Steps to Planetary Mimesis: The Protean Metamorphoses of Biomimicry

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What is the relation between the concept of the planetary and mimesis? At first sight, these concepts appear to look in strikingly opposed directions, generating a conflict, or agon, between two theo- retical traditions that have long been opposed. If the planetary is a new, untimely concept William E. Connolly introduces to face envi- ronmental forces with self-organizing capacities of their own that cast a material shadow on the present and future becoming of this world, mimesis is an old concept tied to an idealist metaphysics of the past that reduces the world of becoming to an illusory imitation, shadow, or phantom of a "truer," more ideal, perhaps immutable, and certainly fabulous world. Unmasked by Nietzsche as a "fable" or illusion, the ideal world mimesis was supposed to simply copy or mirror, shad- ow-like, is indeed part of what the philosopher famously called the "history of an error:"[1] namely, a metaphysical error that posits intel- ligible Forms over material phenomena, transcendental ideas over immanent forces; a world of Being over and against what Connolly, echoing Nietzsche, calls a "world of becoming."[2] There is thus an onto- logical agon in which Connolly sides with Nietzsche contra Plato to promote what he calls a "minor," materialist, and process-oriented tradition that for a long time was marginalized by a dominant idealist tradition yet is currently re-turning to help us face planetary forces in the epoch of what Connolly now calls "climate wreckage."[3] In touch with pagan cosmologies, the minor tradition includes figures ranging from Hesiod to Lucretius, Spinoza to Mary Shelley, and Whitehead to Deleuze, among other exploratory thinkers who conceptualize the planetary in terms of immanent, self-organizing, and volatile forces that cannot simply be reflected, and thus stabilized, in a unitary, ideal, metaphysical Form.

Why, then, join these two opposed concepts to affirm planetary mimesis today, since they rest on antithetical ontologies that oppose an old idealism to a new materialism? Because an emerging minor tradi- tion in what I started calling—in regular dialogue with Connolly's work over the past decade—"mimetic studies"[4] has been very sensi-tive to the volatile, affective, and

molecular powers that cannot be contained by ideal Forms. Rather, these operate as immanent forces on what Connolly often calls the "visceral register of cultural life," which I group under the rubric of "mimetic pathos." The focus here is on an imperceptible affective register that generates what we agree to call a mimetic contagion or mimetic communication that goes beyond good and evil in the sense that it can generate both (new) fascist movements on the far right and swarming movements on the pluralist, democratic side. Thus reframed, mimesis turns out to be a Janus-faced, or rather, a protean concept that can take not one, but many forms. No wonder that already Plato, who first introduced the concept of mimesis on the theoretical scene, in a minor dialogue titled Ion, compares the mime- tician to a strange god: namely, the sea-god "Proteus" characterized by his capacity to "twist and turns, this way and that, assuming every shape;" and, the philosopher specifies, addressing Ion himself, "until you finally elude my grasp and reveal yourself as a general."[5]

There are indeed political dangers nested in the powers of mimesis (from mîmos, actor or performance). Both Connolly and I worried early on, well before Donald Trump was elected president in 2016, that they could be put to pathological (new) fascist use. The view was not popular at the time. Still, in the wake of the storming of the US Capitol on January 6, 2021 the warning should have been clear not only in theory but also in political practice. Instead, Trump was swept into office yet again in 2025 with all the (new) fascist pathologies that predictably ensued. These included systematic attacks on demo- cratic processes illegal deportations, siding with authoritarian coun- tries contra invaded countries, attacks on universities, media, health organizations, and the government itself, prosecution of judges, not to speak of allegiances with billionaires who own social media and citizens' data to name a view pathologies that threaten to culminate in yet another fascist coup . Citizens beware: this protean figure could indeed easily turn into a general that would be fatal to US democracy. Let me thus repeat the warning: mimetic powers can be mobilized by actors, all kinds of actors, to generate contagious affects that trigger violent, visceral drives among resentful crowds under the mimetic spell of a tyrannical leader. Connolly was amongst the first to sound the alarm bell in Aspirational Fascism (2017); I echoed the warning in (New) Fascism (2019)[6] in his company—joining voices, so to speak, to get ahold of a protean phantom that, after a predictable insurrection in 2021, managed against all odds to use the spellbinding powers of mimesis to return to power again.

But my comparison between Trump and Proteus, I always felt, was not entirely fair—to the god Proteus, I mean. This leads us to the other, life-affirmative, planetary side of mimesis. The Homeric god, I would like to suggest now, dramatizes mimetic twists and plane- tary turns that are not simply pathological. On the contrary, they are vital to affirming protean metamorphoses that rely on both pathos and logos and are thus patho-logical in the sense that they go beyond the reason/affect, mind/body,

human/nonhuman divides, fostering in the process what Connolly calls a "politics of swarming:"[7] namely, a democratic, pluralist politics that is sensitive to "human entangle- ments with multiple beings and forces," promotes "role experimenta- tion" that works molecularly, or in our language, mimetically, on the "visceral register of cultural life,"[8] to find, among other things, in the nonhuman dynamic of swarming assemblages an immanent source of protean collective transformation.

Taking inspiration from Connolly's use of animal mimetism vital to what he calls Facing the Planetary, I propose three minor steps to planetary mimesis. Drawing on a minor tradition in mimetic studies that provides an alternative path to dominant idealist traditions that go from Plato to René Girard, I propose to move "diagonally," as Roger Caillois would say, from the Homeric myth of Proteus to Connolly's concept of "swarming" to the recent field of "biomimicry"—all of which join forces to propel mimesis beyond nature and culture while also rooting our focus of attention down to Earth.[9]

FIRST STEP: PROTEUS'S METAMORPHIC POWERS

"Protean" is an adjective that appears with increasing insistence in Connolly's writings, making genealogists of mimesis wonder: Who, then, is Proteus, and wherein lie his mimetic powers? As often with Homeric gods animating a world of becoming, it is difficult to offer unilateral answers, for Proteus's identity is plural and multifaceted. No wonder Plato feared his "twists and turns" that slip through unilateral and stabilizing identifications. Lest I be accused at the outset of being a Platonist, let us thus start by recalling the Homeric myth. For after all, what is Platonism if not an idealist attempt to stabilize the world of becoming dramatized by Homeric natural gods with an illusory world of Being that will have to wait for Nietzsche to be unmasked as a fable? As Nietzsche succinctly puts it in On the Genealogy of Morals: "Plato versus Homer: that is the complete, the real antagonism."[10] Hence the need to re-turn to Homer to promote an immanent mimetic turn that goes beyond nature and culture and, as we shall see and feel, continues to animate Connolly's protean politics of swarming as well.

Proteus is, first and foremost, a sea god, but since he is also a god of prophecy, he is also a sort of seer who holds strange powers over sea currents and winds. We first learn about him in Book 4 of the Odyssey (ca. eighth century BCE) as Telemachus, who is looking for his father, pays a visit to Menelaus, Helen's husband who had fought at Ulysses's side at Troy. Recognizing Ulysses's features in Telemachus, Menelaus is inspired to tell the story of how he and his men on the way back from Troy were stuck on the island of Pharos, near Egypt, with nary a breeze, for twenty days. A mysterious god, Menelaus tells Telemachus, was "blocking me from going home across the teeming sea"[11]—a mimetic repetition, or rather, anticipation of Ulysses's own fate. Then, Menelaus reports that out of pity, a goddess named

Eidothea—that is, a knowing (eidos) goddess (thea)—tells him to seek out her father, an immortal old sea god. She says: Stranger, I will be frank with you. A deathless old sea god haunts this place, named Proteus of Egypt, who speaks infallibly, who knows the depths of seas, and serves Poseidon.They say he is the one who fathered me. (4.381-385)

There is thus a phantom sea god with knowledge of "the depths of seas" that haunts the windless island. Menelaus is advised by Proteus's daughter to catch her father and pin him down to earth until he reveals how to break the spell on the island and foresee future events to come. Of course, the goddess immediately adds: "It is not easy for a man to catch a god" (4.395-6). Proteus, also known in the Odyssey as the "Old Man of the Sea" is, in fact, endowed with disconcerting mimetic powers of metamorphosis that go beyond the human, for they entail transfor- mation into nonhuman animals, stretching to include planetary forces as well. Thus, Eidothea warns Menelaus: "In trying to escape, he will change shape to every animal on earth, and then water and holy fire" (4.415-417). If Plato restricted the powers of mimesis to stabilizing ideal forms, Homer urges us to think again. At the dawn of mimetic studies, he already linked mimetic metamorphoses to nonhuman forces that go beyond human control.

In any case, rather than appeal to a transcendent god, an imma- nent strategy is needed to wrest prophetic secrets from the sea god. Proteus, Eidothea continues, will come back from the sea to rest in his cave where he usually "lies down in the middle" of a herd of seals— who she also calls, "daughters of the salty sea" (4.411). This is why Homer specifies that Proteus is "like a shepherd among his flock of sheep" (4.411-412)—a master of mimesis among mimetic animals. To be sure, a mythic tradition that goes from Homer to Plato and reaches, via Nietzsche and Foucault, into the present, reminds us that the herd is linked to a passive mimesis affecting docile masses, or crowds. Yet Homer also paves the way for a more active, metamorphic, protean mimesis that goes beyond nature and culture and can still serve as an inspiration in contemporary periods in which the nature/culture binary no longer holds.[12]

Here is how Menelaus, after hiding mimetically under seal carcasses, describes to Telemachus the scene of his mimetic agon with Proteus. Both the human character and the divine figure adopt mimetic tactics that go beyond defense and offense, activity and passivity in an agonistic scene Homer dramatizes in detail: With a great shout we pounced on him and grabbed him. The old god still remembered all his tricks, and first became a lion with a mane, then snake, then leopard, then a mighty boar, then flowing water, then a leafy tree. (4.454–459)

In this agonistic scene, mimesis does not entail a passive copy or repre- sentation reduced to the visual logic of the same. Nor is it restricted to all- too-human imitation. The scene thus countervails a dominant idealist tradition that restricted mimesis to illusory shadows that simply represent, at two removes from intelligible Forms—the myth that is often taught in school as an introduction to philosophy from its dawn in Plato to its twilight in Hegel

and beyond: mimesis as a deceiving "imitation of nature."[13] Still, if this Homeric cave should not be confused with Plato's cave, the latter's dialogues remain informed by Homeric figures. In fact, by comparing the mimetic rhapsode to Proteus, Plato, in Ion, already shows an awareness that dramatic mimesis is first and foremost a force with metamorphic powers of its own that "twists and turns" and is impossible to stabilize. Plato had indeed been studying Homer closely. He fights mimesis with Homeric images and mythic gods in a strategy characteristic of "mimetic agonism."[14]

For our purpose, it suffices to say that if mimesis was for a long time restricted to a sociocentric concept inimical to processes of nonhuman becoming, Homer's dramatization of Proteus imitating, or rather, becoming lion, snake, boar, leopard, water, and tree, encour- ages us to think again. Nietzsche, at the twilight of metaphysics, will convoke similar animals as he will also affirm "metamorphoses of the sprit" in Thus Spoke Zarathustra.[15] But already at the dawn of mimetic studies, Proteus's metamorphoses of the body make us see and feel that the protean powers of mimesis go beyond nature and culture, imitate non-human life, or bios along immanent lines constitutive of biomimicry (a term I shall return to), and above all, are rooted in forces like flowing water and leafy trees that are constitutive of the "plane- tary" as Connolly understands it.

The echoes between Proteus—that is, mimesis—and the plane- tary are, indeed, plural. I have recounted the myth in some detail for number of entangled reasons that could be summarized as follows: first, in his latest books generally and in Facing the Planetary in partic- ular, Connolly has increasingly turned to myth as a source of inspiration to (pre)face his theoretical explorations of planetary processes—and myth certainly operates on the visceral, affective register of a protean creature I call homo mimeticus; second, the Odyssey dramatizes precisely a world of becoming that entangles human and nonhuman forces generating protean transformations Connolly's "minor tradition" aims to recuperate today—and Homeric dramatizations make clear how role-experimentations allow us to become other in terms that speak directly to the politics of swarming; third, not unlike Homer, Connolly urges new generations of theorists to move beyond longstanding "sociocentric" tendencies in Western thought that restrict agency to humans, in order to attune our senses to planetary forces like ocean currents, sea winds, typhoons, species evolution, climate patterns and other natural processes with "emerging properties that simply cannot be predicted"[16]—Proteus, as a sea-god, is of course intimately attuned to that world as well; fourth, Homer's dramatization of Proteus, not unlike Connolly's dramatization of the planetary, does not conform to linear "gradualist" patterns of transformation but, rather generates sudden twists and forceful turns with "self-organizing capacities"[17] of their own that cannot easily be pinned down. All these principles are, indeed, central to the ancient myth of Proteus as they are to Connolly's contemporary thought on the planetary. The are thus ample

theoretical reasons that justify the genealogical connection with an ancient myth. But there is also a more personal and experiential dimension that needs to be recognized. I lingered on the see-god qua seer because—I am sure the careful reader will have noticed—there are strange mirroring effects at play in this mythic figure that tell us something about the protean theorist we are celebrating in this special issue. After all, Connolly himself has often taken inspirations from mythic seers of the past—Tiresias comes to mind—by impersonating the role of what he calls, "theorist as seer."[18] Not unlike Proteus, Bill Connolly may appear to be a sleepy "old man," but the myth teaches new generations of theorists to be cautious. Appearances can be deceiving. Homer, for one, says that "he knows the depths of the seas." If you wondered why Connolly speaks time and again about the "ocean conveyor system"[19] and the systemic dangers that would follow should the stream of ocean current it generates come to a still, remember Eidothea's advice in the Odyssey: Be careful, for the "old man of the sea" "still remembers his tricks!"

In sum, we have seen and perhaps also begun to feel how, since the dawn of culture, mimesis and the planetary have been entangled in a mythic figure that continues to speak to contemporary efforts to go beyond anthropocentrism in order to learn to imitate the power of nonhuman forces. Let's then put some of these ancient mimetic tricks to contemporary planetary use to face a fundamental question that drives what I take to be one of Connolly's most important books: namely, Facing the Planetary.

SECOND STEP: SWARMING THE PLANETARY

That the metamorphic powers of mimesis are central to Facing the Planetary should be clear enough. It suffices to glance at the book cover and read the subtitle to see, or foresee, that planetary mimesis oper- ates in a way that is at least double, for it informs both vision and affect. On the side of vision, we see a picture or representation that is mimetic not simply in the major sense that it represents a swarm of birds in flight from a visual distance; it is also mimetic in the minor sense that it captures a process of animal becoming in motion gener- ating a volatile assemblage provisionally held together by flows of contagious and embodied micro-imitation. This, at least, is what we see from the visual distance that, to this day, tends to be the dominant sense for theoretical speculation (theory from Greek, theorein, to see; speculation from Latin, speculum, mirror). And yet, as the image of the swarm composed of a plurality of birds flying in sync subliminally suggests, and Proteus's animal metamorphoses have already attuned us to, the shift from sight to in-sight remains rooted in a more visceral, imperceptible and embodied animal mimicry at play in swarming behavior as well—which brings us to the other, less anthropocentric side of mimesis.

On the side of affect, if we open the book and delve into the Prologue, it is clear that for Connolly too, or rather, above all, mimesis operates on the visceral register of cultural life, animating what he also sometimes calls,

"affective" or "mimetic communication."[20] It is thus no accident that Connolly turns to the mimetic medium of myth— not the myth of Proteus but that of Job—not to simply represent but, rather, to dramatize the entanglement of all-too-human suffering with the nonhuman forces internal to the myth. As Plato was the first to fear and Nietzsche was quick to celebrate, mimesis is a mimetic medium in the sense that it generates identifications with culturally shared models with the power to influence generations to come, for both good and ill.[21] If a long Christian tradition that still informs René Girard's mimetic theory has tended to restrict this myth to a depiction of anthropocentric suffering inherited by an original sin and apoca- lyptically oriented towards a theocentric world of Being behind this world, Connolly urges us to change perspectives and root Job's pathos back to the immanence of the Earth.

In an overturning, Nietzschean gesture, Connolly detaches Job's pathos from a transcendental idea of divinity in order to zoom in on the larger self-organizing agentic powers of planetary forces animating this world of becoming. Thus, he brings planetary forces with agentic properties of their own internal to the myth of Job to bear on the epoch of "the Anthropocene" which, he warns us, "has become the Whirlwind of today."[22] In the process, Connolly outlines an ontological agon between planetary forces and ideal forms that our reframing of mimesis has now attuned us to. As he puts it:

> The human estate is entangled with diverse beings and forces fol- lowing trajectories of their own. No pristine harmony here was spoiled by an original sin. Rather, multiple forces on the way both enable and exceed a stability of forms.[23]

These "forces" are mimetic but not in the dominant sense that they copy, shadow-like, pre-existing and stabilizing "forms." Rather, they are mimetic in the minor sense that they are "contagious" and operate on the "visceral" register of cultural life in subliminal ways that are not under conscious control and are thus, in this sense, un-conscious. This also means that a dramatization of these forces calls for a mimetic style of writing that is not simply representational or realistic but, rather, performative, or dramatic. In line with an ancient tradition, Connolly's "turn to myth" is not simply intended to make us see, but rather to make us "see and feel," with both insight and pathos, what he calls "an insurrection of voices straining to be heard beneath the clamor of dominant stories."[24]

Mediated by the voice of The Nameless One in the myth of Job and channeled by Connolly's mimetic writing, the voices clamoring in Facing the Planetary now address readers directly with the following protean questions, clamoring for attention: Where were you when I wrapped the oceans in clouds and swad- dled the sea in shadows? … Do you show the hawk how to fly, stretching his winds on the wind? Do you teach the vulture to soar… He sits

and scans for prey, from far off his eyes can spot it.[25]

If Proteus dramatized the metamorphic powers of mimesis with his body, the Nameless One dramatizes them via mimetic speech. Both are constitutive of the "powers of mimesis."[26] Not unlike the prisoners in the Platonic cave, we are told that Job "becomes spellbound" by these untimely questions. Connolly picks them up and furthers their reach as he breaks the fourth wall to bring these spellbinding questions closer to home. Thus, addressing again the reader in mimetic speech, he adds:

> You might too, as you wonder how so many diverse beings, forces, and energies could coexist in the same world… It is a grand, vol- atile world of multiple forces, perhaps worthy of admiration even if we now construe as minor agents in it.[27]

This address is mimetic in a sense that is at least double. First, it dramatizes a feeling of "admiration" for volatile planetary forces, which figure hawks and vultures as models of non-human move- ments (flying, soaring) worthy of imitation. And second, it does so in a direct or mimetic (rather than indirect or diegetic) speech[28] to inject this feeling of admiration, and thus will to mime, into readers as well. In many ways, the medium redoubles the message in the sense that direct (mimetic) speech aims to generate a performative contagion (mimesis) in readers in view of fostering assemblages that takes the dynamic of animal swarming as a model to imitate (mimesis). A pluralist protean strategy if there is one.

These mimetic tactics, illuminated by our previous detour via the Homeric myth, take us very quickly to what I take to be perhaps the central question Facing the Planetary poses to future generations of theo- rists and citizens. It could be formulated as follows: For a long time, humans aspired to imitate religious figures who, to facilitate imitation, took anthropomorphic form in divine-human figures endowed with virtues of forgiveness, unconditional love, or simply peaceful and loving coexistence… and all too often spectacularly failed in inducing this imitation in all too human groups—and nowhere is this failure more visible today than in cities like Bethlehem and Jerusalem that saw the birth of major monotheistic religions. If this failure is manifest in the history of Western "civilization," and its horrors remain visible for all to see, how, then, can the same humans successfully imitate animals like birds or bees? That is, non-human animals, a dominant sociocen- tric tradition consistently considered inferior to humans—let alone impersonal material forces deprived of anthropomorphic features, like water or trees? More briefly put: If humans already failed to imitate highly valued, human-like figures, how can they succeed in imitating heretofore devalued nonhuman animals?

The mimetic metamorphoses that find a mythic precursor in Proteus are indeed improbable among humans—and Connolly is the first to say it. Yet, this does not mean that they are not necessary. Thus, he speaks of an

"improbable necessity"[29] to set life-affirmative assem- blages in motion vital not only to countering climate wreckage and the neoliberal practices of pollution and consumption that generate it, but also to promoting more sustainable, eco-friendly, and environmental- ly-responsible human practices living entangled other living species on Earth—part of what Connolly calls "entangled humanism." He does so by proposing a "politics of swarming" that takes nonhuman animals as an example to imitate so as to generate what he calls a "new pluralist assemblage organized by multiple minorities."[30] Working against deep-seated sociocentric tendencies that posit ideal anthropo- centric figures as the best models to imitate, or all-too-human (new) fascist models at worse, Connolly overturns perspectives. Once again in a protean Nietzschean gesture, he broadens the powers of mimesis beyond all-too-human figures by taking the swarming of bees as an immanent and naturalist model of collective organization to imitate. This is a non-anthropocentric model of cooperation still in touch with the visceral affect or pathos internal to mimetic modes of communica- tion, but it is equally able to lead to "role performance" and innova- tion from a distance. As Connolly puts it: "A movement in one region may find itself borrowing tactics from those in others, joining with them where and when it is feasible. To and fro, back and forth."[31] This back and forth movement, we may add, is not only between regions; it also entails a back and forth between the visceral register of mimesis (pathos) and the more mediated register of critique (distance) whose interplay generates a mode of thinking-feeling I call patho-logy in the sense that it relies on both affect and reason, pathos and logos. Once patho-logies are caught in a politics of swarming it is crucial to avoid the Scylla of individualistic solipsism central to neoliberal capitalism on one side, and the Charybdis of crowd fusion that drives (new) fascist movements on the other. This is a delicate process of micro-imi- tation that calls for a line of flight. If since Homeric times humans have had difficulties navigating this binary in the past, perhaps nonhuman swarms can provide us with a model to fly over it in the future.

From a different but genealogically related perspective, the emerging field of "biomimicry" proposes a type of imitation that goes beyond nature/culture binaries. As the term (bios = life; mimēsis = imitation) indicates, it provides a non-anthropocentric starting point for the imitation of swarming behavior Connolly performatively fore- sees—which takes us to the third step toward planetary mimesis.

THIRD STEP: THE BIOMIMICRY OF SWARMING

Biomimicry is a new and potentially revolutionary field that is already in productive dialogue with the minor tradition of mimetic studies animating homo mimeticus. It now benefits to be explicitly connected with the politics of swarming as well. Initially proposed by Janine Benyus in a book entitled

Biomimicry, what she calls "the Biomimicry Revolution"[32] started by taking nature as a model for solving down- to-earth technical problems: Velcro as an imitation of thistles, or the imitation of the kingfisher beak to design high-speed trains are classic and widespread examples of biomimicry. Moving beyond techno-fixes to introduce ethical as well as pedagogical concerns, Benyus adds that nature could serve as an example of right "measure" by "providing an ecological standard to judge the 'rightness' of our innovations."[33] Hence nature could serve not only as a "model" but also as a "mentor," paving the way for "an era based not on what we can extract from the natural world, but on what we can learn from it."[34] Taking nature as model, measure and mentor, these three Ms of biomimicry go beyond sociocentrism in view of facing planetary challenges that urge humans to turn to the natural world as a source of mimetic inspiration.

As a first step toward a biomimicry revolution, Benyus provides a variety of rich examples that convincingly show how humans can learn from nature in a plurality of ways—from growing food to recycling, harnessing energy to healing, making things to running businesses, captured via inspiring similes that cross nature/culture binaries such as "Weaving Fibers Like a Spider," "Finding Cures Like a Chimp," "Computing Like a Cell," among others. At the same time, as a first step, it leaves the theoretical implications of taking nature as a model, measure, and mentor open for further elaboration. This is what Henry Dicks sets out to do in a book entitled The Biomimicry Revolution.[35] He proposes biomimicry not simply as a new branch of philosophy of nature but, rather, as a new philosophy altogether that provides alter- native ontological foundations to face catastrophic climate change. Already contributing to expanding the reaches of mimetic studies in proximity to Connolly,[36] biomimicry can now further the politics of swarming by addressing the question of how humans can turn to mimic animal behavior. Conversely, both entangled humanism and mimetic studies add an appreciation of the visceral, affective, and unconscious registers of biomimicry left unexplored so far that need to be tapped into if swarming behavior is to be set in motion among human animals. So far, swarming behavior has not played a central role in a type of biomimicry focused more on consciously abstracting models from nature to apply them to technical problems, but it makes minor appear- ances that can be pursued further. For instance, taking the example of ants to discuss "swarm intelligence," Dicks helpfully notes that "it is not the individual, but the social swarm, that is detecting and responding intelligently to perturbations, such as the emergence of a new food source."[37] Taking the brain as an analogy to articulate the relation between the individual and the collective, Dicks then specifies: Just as individual neurons firing according to a simple set of rules in the brains of mammals may collectively give rise to intelligent responses at the level of the organism, so individual organisms following simple sets of rules may likewise give rise to intelligent response at the level of societies.[38]

Without being reductionist, the analogy is well taken for a reason that is at least double. First, because of its emerging properties, the sum of neurons in the brain (not unlike a swarm) is endowed with intel- ligent responses that are more than the sum of its individual parts (neurons, animals). Yet at the same time, the whole depends on the single parts connecting to the others so as to operate as a dynamic unity. And second, as neuroscientists have made clear since the 1990s, first in monkeys and then in humans as well, a specific set of motor neurons known as mirror neurons confirms the mimetic nature of both human and nonhuman animals. Often operating in unconscious ways, the activation of mirror neurons escapes conscious awareness, yet effectively triggers the visceral/mimetic register of cultural life, both individually and collectively. A long tradition in mimetic studies, now supplemented by the neurosciences, currently confirms that mirroring reflexes must play a major role in collective behavior as well.[39]

In the Biomimicry Revolution, Dicks does not yet engage with this mode of unconscious imitation. Still aspiring to a Kantian ideal of autonomy in view of proposing a "new Enlightenment," he focuses primarily on defining biomimicry as a model of "abstraction." Thus, Dicks writes that "Much of the work carried out within biomimicry concerns the imitation of forms [not forces but forms] abstracted from nature."[40] There is in fact a technological mediation predicated on a rational distance internal to this form of Aristotelian imitation of nature. This is certainly a productive technical strategy to pursue for innovations in technics that are already underway. As we noted, a degree of rational distance is also vital to avoid the danger of irra- tional fusion—a danger that is currently contributing to the rise of (new) fascism. And yet, at the same time, and without contradiction, this neo-Kantian philosophical tradition focusing on abstraction from nature has been complicit in generating what Connolly now calls "climate wreckage" and in blinding us to it. As he puts it: "The drive to master over the earth through abstract sciences, lodged in abstract models of data and logic, and inspired by one model of physics, we may today discern, is one of the drives that helped shield a class of scientists from secerning the time of climate wreckage."[41] Hence the need to both balance abstraction and supplement it with a more imma- nent patho-logical strategy that takes biomimicry as a source of a more visceral, embodied, and affective transformation driven by what I call, echoing Nietzsche, a "pathos of distance"—a concept that indicates an equal attention to both the affective immediacy of pathos and the rational mediation of distance.

From the angle of a politics of swarming, what we can add that supports the biomimicry revolution, then, is that taking nature as a model should not only entail "abstracting" models of behavior from the nonhuman world from a rational distance. Mimesis operates also on the affective, visceral, or molecular register of mimetic pathos that Connolly and I have been stressing over the past decades. As Connolly puts it along lines that further mimetic

studies: We also communicate mimetically across molecular triers, through gestures, tonality of voice, bodily stance, the unconscious choice of words, stutters at untimely moments, visceral responses to smell, and intensities of response to daily stress: the visceral or molecular dimension of life operates within the social structure of selves and cultural processes.[42]

If humans are indeed mimetic animals—or homo mimeticus, as Aristotle foresaw—this also means mimesis operates via all the senses, including the bodily senses that were already at play in the ritual performances and improvised dances that, for Aristotle in primis, provide human animals with the drive to imitate. Thus, in that founding text of mimetic studies which is the Poetics, Aristotle does not forget the embodied and performative origins of mimesis as he reminds us that "the art of dancing presents mimesis in the medium of rhythm, without melody (for dancers, through the rhythms which shape their movements, engage in the mimesis of character, emotions and actions...)"[43] Since time immemorial, humans have indeed participated, body and mind, in mimetic dances and rituals that probably entailed the imitation of nonhuman animals to start with, and later led to the "mimesis of char- acter, emotions and actions" characteristic of homo mimeticus Such dramatic or performative mimesis continues to affect us in ways that are often imperceptible, orienting our bodily and affec-tive dispositions just as much as we push with or against habits of consumption and pollution to open up new modes of behavior. To be sure, habits are not set in stone but can be changed by counter-habits that in turn, via mimesis, become habitual over time. If biomimicry wants to fully exploit its revolutionary potential, then, it should take these visceral mimetic currents that have been driving our species since the birth of Homo sapiens into consideration to affirm metamor-phoses for the future. This is all the more important since mimetism in the animal world—Benyus's weaving spiders or curing chimps— rests primarily on a visceral, embodied and in our sense, un-conscious dynamic that cannot easily be reduced to the human "abstraction of a model from that [natural] system" or the "transfer of the model into the target technological system,"[44] no matter how productive and effective that transfer may be. This does not mean that more conscious and distance elements cannot be "folded" into the affective mimesis animating the politics of swarming. On the contrary, Connolly and I concur that a degree of rational distance from mimetic pathos is vital for the democratic swarm not to turn into a (new) fascist crowd.[45] This means once again that the biomimicry of swarming behavior should sail—or perhaps fly—past the Scylla of a disembodied, abstract, repre- sentational mimesis on one side, and the Charybdis of mimetic fusion and capitulation to a single authoritarian leader with which we started, on the other.

Interestingly, recent studies on swarming behavior in animals suggest that this is exactly the trajectory swarms tend to "naturally" follow. As Helmut Saz puts it in The Rules of Flock (2020), what defines swarming behavior is that: "There never is a commander or leader."[46] As he puts it: "Birds and fish form extensive flocks or swarms, consisting of thousands of animals, swarms which expand, contract and execute complex maneuvers in space—again without any leader or organizer."[47] Who said that mimetic behavior always depends on an authoritarian leader or cannot be the source of individual innovations that are not individualistic but collective in orientation? Certainly not Proteus—sorry, Connolly—who confirms the same biomimetic point as he writes: "[T]he hive [of honeybees] is neither ruled by a queen nor herd-like in its search."[48] Instead, it involves what he calls a few "hundreds of female scouts" who explore possible locations and then return to communicate with a "complex dance"[49] the possibilities of relocation in the world discovered in their immanent explorations. Specific bee-citizens engage in a mimetic dance.

How does a swarm—I do not want to say—form itself but, rather, generate a mimetic transformation in individual behavior to compose a pluralist assemblage? That is, a self-organizing assemblage, or dance, which is neither fusional nor individualistic, neither solely rational nor uniquely affective, but is animated by a complex patho-logical relation of mimetic communication? Formerly explained by the British orni- thologist Edmund Selus over a century ago in terms of "telepathy," that is, feeling or pathos from a distance, tele, it seems that this tele- pathic communication has a self-organizing logic of its own that rests on foundational principles in line with the logic of mimetic pathos. Italian biologists and physicists studying swarms of starlings in Rome, for instance, have discovered that "the crucial feature for each bird was the behavior of its immediate neighbors."[50] Starlings follow their immediate neighbor mimetically without colliding, while adjusting speed and direction to fall in sync with others. This seems to indicate that a delicate balance between proximity and distance, or pathos of distance, is, paradoxically, the key principle for this tele-pathic or mimetic communication to operate, in the case of birds flying across planetary distances. In the end, then, the improbable necessity of planetary swarming seems to reload an old mimetic paradox: The closer the imitation of the neighbor, the more collective distance the swarm can cover; the more a pathos or affect is shared with a proximate other, the more it can be communicated mimetically, magnetically, or tele-pathically to a swarm—that is, a pluralist yet still mimetic swarm whose dance is more than the sum of others and irreducible to the logic of the same. The study of the mysterious, always moving, yet synchronized dynamic of swarms is still in its infancy, but it re-turns to ancient lessons inscribed in the genealogy of protean mimetic figures we traced. For instance, Saz reports a recent suggestion from physics that the tele-pathos of swarming suggests that "bird swarms and magnetic iron actually follow rather

similar laws of alignment."[51] As he puts it: "magnets, liquids, galaxies and much more—this universality is now found to include even the self-organized swarm behavior of animal societies."[52] I find it an interesting coincidence that in the Platonic dialogue we started with, before comparing the mimetician Ion to the sea-god Proteus, Plato—that is, Socrates—also relies on the trope of magne- tism to account for the contagious power of mimesis in general and of Homer's metamorphic figures in particular. Thus, Socrates convokes the "stone Euripides called the magnet," a magnetic stone that does not simply attract the iron rings, just by themselves; it also imparts to the rings a force enabling them to do the same thing as the stone itself, that is, to attract another ring, so that sometimes a chain is formed, quite a long one of iron rings, suspended from one another.[53]

And so, the steps taken towards planetary mimesis bring us back to where mimetic studies started; but like a spiraling movement, or bellowing vortex, the patho(-)logies of biomimicry explored in the company of Bill Connolly widen the reach of new mimetic studies to come. It has in fact been my contention that the powers of mimesis not only cut across space to connect individuals on a horizontal plane of immanence, generating a pathos of distance that constitutes the swarming behavior vital to facing planetary forces. The powers of mimesis also cut across time, connecting genealogically a chain of thinkers of minor mimesis that reaches from antiquity to modernity into the present, informing Connolly's exquisite sensitivity to affective contagion as well.

To conclude, if Connolly's protean work in political theory shares one last feature with the old Homeric sea-god with which we started, it is not so much that he is "like a shepherd among his flock of sheep"— he does not encourage us to imitate sleeping seals but dancing bees instead. It is rather in his protean gift to take mimesis back and forth in nature/culture, self/others, individual/collectives binaries that were never stable in the first place. He does so, among other things, in order to foresee future transformations, face planetary forces, and aspire to be worthy of looming catastrophic events that—as any theo- rist as seer cannot fail to sense—are bound to come. In the process, he does not give in to nihilism but calls for vital metamorphoses of homo mimeticus navigating the turbulent winds and ocean currents of the Anthropocene.

An exploratory scout par excellence, always on the lookout for a line of flight, and busy like a honeybee assembling like-minded explorers of the sprit, and thus of the body, William E. Connolly has spent his career immersed in a dance of mimetic communications with contagious effects that a chain of generations magnetically feel and see. Even from a distance, or rather especially from a mimetic distance, it is clear that Bill's inspiring work, exemplary life, and last but not least, exploratory intellectual adventures will continue to magnetize life-af- firmative metamorphoses vital to facing the planetary in the present and future.

NOTES

1. Friedrich Nietzsche, Twilight of the Idols, in The Portable Nietzsche, edited by
2. Walter Kaufman (Penguin Books, 1968), 463–563, 485.
3. William E. Connolly, A World of Becoming (Duke University Press), 2011.
4. Connolly's most recent book expands the minor tradition to include "pagan cosmologies" while fostering Nietzsche's genealogy of the "history of an error" in light "climate wreckage." See William E. Connolly, Stormy Weather: Pagan Cosmologies, Christian Times, Climate Wreckage (Fordham University Press, 2024), 165–177.
5. Nidesh Lawtoo, Homo Mimeticus: A New Theory of Imitation (Leuven University Press), 9–40. For Connolly's contribution to mimetic studies see for instance William E. Connolly, "Arks at Sea and Arcs of Time," in Homo Mimeticus II: Re-Turns to Mimesis, eds. Nidesh Lawtoo and Marina Garcia-Granero (Leuven University Press, 2024), 323–341.
6. Plato, Ion, in The Collected Dialogues of Plato, trans. Lane Cooper, eds. E. Hamilton and H. Cairns (Princeton University Press, 1963), 215–228, 227, 541e–542a
7. William E. Connolly, Aspirational Fascism: The Struggle for Multifaceted Democracy under Trumpism (University of Minnesota Press, 2017) and Nidesh Lawtoo, (New) Fascism: Contagion, Community, Myth (Michigan State University Press, 2019). As the Coda of the latter makes clear, these books are genealogically entangled. If my critical take on mimesis and fascism is informed by theorists like Nietzsche, but also Le Bon, Bataille, Lacoue-Labarthe, Nancy, and René Girard, the latter has now been misappropriated by figures like J. D. Vance, who, under the influence of Peter Thiel (himself a student of Girard), puts mimetic theory in general and scapegoating mechanisms in particular to violent, pathological, and (new) fascist use. Critical patho-logies, as I call them, can turn into political pathologies. I shall return to this paradoxical entanglement of mimetic theory and fascism elsewhere.
8. See William E. Connolly, Facing the Planetary: Entangled Humanism and the Politics of Swarming (Duke University Press, 2017), 121–149.
9. Connolly, Facing the Planetary, 122, 125.
10. For an account of planetary mimesis that furthers mimetic studies from the angle of critical theory see also Sam Durrant, "Homo Ecologicus: Animism, Historical Materialism and Planetary Mimesis" in The Mimetic Turn, ed.
11. Nidesh Lawtoo, MLN vol. 138, no. 5 (2023): 1520–1544; on the differences between Girard's mimetic theory and mimetic studies, see Lawtoo, Homo Mimeticus 35–40; for a first contribution to biomimicry in mimetic studies see Henry Dicks, "The Biomimicry Revolution: Contributions to Mimetic Studies" in Homo Mimeticus II: The Re-Turn of Mimesis, ed. Nidesh Lawtoo and Marina Garcia Granero (Leuven University Press, 2024), 305–321.
12. Friedrich Nietzsche, On the Genealogy of Morals, trans. Douglas Smith

(Oxford University Press, 1996), III.25;125 (section, paragraph, page).

13. Homer, The Odyssey, trans. Emily Wilson (W. W. Norton & Co., 2020), 45, 4.378–379. Hereafter in-text citation with line number.
14. On the relation between metamorphosis and mimesis see Homo Mimeticus III: Plasticity, Mimesis and Metamorphosis with Catherine Malabou, eds. Nidesh Lawtoo and Willow Verkek (Leuven University Press, 2025).
15. George Wilhelm Friedrich Hegel, Introductory Lectures on Aesthetics, ed. Michael Inwood, trans. Bernard Bosanquet (Penguin, 2004), 47; italics in the original. For an informed historical account that takes mimesis from imitation of nature back to a "human condition," see Gunter Gebauer and Christoph Wulf, Mimesis: Culture–Art–Society, trans. Don Reneau (University of California Press, 1995) and the outputs of the Homo Mimeticus Project available at www.homomimeticus.eu.
16. I discuss the centrality of mimetic agonism for mimetic studies in Nidesh Lawtoo, "The Discus and the Bow: Homer, Machiavelli, and the Grandissimi Esempli" in Homo Mimeticus II, 35–54, 36–40.
17. See Friedrich Nietzsche, Thus Spoke Zarathustra, trans. Graham Parkes (Oxford University Press, 2008), 37–39.
18. Connolly, Facing the Planetary, 51.
19. Connolly, Facing the Planetary, 4.
20. See Connolly, World of Becoming,148–175.
21. See Connolly, Facing the Planetary, 92, 102–108.
22. I first developed this concept to account for Georges Bataille's non-linguistic theory of communication in Nidesh Lawtoo, The Phantom of the Ego: Modernism and the Mimetic Unconscious (East Lansing: Michigan State University Press 2013), 209–280; Connolly joined forces by using this concept to account for aspirational fascism. See Aspirational, 37.
23. I give a more detailed account of the mimetic powers of myth in (New) Fascism, 129–178, and in dialogue with Connolly, 211–226.
24. Connolly, Facing the Planetary, 7.
25. Connolly, Facing the Planetary, 6.
26. Connolly, Facing the Planetary, 1. That the problematic of mimesis haunts the self as a "dynamic polyphony of voices" is subsequently confirmed in Connolly's intellectual memoir, as he revitalizes the trope of the "Double" to account for a mysterious mimetic interlocutor who provides a "counter-voice haunting the I" turning the ego into "quite a crowd" sensitive to the visceral-mimetic register. As he also puts it: "It is the Double that must be worked upon." William E. Connolly, Resounding Events: Adventures of an Academic from the Working Class (Fordham University Press, 2022), 5, 163.
27. Quoted in Connolly, Facing the Planetary, 5.
28. For an account of the "powers of mimesis" in dialogue with Connolly see Nidesh Lawtoo, "The Powers of Mimesis: Simulation, Encounter, Comic Fascism," Theory & Event (22)3 (2019): 722–746 and "The Insurrection Moment: Intoxication, Conspiracy, Assault," Theory & Event (26)1 (2023): 5–30.
29. Connolly, Facing the Planetary, 5.

30. Plato famously distinguishes between “pure narration” (diegesis) and imitation (mime¯sis) by which he means the direct, first-person speech at play in dramatic performances (comedy and tragedy). Plato, Republic, in The Collected Dialogues of Plato, 575–843, 392d.
31. Connolly, Facing the Planetary, 12.
32. Connolly, Facing the Planetary, 9.
33. Connolly, Facing the Planetary, 128.
34. Janine M. Benyus, Biomimicry: Innovation Inspired by Nature (Harper Collins, 2002), 8.
35. Benyus, Biomimicry, n.p.
36. Benyus, Biomimicry, n.p.
37. Henry Dicks, The Biomimicry Revolution: Learning from Nature How to Inhabit the Earth (Columbia University Press, 2022).
38. Henry Dicks’s “The Biomimicry Revolution” precedes Connolly “Arks at
39. Sea and Arcs of Time” in Homo Mimeticus II.
40. Dicks, Biomimicry Revolution, 56.
41. Dicks, Biomimicry Revolution, 56.
42. For a discussion on mirror neurons and collective behavior, see Vittorio Gallese and Nidesh Lawtoo, “Beyond the Brain-Body: A Dialogue with Vittorio Gallese,” in Homo Mimeticus II, 343–375, 369–370.
43. Dicks, Biomimicry Revolution, 100.
44. Connolly, Stormy Weather, 173. In productive dialogue with mimetic studies, Dicks recognized an affective gap in the philosophy of biomimicry and the need to supplement it from a patho-logical perspective. See Dicks “Biomimicry,” 319–320.
45. Connolly, Facing the Planetary, 166. On the role of mimesis, affective contagion, and doubles for Connolly’s work and The Johns Hopkins School of Theory, see also Connolly, Resounding Events, 108–149.
46. Aristotle, The Poetics of Aristotle, trans. Stephen Halliwell (University of North Carolina Press, 1987), 31.
47. Dicks, Biomimicry Revolution 91.
48. I addressed this point in more detail in a review essay of Facing the Planetary titled “The Swarming of Mimesis,” Postmodern Culture (28)1 (2017), https://www.pomoculture.org/2020/10/16/the-swarming-of-mimesis/
49. Helmut Saz, The Rules of Flock: Self-Organization and Swarm Structures in Animal Societies (Oxford University Press, 2020), 7.
50. Saz, Rules of Flock, 2.
51. Connolly, Facing the Planetary, 124. See also Thomas D. Seeley, Honeybee Democracy (Princeton University Press, 2010) and Eugene W. Holland, Nomadic Citizenship: Free-Market Communism and the Slow-Motion General Strike (University of Minnesota Press, 2011). Connolly’s politics of swarming draws from both these books.
52. Connolly, Facing the Planetary, 124.

53. Saz, Rules of Flock, 23.
54. Saz, Rules of Flock, 5.
55. Saz, Rules of Flock, 123.
56. Plato, Ion, 533d–e.