How does an entity come to be? The production of artifacts is of course easily explained through the technical human capacity for identifying (and indeed — under capitalism — generating) needs and wants, and designing and manufacturing solutions from cooking vessels to drone weapons. But, despite the advances of systems chemistry, molecular biology, and both ecological and developmental biology, the coming to be or ontogenesis of natural entities remains fundamentally mysterious, both in the sense of the original emergence of living order from its physico-chemical environment, and in the sense of the development of an individual organism from germ cell to adult form. Arguably, it is this latter mystery that is Aristotle’s own central problem-atic (Aristotle’s universe is one that maintains itself in perpetuity and therefore questions of cosmic origins and the origin of life do not concern him). This ontogenesis has at least two registers: the metaphysical and the biological — the coming to be of beings qua their being, or the question of how a thing emerges where there was no thing before, on the one hand, and the specific biological mechanisms involved in natural coming to be, on the other. While Aristotle’s metaphysics of becoming has perhaps its most programmatic account in the first books of the *Physics*, called by Heidegger the “hidden, and therefore never adequately studied, foundational book of Western philosophy,”¹ the specific mechanisms of natural becoming, at least in the animal kingdom, are covered in *Generation of Animals*.

Technical metaphors of course abound in Aristotle’s accounts of coming-to-be: we are all familiar with the bronze sphere or the statue as the paradigmatic hylomorph, the composite of matter and form as essential causes of an entity, the τὸδὲ τι or “this something” that is the central deictic object of Aristotle’s ontological investigations.² To round out the roster of four essential causes, we might add the moving cause or ἀρχὴ κινήσεως, which is the craftsman himself, and the final cause or “that for the sake of which,” the purpose which the object will serve, for which it is made. Nonetheless the primary problem, the wondrous mystery that all this is marshaled to explain, is the natural organism,
and it is this that forms the central locus of Aristotle’s investigations, and in which the metaphor of technical production plays a pivotal part. The organism—unified, integrated, and complete, an uncreated functional totality of parts and whole—is the very subject and substance of Aristotelian inquiry. As is well known, Aristotle spends the central books of the *Metaphysics* wrestling with how to conceive of such a substance. For, if this substance is a composite of matter and form, the question arises—what is the ground of its unity? How can it be unified or thought of as a unity? Aristotle first examines form, then matter, as possible candidates for the primary substance that would underlie the whole, and finally rejects each in turn, reasserting the irreducibility of the matter-form complex for the τὸ ἄδε τι. In the text the problem is resolved, in a sense, by a change of frame. By turning, in Book Θ, to the potentiality-actuality schema, Aristotle is finally able to treat the “this,” and a fortiori the organism, as a unity that may be understood according to its δύναμις, that is its capacity, potential or possibility—and its ἐνεργεία or ἔντελεσθεῖα, its activity, actuality, and completion. Preparing for this turn, towards the end of Book Η, he writes, “the proximate matter [ὕλη] and the form [μορφή] are one and the same; the one exists potentially, the other as actuality [τὸ μὲν δύναμις, τὸ δὲ ἐνεργεία]. Therefore to ask the cause of the unity is like asking the cause of unity in general; for each individual thing is one, and the potential and the actual are in a sense one.” It is noteworthy that Aristotle is only able to claim any sort of unity for the composite entity once it is considered from the point of view of its development, in process and in motion over time, a motion and process that is, for him, necessarily directed toward an endpoint, a τέλος that has absolute conceptual primacy. We will return later to the question of the nature of the unity designated by the potentiality-actuality schema, and in particular that of the “being at completion” indicated by ἐνεργεία and ἔντελεσθεῖα.

This view of the organism as de facto total, unified, and complete-in-itself has had, in turn, a variegated fate in the history of philosophy and in the biological sciences. The organism—especially the animal organism, with its unity, its structure of interrelated parts contributing to the functioning of the whole, its development from relatively simple origins to an extensively differentiated complexity, the way it is distinguished from its surroundings by a boundary (membrane, integument, carapace, or skin), the operations by which it continually connects with and differentiates itself from the external world—the organism maintains and propagates itself through nutrition, growth, healing, reproduction, locomotion, and perception. All of these mark it out as a specific sort of phenomenon in the world that, in virtue of its mysterious unity in complexity, impresses itself upon the philosopher who, like Aristotle, is interested in the “why” of things. In modernity, a nexus of problems grows up around the figure of the organism, exemplified by a vigorous debate that emerges among nineteenth-century biologists. The conflict is between mechanists, who seek to explain all biological processes reductively in terms of purely physical elements obeying a kind of billiard-ball causality, and those who invoke vital forces
such as the soul, “entelechies,” “archeon,” or life itself, a tendency dismissed as an unfortunate and archaic mysticism bearing the name of Aristotelianism.

In philosophy, Kant’s Third Critique, *Kritik der Urteilskraft*, argues that the organism cannot be understood by the determinate judgements that observe linear, billiard-ball causality. Instead a different sort of judgement must be brought to bear on this object in order to make sense of its reciprocal arrangement of parts and whole and the apparent purposiveness of its being: reflective judgement. This is not to say that purpose is a part of nature, something Kant strictly denies (since he believes such a notion would require a designer); rather, the idea of a teleology or final cause of nature is necessarily projected upon the organism, by us, as we confront and seek to understand it. This thoroughly modern approach, in which our own perceptual and cognitive apparatuses (indeed our own very organismic being) enters into our knowledge of the organism remains central to twentieth-century phenomenological and psychoanalytic approaches, wherein interest in the organism cannot but reflect, at least in part, our own anthropomorphic and narcissistic obsession with ourselves. Elaine P. Miller has shown how, for example, Nietzsche’s dismissal of the ontological significance of the organism in favor of an understanding of nature as multiple, discontinuous, and erratic is rooted in his reading of Kant and Goethe’s critiques of teleology. For Nietzsche, the totality represented by the organism is provisional and precarious, an anthropomorphizing abstraction; following both Kant and Goethe, he contends that any sense of teleological purpose is a fiction. This rejection of the unity and totality represented by organicist thinking, and the resulting demise of the organism as a key philosophical entity is, in the twentieth century, paralleled in the biological sciences with the modern synthesis of Darwinian evolutionary theory and Mendelian genetics. The former takes species and populations as more fundamental than individual organisms in driving biological processes, while the latter roots the focus of biology in the microbiological and molecular processes of the gene. This synthesis, as Richard Lewontin puts it, brings biology “at last into conformity with the epistemological metastructure that already characterized physics since Newton and chemistry since Lavoisier.”

This tendency is felt throughout the biology of the most recent century, with its emphases on materialism in evolution, the molecule, single-celled prokaryotes and archaea, the ecosystem, phylogenetics, and most recently informatics and data-driven approaches. What is absent is the selfsame, midsize, biological organism.

This turn away from the organism and toward processes that unfold over time at both macro and micro levels is found in strains of philosophical thinking stretching from Nietzsche to Henri Bergson, Alfred North Whitehead, Gilbert Simondon, and most explicitly and polemically in the thought of Gilles Deleuze and Félix Guattari. For the latter, the organism represents not simply an anthropomorphic projection, but a truly fascistic imposition of the tendencies of hierarchy, sovereignty, organization, stratification, and Oedipal reproductive sexuality upon an open field of flows, intensities, and indeterminate
potentialities designated as the Body without Organs.\textsuperscript{10} All of these philosophers, interested in the unfolding of temporal processes, in becoming rather than in static, if not ossified, states of being, have no difficulty invoking ontologies of force: Bergson, for example, in \textit{Creative Evolution}, writes that “life is like a current passing from germ to germ through the medium of a developed organism. It is as if the organism itself were only an excrescence, a bud caused to sprout by the former germ endeavouring to continue itself in a new germ.”\textsuperscript{11} Bergson certainly does not pass over the organism or living body entirely, for “it is an individual, and of no other object, not even of the crystal, can this be said, for a crystal has neither difference of parts nor diversity of function.”\textsuperscript{12} And yet, for him this individuation is only a tendency whose limits are made manifest by the phenomena of reproduction taking place over a super-organismic timespan. Of course, since Darwin, the mechanisms by which complexity can arise no longer require an explanation that invokes mystical forces. So, for Bergson, the limitation of mechanistic thinking is not that it cannot account for complex organization, but that it cannot countenance time, and the force that works through time, as real. Indeed, for Bergson mechanism includes not just the classical physical causality of billiard balls, but also a causality that may act by means of releasing (as with the explosive force in dynamite unleashed by a flame) or unwinding (as with the potential energy contained in a spring). Yet mechanism is still insufficient for explaining the push to complexity observable in the phenomenal of life. The force of time, possessing “effective action and reality of its own,” is invisible to mechanists, and Bergson sees in this mechanist limitation an unbearable sense of loneliness and dissatisfaction which follows the thought of a process without finality or end.\textsuperscript{13} The modern Kantian notion of reflective judgement, in which teleological explanations are invoked insofar as they satisfy us, would seem to be at work here, and yet Bergson is not simply reinscribing the traditional opposition between mechanism and teleology exemplified by the individuation of the organism. For him, the notion of the organism as such, as animated by a vital principle, also runs aground on the shore of the insufficiency of internal finality or “absolutely distinct individuality”\textsuperscript{14} as evidenced in the phenomena of reproduction or, indeed, autoimmunity, in which a phagocyte attacks the very organism that sustains it.\textsuperscript{15}

Notable in both Bergson’s thinking and also in Nietzsche’s thought, inflected by Empedocles, is the identification of an anti-teleological, destructive tendency in nature. Bergson affirms that “life does not proceed by the association and addition of elements, but by dissociation and division,”\textsuperscript{16} while Nietzsche finds the occasional unifications of life seen at the level of the organism as provisional and desultory, in a world mostly constituted by “erratic and arbitrary forces that encounter each other in unending strife.”\textsuperscript{17} Nietzsche opposes Aristotle here not simply with his endorsement of Empedocles’ proto-evolutionary stance (against which Aristotle repeatedly polemizes),\textsuperscript{18} but also with an echo of Aristotle’s student, companion, and critic Theophrastus, for whom “the good is something rare and in few [things], whereas evil is much in number.”\textsuperscript{19}
The shift away from organismic thinking we are tracing continues in the mid-twentieth-century work of Gilbert Simondon, who incorporates the social collective and sensory environment into the organism’s purview in his investigations into individuation. Simondon attends not only to the organism’s interactions with its environment or external milieu as inherent to its becoming, but also to its interior milieu, to the pluripotentiality of the developing being – the fact that it could realize any number of developmental pathways. In so doing, he, like Bergson, analyzes the organism’s inherent out-of-phaseness with itself, its non-self-sameness, as key to its development. What results is a new conception of “metastability” in which ontogenesis is understood from the point of view of a process of becoming that fundamentally displaces the substantial finality of the adult individual. And in contemporary biology, disciplines such as cellular and molecular biology, genetics, immunology, microbiology, bioinformatics, and approaches such as medical ecology have emphasized the permeability and precariousness of organismic and cell boundaries, as well as foregrounding web-like constitutive interrelationships between and within the organism and its surroundings, both macro and microscopic. The organism has, in Goethean fashion, become multiple rather than unified, and concepts such as the microbiome have come to take its place. In this view, an “organism” is a collectivity of symbiotic beings constantly interacting with their environment, such that, for example, one no longer “catches” a fungal infection such as Candida albicans from a hostile exterior environment, but one rather experiences an imbalance that leads to an overgrowth of one element that is already part of one’s being qua microbiome. In evolutionary terms, too, the rise of that most unitary of creatures, the eukaryotic single-celled organism, is now widely (if not universally) understood to be the result not simply of accumulated genetic mutations, but of certain chimerical, symbiotic cellular incorporations. Intracellular organelles like mitochondria (the energy-generating centers within cells), chloroplasts (in which photosynthesis takes place), or plasmids are thought to have once been prokaryotic bacteria in their own right, at one time in evolutionary history ingested but not digested by another host bacterium. This leads to a very different view of the organism, and of health and disease, displacing the view that even something as life-threatening as cancer should be thought of as an external enemy to be vanquished. As Dorion Sagan puts it: “[organelles within the cell that were once bacteria] are now generally well behaved, although cancer is noteworthy for the rampant multiplication of the occasionally vampiric mitochondria.” In a Foucauldian register, Ed Cohen has shown how the development of discourse on the immune system in the late nineteenth century, so central to the contemporary conception of a healthy and well-defended organism, relies on a political dispositif of war and defense against a hostile environment, tracing the roots of the very notion of “immunity” to Roman law rather than to the texture and tissue of biological membranes and processes. According to the new models of the body emerging from these discourses,
the notion of the “foreign body,” of what is other to the organism, is as much internal as it is external; no amount of fortification can keep this alterity at bay. The phenomena of life, according to these critiques, appear irreducibly plural and relational, the unity of the organism all but disappears, and the “norms” of “normal” and “healthy” versus “pathological” or “diseased” are, as Georges Canguilhem presciently argued from the 1940s onward, no longer easily opposable or extricable.25

What, then, can a return to the Aristotelian text offer the contemporary thinking of multiplicity, of networks, of anti-normativity and molecularity? Aristotle’s thought is without doubt the site where the organism is instituted as metaphysically hegemonic, where its healthy functioning is offered as a paradigm of being as ἐνεργεία. I seek to show here, in brief, that, against his explicit intentions, there are elements at work in the biological texts that offer a more complex view of the being of the organism.26 To clarify, I am not arguing that Aristotle was something like a contemporary ecological thinker all along. Rather, I want to offer a picture of his thought in which his valorization of organismic unity and healthy functioning as a sign of what is best are continually vitiated by unassimilable factors – by material forces, compulsions, and vicissitudes that work to undermine any claims to metaphysical and ethical unity. I argue that these difficulties and ἀπορίαι may be best understood through the figure of the female offspring, understood as (what I call) “the feminine symptom.” Putting gender at the center of the discourse on the organism will serve, I hope, to clarify some of the stakes of understanding the organism in its normative and topological dimensions, and thus to assist in a reassessment of its contemporary status.

Before developing this notion of the feminine symptom, it is necessary to be as clear as possible about Aristotle’s conception of γένεσις, of natural coming to be. In the Generation of Animals, as is well known, the male possesses the principle of movement and generation, and the female possesses the material principle. The scene of sexual reproduction thus illuminates in explicit detail the active transfer of a moving, generative, formative masculine principle upon passive feminine matter. The natures of form and matter are not, however, a simple issue for Aristotle. Coming-to-be, as we learn early on in the Physics, has three components: a privation of the form to come, the form to which the developing thing is destined, and the matter. The matter is the substrate for the change and abides the process, admitting form’s presence from its prior absence. Matter thus “admits of both contraries,” as Aristotle puts it in Metaphysics Α, that is the form (A), and its contrary, the privation (not-A).27 Insofar as the non-material causes (formal, motive, and final) act upon the matter, the matter is transformed into A, while the privation that is form’s contrary, not-A, is destroyed.

On the one hand, then, matter is the substrate, the ὑποκείμενον that underlies the form; it is the passive subject of change that persists and endures. On the other hand, it is a site that somehow includes and encompasses privation
or lack as a very part of its being, a lack that offers itself up to destruction as form is progressively installed. As the potter forms the jar, the clay (as malleable matter) yields, giving up its formlessness to the destined form. Or, as Aristotle puts it in Physics I.9, matter yearns for and stretches out toward (ἐφίεσθαι καὶ ὀρέγεσθαι) the divine and the good. Matter, in this passage, literally desires form, just as, he writes, “the female which desires the male and the ugly which desires the beautiful.” Already we notice something odd here. We find matter (which is paradigmatically passive in relation to the masculine form) behaving like an obscure subject of desire, somehow internally motile, vectoral, and inclined or impelled toward form. Likewise, in De Caelo, Aristotle explains the movement of the elements toward their proper places – fire and air upward, earth and water downward – with recourse to the notion of an inclination or ῥοπή that manifests in lightness and heaviness – a tendency to move toward proper place which is finally understood according to the potentiality-actuality schema. Here, then, matter is already folded in advance into the potentiality-actuality schema, into a scene of teleological becoming. Its incipient, vectoral orientation toward form is evident not simply because it lies in readiness, waiting to be acted upon and enformed, but rather insofar as it bears in itself an impulsion, an obscure and untheorized, perhaps untheorizable, source of motion. It is obediently and inevitably directed toward form, stretching out and desiring – if not quite actively, then at least in the middle voice: ἐφίεσθαι καὶ ὀρέγεσθαι.

Yet the role of matter in the biological texts, and especially in the biology of sexual reproduction, turns out to be rather more complex than even this duality between pure passivity and obscure impulsivity indicates, especially on account of what is implied by this impulsivity, that is that, in direct contrast to every explicit claim, matter may in fact move itself. In Aristotle’s discourse on heredity in Generation of Animals and in his account of the role of αὐτόματον in reproduction in the Metaphysics, matter is revealed as the source of vicious disruptions that disturb the orderly passing of paternal form from one generation to the next. Let us consider the following highly illustrative quote from Generation of Animals IV.3:

Males take after their father more than their mother, females after their mother. Some take after none of their kindred, although they take after some human being at any rate; others do not take after a human being at all in their appearance, but have gone so far that they resemble a monstrosity, and, for the matter of that, anyone who does not take after his parents is really in a way a monstrosity, since in these cases Nature has in a way strayed [παρεκβέβηκε] from the generic type. The first beginning of this deviation is when a female is formed instead of a male, though (a) this indeed is a necessity required by Nature, since the race of creatures which are separated into male and female has got to be kept in being; and (b) since it is possible for the male sometimes not to gain the mastery [κρατεῖν] either on account of youth or age or some other such cause, female offspring must of necessity be produced by animals.
There is a lot going on here. Nature is capable of straying from its predestined path toward form and the good. In sexual reproduction, things can go wrong and the male fails to gain the mastery (κράτος, a political concept), resulting in a female offspring. The factors and circumstances that may contribute to such an outcome have already been listed by Aristotle, and include factors internal to the organism (the parents may be too young, too old, too fluid or feminine of body) as well as external factors. Indeed, the wind may be in the south, or copulating animals may simply be facing the south, which would contribute to a deficiency of heat, leading to the failure of the masculine principle. If the deficiency is mild, a female is the result, if it is greater, the offspring is a monstrosity. But whence do such deficiencies arise? Clearly, they inhere in the material and environmental conditions of conception, both internal and external, the aleatory, plural, and unpredictable vagaries of the material world, with matter here acting against nature’s unfolding rather than for it, acting against the smooth reproduction of masculine form, disrupting its action and its mystery.

At the same time – and here the notion of the feminine symptom comes into view – nature requires such deficiencies in order for the cyclical teleology of sexual generation to occur. What I am calling symptomatic here is that which is both necessary to the teleology and disruptive of teleology, rendering their confluence therefore strictly speaking inexplicable. A formulation from Judith Butler’s *Bodies that Matter* may help to clarify this sense of the symptom: “A constitutive or relative outside is, of course, composed of a set of exclusions that are nevertheless *internal* to that system as its own nonthematizable necessity. It emerges within the system as incoherence, disruption, a threat to its own systematicity.” If this understanding of symptomaticity – as nonthematizable necessity, as that which both exceeds and founds a system – is deconstructively expedient, the Greek meaning and etymology of symptom, σύμπτωμα, multiplies this serendipity. Σύμπτωμα is literally a falling together (from συμ-, together + πίπτω, to fall), anything that befalls one: coincidence is its Latinate cognate. It may refer to chance, mischance, or calamity. The falling together of the σύμπτωμα suggests both an unexpected, unchosen, forceful downward motion, and an irreducible plurality, the falling of more than one thing together, at the same time. The symptom here describes not only the production of a female offspring as the unexpected conjunction of winds in the south with copulation, but it also involves an unstable valence of matter, such that it is both obedient and destructive, or obedient through its destruction.

If destruction sounds too strong here, a closer examination of the mechanisms involved in sexual reproduction (and, more specifically, in heredity) is in order. First of all, there is the strange transformation of scale from the tiny deviation in temperature to the contrariety or opposition of sexual difference. When the failure of mastery occurs, “the material must change over into its opposite condition. Now the opposite of the male is the female.” “Such a small thing may tip the scale and be the cause of heat and cold,” says Aristotle; a deficiency of heat causes a transformation into an opposite. Note the shift from
a scalar notion of temperature to one of discrete contraries, resulting from an agonistic, politically characterized struggle between spermatheic heat and environmental conditions—material conditions that might be either inside or outside the mother’s body, indeterminately.

But again, such accidents will necessarily happen. A small deviation from the ideal temperature, then, generates the required female; a larger deviation creates occasional “monstrosities” (τέρατα): calves with two heads, babies with six fingers, and the like. In this way, femininity can be seen to function as a sign of, and a figure for, masculine failure. An error in the concoction of the offspring reveals a susceptibility of the natural, telic unfolding of organismic reproduction to another kind of necessity, a necessity inherent in the forces or compulsions of matter. Aside from noting the deep misogyny in theorizing femaleness as a mild form of monstrosity, and indeed the profound normativity inherent in the Aristotelian cosmos, how are we to understand this ἀπορία, this strange confluence, this necessary coinciding—note the echo of σύμπτωμα here—of two different orders of necessity in the reproduction of the female?

While a consideration of the mechanisms of heredity and of spontaneous generation cannot solve this ἀπορία, it may shed some light on the processes at work and deliver us resources within the Aristotelian text for a rather different conception of the organism than that governed solely by the τέλος of unity and substance. How, for example, may a male offspring resemble his mother, or a female offspring her father? If all goes well, the motion deriving from the male creates a shape after its own pattern, and the male resembles his father. However, if this process fails, such failure may take a number of different paths, depending on which faculty or δύναμις in the male fails to gain mastery. In the case of a son looking like his mother, Aristotle contends that this is a result of a kind of departure from type or destruction—an ἐξίστασθαι of the male power or potentiality (δύναμις), this time not qua male but qua individual. The mother’s characteristics then appear, not as a result of the presence or actuality of any formal principle or power on her part, but merely as a result of an absence, an ablation of the sperm’s individualizing δύναμις. Aristotle distinguishes two decisive mechanisms: ἐξίστασθαι, a destruction or “departure from type” that permits femaleness or maternal characteristics to appear by default, and λύεσθαι, a lapsing, loosening, or slackening in which case the characteristics of grandparents (of the same sex) and former ancestors comes to the fore. So if the father’s δύναμις, qua individual, slackens or loosens, the son resembles the grandfather. Ἐξίστασθαι is thus the result of a pure failure of masculinity, while λύεσθαι signifies that the agent (ποιοῦ), while still there, is acted upon by that on which it acts, presumably by latent δύναμει residing in the reproductive material (which are never otherwise theorized); thus a heating agent may end up being cooled, or vice versa.36

This ἐκ-στάσις of ἐξίστασθαι represents a derangement or departure from where something stands, a putting out of place of the self-standing uprightness of masculinity. The slackening, or loosening, λύεσθαι, is by contrast rather a passive failure; it does not involve the forceful element of violent
transformation, but results rather in a μετα-βαίνειν, a walking over, to the next ancestor in line. According to Aristotelian usage, ἐξίστασθαι signifies a departure from being that is an inherent possibility within matter, insofar as matter is the site of the very possibility of being and not being. Matter, then, is the site of a destructive deviation that leads to an overthrow of the masculine power of production and transformation into its feminine opposite.

Aristotle’s quite brilliant solution to the problems presented by inherited characteristics thus results in a profound incoherence in terms of his theory of sexual reproduction, because it requires a balance of powers, δυνάμεις, between the sexes that cannot be reduced to the matter–form distinction. There is simply no explanation of how the “information” for the mother’s form, the mother’s λόγος, can be present in the menstrual blood, even if this has, as he says, the potential to become all the female parts as well as the male parts. If the father’s δύναμις qua individual (rather than qua male) fails to master the matter, how can the offspring resemble his or her mother? Aristotle posits no λόγος deriving from the female. Are we then to just assume the presence of the δύναμις or λόγος of the mother’s form, qua individual, as well as those of her parents and other ancestors, in the menstrual fluid? This is a substance he has characterized, quite unusually and surprisingly, as πρώτη ύλη, first or prime matter, supremely passive and ready to be acted upon.

Matter, however, is found also to be the site of unexpected disruptions, transformations, and potencies, of the spontaneity designated by αὐτόματον, the chance occurrences of nature. In chapter Z.9 of the Metaphysics, Aristotle indeed pursues the analysis in such a way that leads him to contradict almost everything he says about matter elsewhere. He starts by asserting that in some instances a thing can be generated both by αὐτόματον and by τέχνη, as in the case of health, which may just be present by the chance element in nature, or be brought to presence by the actions of a doctor. He says – using the middle voice – that in such instances the matter is “such that it can be the source of its own motion [οἵα κινεῖσθαι ὑφ’ αὑτῆς].” And this is a remarkable statement indeed. However, Aristotle does not emphasize just how singular and complex the notion of “health” is (as a context for these self-initiated motions), even though it appears repeatedly in his discourses as a paradigmatic τέλος. For health may be the end-product and aim of a τέχνη (medicine), but since the “matter” upon which this τέχνη operates is a living body, it is quite unlike a bed or a statue, and thus health also indicates that a body is by nature functioning well, living well, in accordance with its form or actuality, its ἐνεργεία. We might say, then, that insofar as the body as the body for the doctor is analogous to the wood for the carpenter, the body is “matter,” but insofar as the body itself is already a hylomorph, a composite of form and matter generated by nature, it is not mere matter at all but a natural “this,” an organic unity, that can be theoretically further decomposed into material components (flesh and bone, or menstrual blood, depending on whether it is analyzed it statically or genetically) and form. But Aristotle does not claim this here at all. His statement is,
rather, quite explicit: the matter in itself (not just qua the object at hand for the doctor) is self-moving. Nevertheless, Aristotle simply treats health as an example – as if there were many others – of things that are generated both artificially and spontaneously, instead of the remarkable, mysterious, and perhaps unique confluence of material necessity, bodily practices, and medical art, of φύσις, ἔθος, and τέχνη, that it undoubtedly is.

What follows is still more confusing. Things that have the capacity to move themselves can be divided into two kinds: those that can move themselves in a particular way (presumably animals), and those that cannot – he says, “so as to dance ὀρχήσασθαι.” Such dancing, in the middle voice, is a kind of self-motion without form or end. It is presumably not choreographed or orchestrated, but improvised, mantic, automatic. This matter that moves itself in no particular way (οὐχ ὡδί), dancing in the middle voice, certainly suggests Lucretius’s famous dust motes dancing in a sunbeam, but perhaps also the Bacchanalian frenzy: the automatism of women dancing in the mountains, far beyond the confines of the πόλις.

Moving to a discussion of natural becoming and αὐτόματον as spontaneous generation, Aristotle writes:

But things by nature which are generated spontaneously [ταὐτομάτου] are, as in the previous case, those whose matter can be moved also by itself in the way in which it can be moved by the seed; but things without this capability cannot be generated otherwise than by things like themselves.

Aristotle has just discussed how the seed acts just like things produced by τέχνη, as the source of the seed has the same name (ὁμώνυμον) as the seed’s product: a horse reproduces a horse. Likewise, the bed is built from the λόγος or idea of the bed within the carpenter – the idea and the product have the same name. He adds, though, that we must not expect to find this homonymy in every case in nature, since we say that a woman – if not a monster (ἐὰν μὴ πήρωμα ᾖ) – is also produced by a man. Likewise, a mule does not come from a mule.

In other words the processes of generation in nature also dance, they are subject to certain aleatory deviations, and in these cases what is produced does not always have the same name as its progenitor – the mating of a horse and a donkey produces something else, called a mule, and a man may likewise produce a woman. Matter’s αὐτόματον breaks the homonymy of λόγος.

These deviations, then, the articulating deviations of αὐτόματον, disrupt the νόμος and λόγος of patrilineal and patronymic succession, the paternal logic of the moving cause. Sexual reproduction is thus explicitly given the same aetiology, the same causal explanation, as that of spontaneous generation, in short that “matter has the power to move itself in the same way as the seed.” The opaque motion of matter, its automatic spontaneity, is able to intervene in and disrupt the passing down of the patronymic – breaking the homonymy, forcing a shift in the λόγος – between one generation and the
next. The αὐτόματον of matter thus articulates both beings and words through
time, in a randomly shifting series, in a form of change and temporality char-
acterized by unpredictability, lability, deviation, and opacity. In the phenom-
enon of αὐτόματον, where the aleatory motions of matter are exposed, we
may glimpse a moment of unorthodox Aristotelianism wherein Darwinism
is foreshadowed, insofar as automatism is the unthinking, uncaused, undi-
rected, non-teleological engine for transformations of form over generations.

By way of conclusion let me return to the conception of becoming from the
*Physics* – that of matter, privation, and form. Here matter is oriented in
advance toward its τέλος, and represents a hole or space yearning to be filled, a
hole that is only defined by the peg that will come to fill it, as the female desires
the male. Nevertheless, it is crucially important to recognize that as soon as
matter is understood as thus invaginated, as incorporating a penetrable priva-
tion at its heart, such a determination by a τέλος in advance is displaced, and
an indeterminate field of becoming is hence necessarily opened. Understand-
ing matter as δύναμις shackles it necessarily to ἐνεργεία as the realization or
actualization of a potential for a specific form, but it is precisely as this site of
privation that matter enables becoming anything at all, not merely becoming
some determinate thing, predetermined by teleology. In its most radical dimen-
sion, then, δύναμις as potential or capacity or possibility, as the condition for
possibility for becoming in general, must indicate an open field of possibilities.
It is a delimited field to be sure, for an elephant does not give birth to a mouse;
but within those limits – whatever they may be – the possibilities are theoreti-
cally infinite because infinitesimally different.

Aristotle falls just short of acknowledging the plural possibilities inherent
in matter, but it is worth recalling his definition of matter as “what is able to
both be and not be.” Matter thus defined appears as the very site of indeter-
minacy and the aleatory, the site where A and not-A may both transpire. The
potentially infinite field of possibility that matter represents is instead reduced
to a simple opposition, the primary contrary of being or not-being. Yet as
evidenced by all the ways that nature does not go according to plan, through
chance, plural ἀρχαί, and the indeterminacy of matter, the restless rumbling of
plural possibilities may be discerned beyond and behind this congealed logical
formula of non-contradiction. The female offspring, after all, is not simply a
not-A, but rather an opposite or contrary in nature who bears the mark of pri-
vation. And this contradiction is negotiated in her very body. Feminine matter
may be oriented toward and set along a proper path, but may also, teratologi-
cally, go off the rails and in turn (in quite un-Aristotelian fashion) send form
itself off the rails, toward other as yet untold shapes and configurations. The
vicissitudes of the feminine symptom disclose here a radically non-Aristotelian
space or field of contingent pluralities that signifies an always present possibil-
ity of other unforeseen kinds of becoming.

Here, then, subterranean and suppressed forces, including environmental
factors and unpredictable material conditions, are irreducible, effective factors
in the coming to be of the organism. We might thus discern, against all of Aristotle’s explicit claims, resources in the Aristotelian text for a vision of the organism not as the bounded, unified totality of the one, but perhaps as developing according to an entirely different topology and logic. In a feminist frame, we might push for a conceptualization according to the Irigarayan topology of the two lips, partly open in intimate proximity to itself and its surroundings, or indeed as irreducibly plural.45 Or in terms of the leaky, open, penetrable, fungible, and thus “horrifying” bodies of women investigated by feminist theorists such as Margrit Shildrick and Elizabeth Grosz.46 The ἐξίστασθαι, λύεσθαι, and αὐτόματον, the destructions, slackenings, and compulsions inherent in the materiality of sexual reproduction carry with them the signs of finitude and mortality, of castration, monstrosity, disease and death – those dispersals and divisions evident in Nietzsche’s Empedocleanism and in Bergson’s durée.

The reading of Aristotle offered here, then, demonstrates that at least part of the impetus for a vision of a totalized, cleanly separate, healthily functional, fully hierarchized and stratified organism is an anxious masculinity, eager to inoculate itself from feminine threats of leaky boundaries and bodily dissolution. This would seem to align quite neatly with the philosophical-political critiques of the organism proffered above, stretching from Kant and Goethe to Deleuze and Guattari. But what might we also make of the flight from the organismic paradigm within the biological sciences over the last two centuries? This flight, has, in fact, been quite hotly contested. A slew of early twentieth-century biologists in Germany, the UK, and the US including E. S. Russell, W. E. Ritter, Kurt Goldstein, Agnes Arber, and J. H. Woodger have argued in various registers for the organism’s centrality and coherence to the biological sciences, borrowing largely from Kant a thinking of teleology and functionality that does not invoke “metaphysical” principles such as form, design, or final purpose secreted in Nature.47 Ritter, for instance, invokes the hormone as a chemical secretion that affects the organism as a whole, not simply individual organs, and the massive uptake of this by the pharmaceutical industry is indeed transforming our notions of sex and gender in radical fashion that has been recently analyzed by Paul (Beatriz) Preciado along Foucauldian lines as a neoliberal form of “pharmacopower.”48 While such power may work at the microcapillary level, it is at the level of the whole organism that hormones phenomenologically reveal their powerful effect. Goldstein’s work on brain-damaged patients reveals the organism’s plasticity, its negotiations with the external world both as potentially catastrophic and as productive of its reality; Catherine Malabou’s recent The Ontology of the Accident covers strikingly similar ground.49

Today, indeed, biology struggles no less with the concept of organism despite its various disciplinary dispersals into ecological, systematic, and molecular frameworks, as indicated by the topic addressed by a recent issue of the journal Studies in the History and Philosophy of Biological and Biomedical Sciences: “On Nature and Normativity: Normativity, teleology and mechanism in biological explanation.”50 From a physical perspective, the organization of
molecules into arrangements of increasing complexity seems to defy the second law of thermodynamics, which states that things tend toward the lowest possible states of energy: the disorganization and dispersals of entropy. Biologists typically explain this by demonstrating that living cells give off maximally disordered energy in the form of heat, thus offsetting the extra energy it takes for there to be ordered complexity. But this still does not explain why the greater complexity of the cycles of transformation that maintain life might emerge in the first place. Systems chemist Addy Pross has recently argued that, through the concept of “dynamic kinetic stability” a second sort of stability exists in nature that may be mathematically modeled: “Nature’s most fundamental drive, dictated by logic itself, is toward greater stability. That drive has a thermodynamic manifestation, as expressed through the ubiquitous Second Law, but it also has a kinetic manifestation – the drive toward increasingly persistent replicators.”

There seems to me to be no great philosophical barrier to thinking of such a drive along Deleuze-Guattarian lines as “desiring production.”

And yet, despite political and scientific critiques of the organism, its functional system of parts and wholes, the way that it is both marked as and functions as a primary signifier of totality, hierarchy, substantiality, sovereign power, and all the weight of stultifying metaphysics, the organism still imposes itself upon us as a significant entity. In this phenomenological register it also surely appeared to Aristotle and Theophrastus, during the years when they observed the life-cycles, the manifold structures, and behaviors of the small strange creatures inhabiting a Lesbian lagoon. Might the organism thus carry another kind of valence? One that disrupts and resists what is surely also a neoliberal logic of flexibility, the molecular flow of capitalist logic into every minute of our day and into every pore of our bodies. Such flow is perfectly exemplified by the assaults on sleep through pharmacological and other technical-productive means recently described by Jonathan Crary, insofar as sleep, so necessary at the level of the organism, defies imperatives of accelerating capitalist production and consumption. Maurizio Esposito, indeed, reads the politics of the organism in a different frame, emphasizing that mechanistic and reductionist approaches in biology support a capitalist ideology of competition, and came to the fore most strongly during the Cold War period “in which group conflict and competition were seen as essential to a pluralistic democratic society.” Organismic models, he argues, promote instead a view of society that emphasizes harmony and cooperation. The temporality of the organism, the rhythms it imposes, the zones of privacy upon which it can insist, may yet be a site of resistance to the encroachments of neoliberal capitalism, a slowness that insists upon its needs against capital’s ever increasing speeds.

The Aristotelian organism, as I have articulated it, may be both the site of resistance to invasive externalities, and also a site of endless agonism between a logic of hierarchical function on the one hand and the destabilizations of aleatory matter on the other. Aristotle’s concern with the non-human organism inevitably opens on to an anthromorphic concern with the human, that organism whose characteristic functioning is not just a normative conception of health,
but also living well as the ζῷον who possesses both λόγος and a political life. The ἔνεργεία of the Aristotelian organism, then, might be understood not simply as a static state of completion, but as a doing, a seeing or a thinking, the human being in its full realization. The Nicomachean Ethics offers contemplation as the highest form of human activity, that in which we most resemble the divine νόησις νοήσεως, thought thinking itself, and this seems to confirm the image of the bounded, separate, autarchic, and fully self-sufficient individual. And yet it is also characteristic of humans to engage in the open-ended, indeterminate activities of political life. In this ambivalence of closed and open system, it seems to me that the agonisms and the harmonies indicated at the site of the Aristotelian organism are perhaps inescapable and necessary, in the sense that the Lacanian mirror-stage is a necessary, if truth-compromised, stage through which the infant passes in its ontogenesis. For Lacan, the infant sees itself as a bounded totality in the mirror for the first time, and this vision of unity throws it into an unprecedented state of disorder, the “flutter of jubilant activity.” Its recognition of its “unity” is in a profound sense a “misrecognition,” not only because the baby does not have the motor skills to act in an orderly way, but also because the organism is constantly in process, constantly realizing indeterminate potentials that are both its own and not its own. But nonetheless, the “false” image that it has formed of itself supports its growing sensation of unification and contributes actively to its integration as ontogenesis proceeds. The imaginary function that “closes off” the organism is certainly supported and “supplemented” by the ready hegemony of substantialist metaphysics and phantasies of sovereignty. And yet a quick glance at the strange proliferations, the beings and becomings found in oceans, lagoons, swamp, and soil may always have the power to carry us away from the narcissistic mirror, and into the lap of the milieu with whose fate our own is always inescapably entangled.

NOTES

[Though recontextualized and lightly edited, some passages in this chapter have previously appeared in Emanuela Bianchi, The Feminine Symptom. I thank my editors, Jacob Greenstine and Ryan Johnson, for the kind opportunity to present this work in a new context.]

2. This evocation of the object cannot help resonating with the new status of the object in currently emerging philosophies of object-oriented ontology and speculative realism. While I cannot engage in any substantive way with these movements within the scope of this essay, I do want to emphasize that Aristotle’s approach usefully reasserts the ontological primacy of a distinction between technical and natural objects, one that is often minimized in recent discussions of the object qua object.
5. Since for Aristotle time follows from motion (see Aristotle, *Physics* [Phys.], IV.4 212a19 and VII.1 241b28–9), it is anachronistic to designate this as a turn to a temporal frame, but rather one which foregrounds motion and change over stasis.
13. Ibid. p. 17.
16. Ibid. p. 94.
18. See, for example, *Phys.* II.8 198b29–32, which refers to Empedocles rather scornfully thus: “Whenever all the parts came together as if generated for the sake of something, the wholes which were fitfully composed through spontaneity survived, but those which came together not in this manner, like the man-face offspring of oxen mentioned by Empedocles, perished and still do so.”
19. Theophrastus, *On First Principles*, 11.19–10. This empirical claim contradicts Aristotle’s insistent refrain that in nature things occur for the sake of what is best “always or for the most part.”
22. According to evolutionary biologist Lynn Margulis, bacteria such as spirochetes (some of which cause syphilis and Lyme disease) may have thus ended up being incorporated into our very physiologies as cilia and sperm tails. See Dorion Sagan, “Metametazoa: Biology and Multiplicity.”
23. Ibid. p. 378.
25. Georges Canguilhem, The Normal and the Pathological; originally published as Essai sur quelques problèmes concernant le normal et le pathologique (1943), and re-published with the title Le normal et le pathologique, augmenté de Nouvelles réflexions concernant le normal et le pathologique (1966).
28. Phys. I.9 192a24. In fairness to Aristotle he does qualify this by noting that femaleness and ugliness are “accidents” of subjects rather than subjects in themselves, but this does not obviate the force of the analogy.
29. Relevant instances of ῥοπή, often translated as impetus or impulse, occur at Aristotle, De Caelo, II.1 297a28, b7, at III.2 310a22, at II.2 305a25, and at IV.1 307b3. A comprehensive analysis of these phenomena may be found in Helen S. Lang’s The Order of Nature in Aristotle’s Physics.
31. GA IV.2 765b28–76a1, 766a9–12.
33. Derrida attends to the many aleatory resonances of the notion of the fall – befalling, crashing, letting the chips fall where they may – thus:

One can fall well or badly, have a lucky or unlucky break – but always by dint of not having foreseen – of not having seen in advance and ahead of oneself. In such a case, when man or the subject falls, the fall affects his upright stance and vertical position by engraving in him the detour of a clinamen, whose effects are inescapable.

34. GA VI.1 766a18–22. At 766b15–16 Aristotle says that “if [the male semen] gains the mastery, it brings [the material] over to itself; but if it gets mastered, it changes over either into its opposite or else into extinction.” That the continuous scale of temperature should manifest itself “necessarily” in opposites, as manifested by male and female, is difficult to understand. The necessity operating here becomes clearer if we recall Aristotle’s insistence that all coming-to-be involves a diremption into active and passive components and thus in the case of sexual reproduction, into male and female.
35. Ibid. IV.2 766a12–14, translation modified.
36. Ibid. IV.3 768b14ff.
37. There is considerable debate as to the status of this claim, but at GA I.20 729a32 he writes quite explicitly: “For the nature of the menstrual blood is that of prime matter [κατὰ γὰρ τὴν πρῶτην ὑλήν ἐστὶν ἢ τῶν καταμηνίων φύσις].” The shift here from the biological to the metaphysical is seamless,
with the menstrual blood clearly standing in here as a perceptible representation of the theoretical substance, of matter as such and in general.


39. Ibid. 1034a16.


42. Ibid. 1034a35–1034b4.

43. Ibid. 1034b5–7.

44. Aristotle, *On Coming-to-Be and Passing-Away*, II.9, 335a34.

45. Rebecca Hill, *The Interval: Relation and Becoming in Irigaray, Aristotle, and Bergson*, investigates the topology of proximity and interval in the context of thinking through sexual difference.

46. Margrit Shildrick, *Leaky Bodies and Boundaries: Feminism, Postmodernism and (Bio)Ethics*; Elizabeth Grosz, *Volatile Bodies: Towards a Corporeal Feminism*.

47. See Bruce, “A Reflection on Biological Thought” and Esposito, *Romantic Biology*, for helpful surveys of this movement.


51. See, for example, Bruce Alberts et al., *Essential Cell Biology*, pp. 83–4.


53. For a helpful examination of this concept see Dorothea Olkowski, “Flows of Desire and the Body-Becoming.”

54. See Jonathan Crary, 24/7: *Late Capitalism and the End of Sleep*.


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