken tool isn't the only occasion that can force the autopilot of human thought and action back into manual. Encountering a new technology for the first time, as it functions precisely as designed and before habit absorbs such a function, may also prompt this experience. These artificial bees are made of transparent glass except for the larger Smoky Grey, whose opacity seems to be connected to his role as managing overseer. The Captain is simultaneously disconcerted and delighted, watching this new man-made species do its work. The sounds they make are synthetic, "as if they were coming out of a mechanical dictionary." And in collectivity "[t]hey resembled less a hive than an automatic telephone exchange."[33] Rather than dissipating, the uncanny aspect grows in proportion to the attention Richard pays to the movement of the glass bees. "It was evident," he notes, "that the natural procedure had been simplified, cut short, and standardized."[34] Indeed, "Zapparoni's creatures proceeded more economically; that is, they drained the flower more thoroughly. Or, could it be that the vital force of the flowers was exhausted after they had been touched by the glass probe?"[35]

The job applicant senses a postnatural imperative—to extract from the environment every last ounce of its resources—perhaps beyond the possibility of replenishing these same resources. For the Captain this somehow transgresses the libidinal economy of ecology itself, leaving no room for a proper give-and-take, no option for reciprocal play of relations. "Bees are not just workers in a honey factory," he asserts to himself. "Ignoring their self-sufficiency for a moment, their work—far beyond its tangible utility—plays an important part in the cosmic plan. As messengers of love, their

duty is to pollinate, to fertilize the flowers. But Zapparoni's glass collectives, as far as I could see, ruthlessly sucked out the flowers and ravished them."[36] He goes on to state that "the whole establishment radiated a flawless but entirely unerotic perfection."[37] In such observations we hear a preecho of Bernard Stiegler's belief that the total deployment of technics has resulted in a devastating cultural climate change in which the libido is all but extinct. Instead, we witness the global momentum of mere drive, in all its pulsional, shortsighted stupidity.[38]

Perhaps it is the new epoch's obsession with glass that leads to "the transparency of evil."[39] Back in 2012, the ill-fated Google Glass Project claimed to provide "an augmented reality . . . [for] the hands free displaying of information currently available to most smartphone users, and allowing for interaction with the Internet via natural language voice commands."[40] In other words, it sought to remove the visible interface between the user and the virtual world so that there is no longer any meaningful distinction between online and offline experience.[41] Zapparoni would be proud (or at least litigious!). Google Glass was shelved in 2015, however, due to a perhaps surprising combination of hostility and disinterest, suggesting that people are not quite ready to step through the silicon looking glass in such a decisive, quotidian way (even as the new popularity of virtual-reality goggles, such as those manufactured by Oculus Rift, suggest an ongoing interest in immersion as a leisure activity). The ubiquitous Microsoft Windows, it must be said, also owes a great debt to glass; a substance that provided one of the most important and enduring metaphors of modern times.[42] The great architectural distinction between the prewar and postwar period is concrete versus glass buildings.[43]

Glass is thus a dominant material and motif in the ongoing intensification of technical modernity, originally occurring naturally, as when lightning struck sand, for instance, but now manufactured en masse to serve as the interface between ourselves and the virtual world. Whether the iPad is an object in Graham Harman's sense or a hyperobject in Morton's, the omnipresence of glass—as a portal to other spaces and entities—cannot be overstated.[44] Glass was one of our most valuable partners during the long Enlightenment and is still so in whatever we want to call this period that has followed. The looking glass, the spyglass, the burning or magnifying glass, the window pane, the picture frame, the glassy pond, the glass of wine or water in the hand: they have all made their remarkable contributions. In his *Protogaea,* Gottfried Wilhelm Leibniz suggests that "nature's first face" is glass:

> For all earths and rocks return to glass through fire, the more so as they approach the appearance of raw stones. Nor would I deny meanwhile that, through further transformations, earth and glass could be produced out of water, which is teeming with divers bodies, as everyone knows. This same material, which is everywhere identical with itself, can take on any form, since there are no ultimate, unchangeable elements. But for us it is enough to note that, through human art and its most effective agent, fire, earth turns to glass. The great bones of the earth, naked rocks and immortal sands, almost all change to glass.[45]

This makes it all the more notable that Leibniz also describes his famous monads (or "simple substances") as windowless. These "true atoms of nature" have "no windows through which something can enter into or depart from them."[46] So, while there is "harmony" between the monads, thanks to divine design, there is no direct interaction. To take the philosopher at his word, then, Frisch could peer into his transparent hive all he likes, but the scientist will never *truly* access the world of the bees. Likewise, Jünger's fictional Captain can try to imagine the experience of the glass bees buzzing mechanically around his feet, but this can only be what Ian Bogost calls an "alien phenomenology."[47] The window, it turns out, is a screen—a screen for projection and withdrawal, according to Leibniz (and today Harman).

The assertion of essential and radical individual isolation, however, has not prevented subsequent thinkers from trying to at least install an aperture into the hypothetical monad. Late nineteenth-century French sociologist Gabriel Tarde, for instance, made a rather bold and brilliant attempt in his essay "Monadology and Sociology." In this work he notes that "[a]s a complement to the closure of his monads, Leibniz made each one a *camera obscura* where the whole universe of other monads is represented in a reduced form and from a particular angle."[48] The original analogy is in fact a mirror—"every monad is a mirror of the universe in its own way"—but the point is the same: the monad is akin to a tiny disco ball, reflecting the dance of the Grand Plan holographically throughout the plenum. Tarde, like many readers of Leibniz, wants more (at)traction between the monads in order to account for all the complex substances and arrangements we see in the world of material forms. "Is there any hope of resolving them," he asks, "by conceiving of open monads which would penetrate each other reciprocally, rather than being mutually external?"

Tarde answers his own question in the affirmative, soon concluding (in stark contrast to Margaret Thatcher) that "*everything is a society*." That is to say, "every phenomenon is a social fact."[49]

Turning Leibniz's infinite orrery inside out, he elaborates: "Science tells us of animal societies . . . of cellular societies, and why not of atomic societies? I almost forgot to add societies of stars, solar and stellar systems. All sciences seem destined to become branches of sociology." Whereas Frisch once wrote that "[t]here is no smaller unit [than the colony]. . . . One single bee, kept all by itself, would soon perish,"[50] Tarde writes that "left to its own devices, a monad can achieve nothing." To evoke Monty Python's *Life of Brian,* yes—we are all individuals. But individuals are not all. "This is the crucial fact," asserts Tarde, "and it immediately explains another, *the tendency of monads to assemble.*"[51]

Anticipating the process philosophy of Alfred North Whitehead, the molecular machines of Gilles Deleuze and Félix Guattari as well as Steven Shaviro's critique of Harman,[52] Tarde sees "equalibria of all kinds" as tricks of the moment rather than timeless essences. Any given individual monad is not an epic biopic of a solitary character but instead is a frozen snapshot of an entity in constant flux, only artificially appearing to be coherent and self-sufficient thanks to the woefully limited perspective of human perception. This is not to homogenize everything into ontological gray goo, however, since Tarde is careful to state that "[t]o exist is to differ; difference is, in a sense, the truly substantial side of things; it is at once their ownmost possession and that which they hold most in common. This must be our starting point."[53] The second step is thus to acknowledge that "identity is only the *minimal degree* of difference and hence a kind of difference, and an infinitely rare kind, as rest is only a special case of movement, and the circle only a particular variety of ellipse." In other words,

> To begin from the primordial identity is to posit at the origin of things a prodigiously improbable singularity, an impossible coincidence of multiple beings, at once distinct from and similar to one another; or else the inexplicable mystery of a single simple being, which would subsequently, for no comprehensible reason, suffer division. It is to commit a similar error to that of the ancient astronomers who, in their chimerical explanations of the solar system, began with the circle and not with the ellipse, on the basis that the former is more perfect.[54]

The seemingly infinite array of forms comprise what Tarde poetically calls the "bizarre and grimacing character of reality." Again, foreshadowing Deleuze and friends, Tarde states that "[f]orms are only brakes and laws are only dykes erected in vain against the overflowing of revolutionary differences and civil dissensions."[55]

Not blessed with cosmic insight, I cannot settle the ongoing argument about whether monads—let's just call them objects—exist on the most profound ontological level in centripetal or centrifugal fashion. While I would like to respect each object's sovereignty, as Harman and much OOO certainly does, I would also be very surprised if they did not come with deeply rooted valences to hook on to other objects, which transform them in turn.[56] Certainly, Frisch and Captain Richard gave themselves many a headache after colliding over and over with the glass windshield of alterity. So, what I have been implicitly arguing (other than my belief that *The Glass Bees* is *the* twentieth-century novel describing the sterile beauty and brutality of the technocratic present) is that the object-oriented branch of "speculative realism" can on occasion confuse babies, bathwater, forests, and trees.

Or perhaps this simply comes down to different definitions of *politics*. Then again, there is rarely anything simple about the implications of such definitions, and Shaviro would prefer to banish the term altogether and replace it with "economics." Does ontology precede culture or unfold outside it? Is there an all-encompassing, radically ahuman reality in which "stuff happens" on a register that we humans cannot access except on the well-trod royal road of "correlationism"? ("Correlationism" is a term coined by Quentin Meillassoux in *After Finitude,* defined as "the idea according to which we only ever have access to the correlation between thinking and being, and never to either term considered apart from the other.")[57] And if so, isn't this ultimately replicating the noumenal domain, readmitting Kant through the backdoor, as it were?[58]

In an online discussion (cum debate) around these themes in 2012, Roger T. Whitson asked "Can a bullet be racist?"[59] The question is neatly designed to prompt us to take sides one way or the other. Do interactions between objects—whether "true" or asymptotic—occur before or beyond the sociopolitical field, or are they instead constitutive of the objects? Does this debate simply rehash the "existence before essence" question? In one corner, Levi Bryant, Bogost, and Harman seek to quarantine object relations (or quasi relations) beyond human contexts such as racism or the profit motive.[60] In the other corner—currently populated by Alexander Galloway, Sarah Ahmed, and others—objects (or at least terrestrial objects) cannot be considered apart from the historical field, just as they cannot be considered outside of the gravitational one. For this latter group, the *il y a* is not a pure given that can then be lacquered within a socioeconomic frame, if one so chooses. The OOO folks would prefer to approach any given event or assemblage with the both/and option of switching modes so as

not to conflate different registers, whereas their critics insist on an either/or stance whereby historical materialism and ideology critique provide the master lenses.

From my own perspective, a nonhuman politics is certainly an interesting approach. Is the wind bullying a storm-cock? Are solar flares local, cosmic upheavals? Are fungal parasites the manifestation of forest-based mergers and acquisitions? Is the fire alarm engaged in sonic terrorism? Or are these just anthropomorphic projections on to the radically apolitical environment? The answers—whatever they may be—are likely to be less glib than the questions appear, at least to the "stakeholders" in each case.

But the issue boils down to whether we believe in "bare ontology" or not—that is, a precoded *zoē* for all existents, whether discursive or material. One suspects not for someone such as Jünger, whose glass bees appear saturated by their conditions of production, or Stiegler, who would no doubt agree with Jünger's narrator and point to a creature such as Dolly the cloned sheep as Exhibit A: an entity whose ontology was completely underwritten by hyperindustrial logics. Some may still insist that no matter how "politicized" the bees are, there is still an invisible remainder, a metaphysical surplus, or a clandestine core that Zapparoni and his minions cannot access or tap. But as with the current debate between bare and biotechnical ontologists, a chicken-and-egg problem threatens to devolve into one camp yelling "the chicken" and the other passionately insisting "the egg"!

Consider Stiegler's concept of the "industrial temporal object," which has a different kind of ontology than Edmund Husserl's "temporal object" by way of being inherently compromised or debased by the forces that generated it.[61] The World Cup football match is, by virtue of its own origin and entelechy, impure and cultural so that—for Stiegler at least—we cannot speak of its experience or subjectivity outside of the subjection it enforces in the (usually) human user. (Or rather, we can speak about it outside of these conditions and contexts, but we will be missing its essence and effect if we do so. As with the current debate, we spiral back to the "is" versus the "ought.") And as a result, any divergence from OOO's insistence on the fundamental "idiotic" character of objects becomes another occasion for accusing philosophers of being politically naive.[62]

My own sense is that when the economic imperative becomes not only ambient but also supersaturated—when its technologics[63] soaks into the soil of things, like DDT—even the most scholastic philosophy need take heed of these elements in the first instance. This is not to drag conceptual speculation back to the human sphere,

away from nonhuman objects, but instead to appreciate the extent to which power is objective, inscribed in, and enacted through objects. What I have been calling neoliberalism—but could just as well be called Empire or entrepreneurial culture or hypersynchronization[64]—is not itself an object. Instead, it is what Morton calls a "hyperobject": a force such as gravity or the greenhouse effect that impacts everything within Earth's orbit and beyond.[65] In a very practical and direct sense, ecology is a Klein bottle where the noosphere influences the biosphere, and vice versa. This is why Jane Bennett's "thing power" is an important concept regarding the autonomy—even sovereignty—of nonhuman agents.[66] But it needs to be folded back into a circuit where affects, desires, and drives—chiefly the compassionless passion for profit—act as a multitude of tiny invisible hands on our surroundings and the monads that compose it. A power grid may go dark by the virtual "will" of its technical components. However, that will is stronger or weaker at any given moment depending on decisions made in part by humans (even as nonhuman factors bear upon such decisions).

The debate concerning whether objects ultimately withdraw into their own isolation or emerge from processes and networks is compelling and unsettled. Meanwhile, objects mesh and reshape the world, indifferent to the degrees of exhaustion that these "relationships" entail. Lacan may be right when he insists that there is no sexual relationship. However, few would deny that there is still *sex*. The challenge, for both the OOO adherent and the humanoid monads of the twenty-first century, is to inhabit a flat ontology (DeLanda, Bryant) and/or practice an alien phenomenology (Bogost), which extends not only the ecological insights of Karl von Frisch but also the politico-economic-aesthetic ones of Ernst Jünger.

When the ontology of objects is sponsored and enframed by economics to the degree it has become today—where new synthetic organisms and unprecedented forms of organic life are patented and owned by private corporations—we need a holistic political ecology of things in order to better grasp the implications of such novel existents (even as we understand that objects "escape" these factors in many ways as well). OOO has been exceptionally useful in its ability to "bracket off" of the human sociopolitical world in order to bring our ontological others into sharper relief.[67] But these brackets should be retractable, depending on the problem or question at hand. The poetics of alterity can be enhanced, and not necessarily compromised, by an ahuman—or only partly human—understanding of politics. After all, thanks to the invisible waves and tendrils of technology, the polis now covers the entire planet.

Such a declaration intends not to perversely crown ourselves as despoiling king of creatures but instead to merely underline certain scientific facts about the infusion of industry into the very marrow of the earth. Traces of humanity have now smeared the globe like a giant tongue licking a lollipop. But this does not mean that the lollipop now somehow "belongs" to us.

And to speak of the academy for a moment, surely in a time of pedagogic metrics and "learning outcomes"—where the inhumane logic so apparent in Jünger's novel has permeated even the most liberal educational institutions—it is important to encourage students to make glass bees that flirt with flowers rather than simply ravishing them. That is, it is important to help them learn to play what Herman Hesse called "glass bead games"—counterintuitive, ludic recombinations of aesthetic elements—of which I consider much OOO to be a notable example.[68] Only by tracing their own diagonal connections—outside of "national research priorities"—will the next generation realize that there are types of knowledge that may not necessarily be "applied" but still lead to important epiphanies: both psychologically and socially. Through tracing such connections and novel relationships, we can better understand how Leibniz's lonely monads became more manic over time, obliged by accelerating modernity to mingle, relate, and "team build" while still experiencing isolation and social anxiety. (There is no "I" in network.)

For Estonian biologist Jakob von Uexküll, each consciousness is limited to its own bubble, or *umwelt* (environment).[69] In this scheme, it makes little sense to talk of a single objective world, to which different creatures have different kinds of access (sonic, visual, olfactory, and so on), instead of a plurality of different (occasionally interlocking) perspectives. In a sense, Uexküll extrapolated the theory of the monad for the purposes of a phenomenal ethology. Even as humans, with our impressive apparatus for augmenting and extending our senses, we are ultimately trapped in our own *umwelt* bubble (because we can only experience these new technical sensitivities via our own biological infrastructure). But what I am calling the "manic monad" is a figure designed to trouble the idea of essential isolation at any level: biological or ontological (although I am willing to concede a countertwin who pulls in the opposite direction—a depressive monad, if you will). This manic monad reaches beyond its own ipseity to remind us that metaphysical bubbles were in fact *always* ready to morph into Peter Sloterdijk's foam (if that isn't too disgusting an image).

For Sloterdijk, spheres are the archetypal model or "anthropological concept" for ontological thought. This perfect shape

allows humanity to represent its own metaphysics to itself. By this account, bubbles—as we have seen—are enlisted to describe the originary intimacy of individuality. Bubbles are thus "the basic molecule of the strong relationship."[70] For the architects and engineers of the Enlightenment, spheres—especially in the form of globes and orbs—inspire and embody the englobing tendencies that have since shaped and structured our own planetary *umwelt* (that is, the material exoskeleton of the Anthropocene). Today, however, the phenomenology of the isolated bubble or sphere has multiplied and collapsed. "In foam worlds," Sloterdijk writes, "the individual bubbles are not absorbed into a single, integrative hyper-orb, as in the metaphysical conception of the world, but rather drawn together to form irregular hills. . . . What is currently being confusedly proclaimed in all the media as *the* globalization of the world is, in morphological terms, the universalized war of foams."[71]

In other words, bubbles can link as much as they can quarantine—for better and for worse.

This is something Flora Thompson understood, even in the midst of her distinctly unmodern and bucolic upbringing, when she wrote:

> A little later, remembering man's earthly origin, "dust thou art and to dust thou shalt return," they liked to fancy themselves bubbles of earth. When alone in the fields, with no one to see them, they would hop, skip and jump, touching the ground as lightly as possible and crying "We are bubbles of earth! Bubbles of earth! Bubbles of earth!"[72]

## Notes

1. In a case of unconscious cross-pollination, Jussi Parikka's "Insects and Canaries" also discusses the glass bees in Jünger's novel—itself an extension of his remarkable work on Karl von Frisch and others in *Insect Media: An Archaeology of Animals and Technology* (Minneapolis: University of Minnesota Press, 2010). See Jussi Parikka, "Insects and Canaries: Medianatures and Aesthetics of the Invisible," *Angelaki: Journal of the Theoretical Humanities* 18, no. 1 (2013): 107–19.

2. "'This is the biggest general threat to our food supply'" according to Kevin Hackett, the national program leader for the U.S. Department of Agriculture's bee and pollination program. Until recently, the evidence was inconclusive on the cause of the mysterious colony collapse disorder that threatens the future of beekeeping worldwide. But three new studies point an accusing finger at a culprit that many have suspected all along, a class of pesticides known as neonicotinoids. In the United States alone, these pesticides, produced primarily by the German chemical giant Bayer and known as "neonics" for short, coat a massive 142 million acres of corn, wheat, soy, and cotton seeds. They are also a common ingredient in home gardening products. Richard Schiffman, "Mystery of the Disappearing Bees: Solved!,"

Reuters, April 9, 2012, http://blogs.reuters.com/great-debate/2012/04/09/mystery-of-the-disappearing-bees-solved/.

3. Hugh Raffles, *Insectopedia* (New York: Vintage, 2011), 179.

4. Ibid., 181. In late 2012, news outlets reported the tale of beekeepers in the French town of Ribeauville who in late summer "noticed honeycombs filled with emerald- and turquoise-tinted honey. After investigating, they found that a biogas plant about two miles away had been processing waste from a Mars factory. The French bees had been snacking on the technicolor residue left behind by the candy shells of M&Ms." See Amrita Khalid, "Why Do French Beekeepers have To Throw Out Honey Accidentally Dyed Blue and Green by M&Ms?," *Slate,* October 5, 2012, http://www.slate.com/blogs/future_tense/2012/10/05/honey_dyed_by_m_ms_why_do_beekeepers_have_to_throw_it_out_.html. Surely this is only the latest instance of many industrio-ecological by-products, as animals increasingly rely on fabricated substitutes for natural processes.

5. I thank one of the anonymous readers for alerting me to the fact that there is a Jünger Prize in Entomology issued every three years in Baden-Württemberg.

6. First published in Richard Brautigan's 1967 collection of poems under the same name. Richard Brautigan, "All Watched Over by Machines of Loving Grace," in *All Watched Over by Machines of Loving Grace* (San Francisco: Communications Company, 1967); the poem is available at http://www.brautigan.net/machines.html. See also the three-part documentary *All Watched Over by Machines of Loving Grace* (2011), directed by Adam Curtis.

7. Richard Grusin, *Premediation: Affect and Mediality after 9/11* (New York: Palgrave Macmillan, 2010).

8. Ernst Jünger, *The Glass Bees,* translated by Louise Bogan and Elizabeth Mayer (New York: New York Review Books, 2000), 146.

9. Ibid., 29.

10. Ibid., 7.

11. Ibid., 38

12. Ibid.

13. Zapparoni's "rehearsal for total mobilization" is "a closed economic project," since "he had declared war on wires, circuits, pipes, rails, connections. It was a far cry from the hideous aspects of nineteenth-century industrial style" (Jünger, *The Glass Bees,* 159). Given the ambient aspect of this new proto-Apple type of technology, we might consider the current popularity of the steampunk aesthetic as a nostalgic yearning for the days when power leveraged through technics used *actual* levers.

14. Jünger, *The Glass Bees,* 41. "Industrial temporal objects" is a phrase coined by Bernard Stiegler, who seeks to defamiliarize our understanding of media artifacts such as films and TV shows and understand them as large-scale attempts to capture human attention and control the rhythm of their own absorption. See, for instance, Bernard Stiegler, "The Destruction of Primordial Narcissism," in *Acting Out,* 39–82 (Stanford, CA: Stanford University Press, 2009).

15. "My God," Charles Darwin once wrote in a letter, "it is intolerable to think of spending one's whole life, like a neuter bee, working, working, & nothing after all." Janis McLarren Caldwell, *Literature and Medicine in Nineteenth-Century Britain: From Mary Shelley to George Eliot* (Cambridge: Cambridge University Press, 2008), 131.

16. When Zapparoni finally appears for the long-awaited job interview, Captain Richard asks himself "Why, seeing him, was I seized with fear? I do not mean the kind of terror a dictator spreads at his approach. This was more a feeling of guilt, of bad conscience, as I waited for him. In the same way I once stood, dirty faced, in my tattered suit in our hall at home, when my father came in" (Jünger, *The Glass Bees,* 200). The coercion of paternal disappointment, as deployed by "soft" authority figures, is yet another motif of neoliberalism: so much more effective than explicit discipline.

17. Jünger, *The Glass Bees,* 51.

18. Ibid., 52.

19. One might plot a genealogy of cinematic depictions of such zones of atmospheric dread, from Andrei Tarkovsky's *Stalker* (1979) to Todd Haynes' *Safe* (1995). Indeed, as I write, a nearly invisible "chemical" mist is making people ill on the coast of Sussex in the United Kingdom.

20. Jünger, *The Glass Bees,* 58.

21. Ibid., 57. The former cavalryman observes that "[t]hough we later fought on apparently different sides, one and the same machine mowed us down" (Jünger, *The Glass Bees,* 121).

22. Ibid., 73–74.

23. Ibid., 87.

24. Ibid., 187. For a less than serious exposition of the convergence of entomology and peak libido, I refer the reader to the cult B-movie *Invasion of the Bee Girls* (1973).

25. Jünger, *The Glass Bees,* 93.

26. Timothy Morton, "Peak Nature: Capitalism Has No Soul," *Adbusters,* no. 98 (Autumn 2012), http://www.adbusters.org/article/peak-nature-2/.

27. Jünger, *The Glass Bees,* 94.

28. Ibid., 56.

29. Ibid., 117.

30. Ibid., 114.

31. Henry David Thoreau, *Walden: Or Life in the Woods* (London: Avenel Books, 1985), 125–26.

32. For the sake of length and focus, I am not going to explore arguably the most important scene in the novel, when the Captain also notices—to his horror—that the garden is home to dozens of human ears laying around the lawn and bushes. These, Zapparoni later explains (perhaps truthfully), used to be attached to the perfect simulations of human beings on which his entertainment empire is based. A disgruntled designer, however, felt the need to slice them all off—perhaps in homage to Vincent van Gogh—and scattered them around the campus. As the narrator notes to himself, "the increase in amputations is one of the indications of the triumph of a dissecting mentality" (Jünger, *The Glass Bees,* 155), itself an anticipation of one of Marshall McLuhan's key motifs.

33. Jünger, *The Glass Bees,* 129.

34. Ibid., 130.

35. Ibid., 128–29. Perhaps surprisingly, Captain Richard does not make the leap from glass bee to potential military applications. The U.S. war machine, however, is likely working on MAV's (or Micro-Air Vehicles), disguised as insects, for surveillance purposes and perhaps even DNA-sample collection. Closer to the world that Jünger depicts, scientists at Harvard have been working on flying robotic pollinators to replace disappearing bees. See Dina Spector, "Tiny Flying Robots Are Being Built to Pollinate Crops Instead of Real Bees," Business Insider, July 7, 2014, http://www.businessinsider.com/harvard-robobees-closer-to-pollinating-crops-2014-6. This in turn is perhaps the inspiration for the *Black Mirror* episode titled "Hated in the Nation" (2016) in which millions of techno-bees, designed to replace the extinct biological ones, are hacked, hijacked, and reprogrammed to kill. See "US Military Developing Insect Surveillance Drones," Hang the Bankers, July 29, 2012, http://www.hangthebankers.com/us-military-developing-insect-surveillance-drones/.

36. Jünger, *The Glass Bees,* 135.

37. Ibid., 130.

38. For a more detailed discussion of "peak libido," see my chapter "War on Terra" in *Human Error: Species-Being and Media Machines,* 129–93 (Minneapolis: University of Minnesota Press, 2011).

39. Jean Baudrillard, *The Transparency of Evil: Essays in Extreme Phenomena* (London: Verso, 1993).

40. Promotional language from the original YouTube channel for Project Glass (no longer available). See https://plus.google.com/+GoogleGlass.

41. See especially New York's 2012 Fashion Week as seen through Diane von Fusternberg's Google-enhanced lenses in "DVF [through Google Glass]," YouTube, September 13, 2012, http://www.youtube.com/watch?v=30Pjl31cyDY.

42. See Anne Friedberg, *The Virtual Window: From Alberti to Microsoft* (Cambridge, MA: MIT Press, 2006).

43. In this context, it is worth noting that Frisch designed special hives with glass windows in order to observe his colony of bees, just as today's architects design office buildings that beckon intergalactic ethnologists to record and decode our cubicle-shaped labors. Indeed, cybercapitalists such as Kevin Kelly helped establish the notion of "the hive mind," encouraging a conscious becoming-insect of our own identities when interlinked on the Internet. Kevin Kelly, *Out of Control: The New Biology of Machines, Social Systems, & the Economic World* (New York: Basic Books, 1995).

44. For Harman, every object is primarily an isolated monad with a self-identical essence that "withdraws" from the world's attempts to know or even touch it. See also Graham Harman, *Tool-Being: Heidegger and the Metaphyics of Objects* (Chicago: Open Court, 2002). For Morton, hyperobjects are "things that are massively distributed in time and space relative to humans. A hyperobject could be a black hole. A hyperobject could be the Lago Agrio oil field in Ecuador, or the Florida Everglades." Timothy Morton, *Hyperobjects: Philosophy and Ecology After the End of the World* (Minneapolis: University of Minnesota Press, 2013), 1.

45. Gottfried Wilhelm Leibniz, *Protogaea,* translated and edited by Claudine Cohen and Andre Wakefield (Chicago: University of Chicago Press, 2008), 7.

46. Nicholas Rescher, ed., *G. W. Leibniz's Monadology: An Edition for Students* (Pittsburgh: University of Pittsburgh Press, 1991), 17.

47. Ian Bogost, *Alien Phenomenology: Or What It's Like to Be a Thing* (Minneapolis: University of Minnesota Press, 2012).

48. Gabriel Tarde, *Monadology and Sociology,* translated by Theo Lorenc (Melbourne: re.press, 2012), 26.

49. Jünger, *The Glass Bees,* 28.

50. Raffles, *Insectopedia,* 186.

51. In Tarde's view, monads are drawn together like magnets in order to make things happen. "When this maximum is attained at the point of universal cohesion, then desire, now entirely fulfilled, will be annihilated, and time will come to an end" (Tarde, *Monadology and Sociology,* 34). In other words, the Big Bang will end with the Big Whimper.

52. See Steven Shaviro, "The Actual Volcano: Whitehead, Harman, and the Problem of Relations," in *The Speculative Turn: Continental Materialism and Realism,* edited by Levi R. Bryant, Nick Srnicek, and Graham Harman (Melbourne: re.press, 2011).

53. Jünger, *The Glass Bees,* 40.

54. Ibid.

55. Ibid., 46. Interestingly, Tarde wrote his own science fiction novel, *Underground Man* (*Fragment d'histoire future*) in 1896. This postapocalyptic story, which details the attempted renovation of civilization, has a decidedly less dystopian tone than Jünger's tale.

56. While Harman is the most strident voice taking the "monadic" position in these debates, he provides a nuanced take on the question of the object in relation to alterity in *The Prince of Networks.*

57. Quentin Meillassoux, *After Finitude: An Essay on the Necessity of Contingency* (London: Continuum, 2008), 5.

58. See Andrew Cole, "Those Obscure Objects of Desire," *Artforum,* Summer 2015, 318–23.

59. Roger T. Whitson, "Social and Other Ontologies," Roger Whitson website, September 17, 2012, http://www.rogerwhitson.net/?p=1809.

60. On his blog Larval Subjects, Bryant writes: "What OOO refuses is the thesis that we have to either hold that 'physical beings' are constructed by discourses (discursivism) or that we must hold that discourses are mere figments of the mind that are unreal. Both, for OOO, belong to the domain of being or existence. This is probably why OOO tends to come under so much criticism from both sides of the debate. The scientific realists are aghast that we would claim that things like myths or the discourse of creationism are real entities in the world that have real effects, and thereby take us to be undermining science and treating it as equal with creationism (we're not). The social constructivists are aghast that we would say that rabbits, aardvarks, black holes, etc., are real material entities in the world irreducible to discursive constructionism, and take us to denying the discursive construction of things like race, gender, nationality, etc., thereby allowing a dangerous essentialism in the door (we're not). What we've instead tried to do is adopt a more inclusive ontology that allows us to think the complex imbrication and interaction of a variety of entities, discursive and material, in the world." Levi Bryant, "On Ontology," Larval

Subjects, September 15, 2012, http://larvalsubjects.wordpress.com/2012/09/15/on-ontology/.

61. For a clear yet sophisticated discussion of Stiegler's notion of "industrial temporal objects"—that is, cultural commodities or artifacts that synchronize individual attention and memory at an industrial scale, according to preset rhythms—see Daniel Ross, "Review of *Technics and Time, 3: Cinematic Time and the Question of Malaise,*" Screening the Past (August 2011), http://www.screeningthepast.com/2011/08/technics-and-time-3-cinematic-time-and-the-question-of-malaise-bernard-stiegler/.

62. Of OOO and speculative realism, Alexander Galloway writes that "this philosophical school seems to have an impoverished if not naive grasp of relationships, particularly the relationship between thinking and being. Indeed, this is precisely the point. Representation and interpretation were in the crosshairs from the outset, with Meillassoux's critique of correlationism specifically targeting thinking's interpretive relationship toward being. As a result, the field has produced two basic approaches to relation, those who prioritize and fetishize relation to such a degree that it loses much of its meaning . . . and those who marginalize relation in favor of some other overarching concept." "The Legacy of That Thing That Happened After Poststructuralism," e-flux, September 2015, https://conversations.e-flux.com/t/alexander-galloway-on-the-legacy-of-that-thing-that-happened-after-poststructuralism/2422.

63. I borrow the term "technologic" from Gray Kochhar-Lindgren, whose book of this name was the first to bring my attention to Jünger's neglected novel. Gray Kochhar-Lindgren, *Technologics: Ghosts, the Incalculable, and the Suspension of Animation* (Albany: SUNY Press, 2005).

64. "Hypersynchronization" is Bernard Stiegler's term for the way in which the delivery systems and promoted products of the program industries encourage human consumers to become "herdlike" (Stiegler, *Acting Out,* 55). In my recent book *Infinite Distraction: Paying Attention to Social Media* (Cambridge, UK: Polity, 2017), I offer a complementary twist of this term, "hypermodulation," which describes the ways in which these same forces also encourage us to be somewhat out of sync with each other to avoid a dangerous surge of collective attention to the same issues ("dangerous" to the smooth functioning of the system, that is, not to the people who currently depend on it).

65. Morton notes the vexing situation where the assumed "ugliness" of wind farms, based on an obsolete aesthetics of reified "Nature," actually works to continue harming existing ecology. Interestingly, Leibniz himself was an early and passionate advocate of wind power and spent many years designing systems that he failed to convince the local silver mines to adopt. See Claudine Cohen and Andre Wakefield's introduction in Leibniz, *Protogaea,* xvii.

66. Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham, NC: Duke University Press, 2010).

67. The metaquestion must be—and surely has been, somewhere—asked: Is OOO itself an object with its own monadic quilting point, or is it the temporarily coherent emergent property of speculative flux?

68. Herman Hesse, *The Glass Bead Game,* translated by Richard and Clara Winston (London: Picador, 2002).

69. Jakob von Uexküll, *A Foray into the Worlds of Animals and Humans,* translated by Joseph D. O'Neil (Minneapolis: University of Minnesota Press, 2010).

70. Peter Sloterdijk, *Bubbles: Spheres Volume I, Microspherology,* translated by Wieland Hoban (Cambridge, MA: MIT Press, 2011), 62.

71. Peter Sloterdijk, *Foams: Spheres Volume III, Plural Spherology,* translated by Wieland Hoban (Cambridge, MA: MIT Press, 2016), 71.

72. Originally from Flora Thompson's autobiographical novel *Lark Rise* but in this case lifted from the epigraph to John Crowley's enchanting tale *Little, Big* (New York: Harper Perennial, 2006).