Diseases of the Head
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Published by Punctum Books

MattRosen.
Diseases of the Head: Essays on the Horrors of Speculative Philosophy.

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Outgrown Purpose, Outlived Use: On Parasitic Teleology

Ben Woodard

1. Life as Problem

Every beginning to a discussion of the beginning of life betrays the central problematic of itself — namely a tension between the miraculous and the arbitrary (where to start the discussion of the start of living things). Satisfactory explanations of life are measured against the apparent limitless complexity and variety of its forms. Of course, to claim life exceeds explanation is itself a form of explanation since no one who would make such a claim would in turn argue that life can be intuitively understood, despite the fact it can be accidentally made. In other words, how would one backup the statement “I do not know what life is, but I know you cannot explain it”? In the following I will attempt to outline the conceptual investments in theories of life that are not so often concerned with explaining life, as much as they are concerned with placing the role of life in an (often all too human) conceptual framework. First, I will begin by examining the field of early biology, circa 1800.

John Zammito’s recent opus The Gestation of German Biology explores the problem of life as it emerged in the vitalist and the romantic sciences’ early attempts to generate a unified biological
theory as well as order those earlier disciplines which functioned as its tributaries: physiology, medicine, zoology, and botany, to name a few. Biology, as it developed under its proper name in 1800, bares traces of not only the shifting concerns and methods of all of these sciences brought together but also of debates and shifts from the physical sciences and philosophy regarding where to place the human capacities of thought and free will as well as the natural or theological status of the soul. Two of the most important problems which brought these various concepts together were the capacity of animation or animal movement and the emergence of form, especially in embryology. Thus, how one could explain the development and movement of humans and animals and whether and, on what grounds, the human/animal distinction could even be maintained, occupied much of the early attempts to form biology and establish or extract its philosophical, scientific, and theological debts. Built upon these issues is the relationship of sensibility and irritability to cognition — as the medical form of the animation problem — and the question of speciation and form — as the geological and paleontological problem of transformation. Or put colloquially, “why does a heart removed still beat” in regards to the former, and why do fossils portray species we can only assume are completely extinct in regards to the latter.

As we will see, there is little in common between those labeled vitalists other than a shared concern that mechanistic physics and science more generally appeared insufficient to explain how life came to be and how it maintains its existence. Rather than collapse these debates into an opposition of the scientific and the theological, or the vitalistic and the mechanical, it is more helpful to construct a schema of the guiding concepts of the various attempts to construct biology — or proto-biological theories of life — in terms of function, morphology, teleology, and self-organization. The cluster below have agents which should not be read as really existing things but as explanatory

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devices which may or may not be able to be cashed out in material terms. Furthermore, each theory has a temporal dimension which is central given how closely each theory is connected with geology and the question of the history of the human species, whether natural or unnatural — i.e., normative history. Lastly, the names listed are obviously not exhaustive, and furthermore this is not to suggest total or deep agreement between them but only that they agree upon the active agent while they may disagree on the correct theoretical reading of this agent as well as its temporal dimensions.

There are at least four clusters of concepts that have some connection to vitalism, or again, more broadly, non-mechanistic theories of life:

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<thead>
<tr>
<th>Agent: Function</th>
<th>Agent: Morphology</th>
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<tr>
<td>Theory: Degeneration/Transformation</td>
<td>Theory: Metamorphosis/Arche-types</td>
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<td>Temporal Dimension: Catastrophe</td>
<td>Temporal Dimension: Uniformity</td>
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<td>(Stahl, Cuvier, Bichat)</td>
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<th>Agent: Teleomechanism</th>
<th>Agent: Self-Organization</th>
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<tr>
<td>Theory: Epigenesis/Preformation</td>
<td>Theory: Life force/Vital matter</td>
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<td>Temporal Dimension: Natural History</td>
<td>Temporal Dimension: History of Nature</td>
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<tr>
<td>(Blumenbach, Kant)</td>
<td>(Herder, Kielmeyer, Schelling)</td>
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These conceptual clusters can be allied with their respective thinkers as well as the natural philosophical disciplines connected to them. The first cluster can be aligned with the work of Georg Ernst Stahl and with the practice of medicine more broadly. This makes a certain amount of intuitive sense as physiology, especially through the lens of medical science, is ultimately concerned with how and whether a given body is healthy, that is, functioning properly according to its capacities and its environment.
As Zammito portrays it, Stahl can only be called a vitalist insofar as he believed that living matter was organized in such a way that mechanism could not account for its capacities. But function for Stahl does not go any deeper in that it does not necessarily apply to the matter of life or life forces. The “specialness” of life for Stahl remains at the level of description in part because, for Stahl, his commitment to Pietist Christianity did not require any appeal to force or special matter to explain the animating spark of life.²

Function is also emphasized by Georges Cuvier, but it is relevant in terms of life as being connected to species-wide fitness more so than health, as having formed in such a way to operate in the right environment. Because Cuvier is concerned with life viewed at a broader scale — at the level of species — his emphasis on function indexes the problem of extinction and the fitness of an entire species failing.

Morphology is linked most notably to Johann Wolfgang von Goethe and perhaps emerges first in relation to botany and zoology. The operative tension being between metamorphosis and archetype, between different types of internal development and change, is central to the question in terms of whether the shapes possible in development are already present or otherwise guided by external conditions or idealities, such as archetypes taken in an almost Platonic sense.

Karl Fink’s *Goethe’s History of Science* explains how Goethe entertained the notion of a botanical archetype through the example of the proliferous rose and its sub-archetype of the leaf.³ Fink highlights how Goethe was well aware that morphology was a powerful but also dangerous gift.⁴ The epistemological and ontological tension in the question of an internal model has been well debated. In terms of Goethe’s primal plant, it has been

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² Pietism was a movement within Lutheranism that emphasized pragmatic and personal aspects of the faith in an attempt to return to the initial spirit of Luther’s teachings.
⁴ Ibid., 40.
argued that it has no ontological stake (Goethe was not really looking for the primal plant in nature) but is rather a research fiction, a mental model to guide his botanical researches.5

Such ambiguity applies either way to uniformity—archetypes can manifest in any matter or force and in turn suggests that there is a general uniformity across nature; that is, certain shapes can emerge in different animal species or even across living and non-living entities. Yet this often begs the question as to the status of space—that is, if a certain collusion of forces causes particular shapes to emerge, why do they happen where they do? Space itself, particularly under the self-organizational model, becomes an intuition regarding the deployment of forces rather than a container for them.

Teleomechanism is associated with Immanuel Kant and Johann Friedrich Blumenbach. Kant was taken by Blumenbach’s notion of Bildungstrieb, or formative drive or force. Both Kant and Blumenbach saw the formative drive as an organizational principle without an ontological or metaphysical wager attached to it. Yet as Jennifer Mensch has pointed out, following Robert Richards and Timothy Lenoir, Blumenbach’s Bildungstrieb was not a creative vital principle but simply highlighted an organizational principle already at work in the inorganic but only apparent in the organic.

Kant can be seen as only slightly sympathetic to vitalism in part because of his agnosticism about biology and his utilization of purposiveness as a “light” or rational form of teleology. As Kant argues, we must treat life as if it has a purpose following its behavior, but it cannot be articulated as precisely as physical phenomena can be: there will never be a “Newton for a blade of grass.”

Even more complicated is the relation between theories of development in Kant which are of course connected to the teleological treatment of life. Preformationism, dating at least as far

back as Aristotle, extends mechanism, or at least mechanistic explanation, to the biological, especially in terms of embryology. Regarding teleology, preformationism can be taken as the validation of formal cause, the biological blueprint being always-already present. Preformationists, of both the spermist and ovist variety, view the plan of biological life as tightly folded up inside of the generative matter — i.e., the sperm or the egg.

Preformationist theory gained a second life with the development of microscopy especially in the Netherlands of the 16th century. Doubts about how generative matter could “fit” the complex plans and parts seemed assuaged by finding ever more fine layers of detail complexity under microscopic magnification. Jennifer Mensch argues that Kant was sympathetic to preformationism in that he treated it as a biological heuristic, and Zammito likewise suggests that Kant was committed to a more “generic form” of preformationism.

But as many have highlighted, Kant was also sympathetic to the concept of epigenesis: namely, that the environment had an altering effect on the development of the organism. But again, whether this occurs in a material manner or at the level of explanation remains somewhat unclear. Mensch along with Malabou claim that epigenesis applies to knowledge, that there is an epigenesis of reason and that this is a transcendental and not a natural phenomenon.

Lastly, self-organization at least in the sense of vital materialism and vital forces (Lebenskraft) has to do with a metaphysical thesis that claims that living matter — or perhaps all matter, as in the case of Schelling — complexifies itself and is the result of

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8 Mensch, *Kant’s Organicism*, 8, 124. Andrew Cooper critiques such a reading and Tarizzo seems to read Kant’s use of epigenesis as metaphysical and closer in line to Blumenbach. Andrew Cooper, “Two Directions for Teleology: Naturalism and Idealism,” *Synthese* 195, no. 8 (2018): 3097–119.
underlying powers or forces building off of Spinoza and Epicurean thought.

Following Lenoir and Zammito, vital materialism was the result of the combination of French materialism and German Romanticism. Zammito emphasizes how the different uptakes of Newton in Germany and France in the 1700s affected the gestation of vital materialism. For one, Zammito argues that the reception of Newton can be divided into its experimental and mathematical aspects. The experimental aspect was connected to the deployment of forces in nature — to identify and understand the very meaning of force. This is bound to understanding nature as having a history that is as something changing structurally over time as opposed to a semi-stable, teleomechanical, goal-oriented nature that can only be classified and cataloged. That is, if nature is force or power “at bottom,” then the listing of what exists now is insufficient to understand what nature is, what it has been, and what it will be.

One important consequence of the activity of the Lebenskraft or of the vital matter is the softening of the boundary between sensibility and cognition. This was the essential disagreement between Johann Gottfried Herder and Blumenbach. Herder modified and extended theories of irritability — applying to muscle fibers — and sensibility — applying to the nerve fibers — taken from Albrecht von Haller and complicated by an active material nature. Herder’s difference from von Haller in part marks the difference between those that would have vital forces issuing from vital matters (von Haller) or vital matters being the result of vital forces (Herder, Schelling).

2. Teleology as Problem

This is a wide range of concepts that each on their own could fill volumes. For the following, I wish to focus on how each of these approaches deals with the question of teleology. While Kant and Blumenbach’s teleomechanical approach addresses teleology
directly, the other three conceptual clusters involve teleological concerns regarding the direction and motivation of life.

While teleomechanism keeps teleology at arm’s length as a heuristic, life’s reason for taking shape, self-organizing, or functioning appears as more than a heuristic but perhaps is not so strong as to count as a metaphysical impulse or force. The difficulties in parsing the role of the teleological from the vital accounts for a contemporary vague meaning of vitalism that appears simultaneously “scientific” and theological in an uncritical manner. It is vital in life’s unthinkability and theological in giving it an obscure intelligence.

Hans Driesch’s *The History of Vitalism* is instructive in trying to sort out the vexed relation between vitalism and teleology. As he writes:

> We are confronted by the all important question: are those processes in the organism, which we described as purposive, perhaps only *purposive in virtue of a given structure* or tectonic, of a “machine” in the widest sense, on the basis of which they play their part, being purposive therefore only in the sense in which processes in a machine made by men are purposive; or is there another *special kind of teleology* in the realm of organic life?[^9]

Driesch will go on to claim that the existence of purposiveness is not at issue since it is used in the discussions of mechanistic and non-organic systems in the sense that we are discussing things built or designed. Thus, there is no problem in saying that a bucket is meant to hold water, or a thermometer’s purpose is to rise and fall with temperature — the real issue, according to Driesch, is that of autonomy. Thus, descriptive teleology, as in the case with the thermometer, effectively brackets the question of autonomy and is not a discussion of teleology proper. For Driesch, the real debate surrounds static or dynamic teleol-  

ogy. In static teleology, life is merely a special case of mechanical laws (this would seem to follow Stahl’s emphasis on function), whereas dynamic teleology admits that the processes of life have “real” autonomy.

However, when Driesch discusses Stahl at some length, he associates him not with vitalism but with animism — that God imparted an animating motion onto the body that was carried on with its special functions of blood circulation, secretion, and excretion. One can see the complexity of Stahl’s position, and while he may be often classified as a vitalist after the word came into fashion, it is important to note that Stahl thought life had to be imparted from a non-living and non-physical force — namely the divine. In this regard, despite being positioned against Gottfried Wilhelm Leibniz and René Descartes, it does not make sense to call Stahl a vitalist, since the reason that functional medical description cannot capture the deep inner workings of the body is not because of living matter or a life force but because of divinity. As Zammito points out, the real sticking point between Leibniz and Stahl in their debates was not on the matter of life as mechanistic or non-mechanistic but rather regarded the status of the soul as rational (Leibniz, Descartes) or as merely animating (Stahl).

In Driesch’s history, he discusses Georges-Louis Leclerc, Comte de Buffon as a kind of half-vitalist, and likewise with Pierre Louis Mauerpuitus, in that both believe in the efficacy of the mechanistic description of the world but at the same time see the development of living things from smaller, seemingly less complex, entities as something peculiar to life.

Driesch’s comments on Kant and Blumenbach are a bit more surprising. Driesch suggests that either Kant was unwilling or unable to make the distinction between static and dynamic teleology and furthermore accuses Kant of misunderstanding or misapplying Blumenbach’s ideas. This later claim is quite strong and in part may say more about Driesch’s insistence that any-

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10 Ibid., 35–36.
11 Ibid., 41–43.
one who endorses epigenesis is in fact a vitalist. Driesch’s view goes against the dominant historical as well as the differing contemporary view of the Kant-Blumenbach relationship. For quite some time most scholarship viewed their relationship as generally symbiotic: Blumenbach’s notion of the Bildungstrieb aided Kant in the completion of the Critique of the Power of Judgment, and Blumenbach in turn adopted the teleomechanical views of Kant as viewed as drive or force as a well-formed regulative principle.

Richards has argued that their exchange should be viewed more as a productive misunderstanding (“Kant and Blumenbach on the Bildungstrieb: A Historical Misunderstanding”). Central to this, as Richards lays out, is that Kant thought biology—or really, the life sciences, since the coinage of biology nearly coincided with Kant’s death—was not a possible science whereas Blumenbach, and many others, clearly did not agree. This aspect of Kant’s third critique seems oddly missing from Driesch’s analysis and the latter attempts to argue that Kant could be a vitalist if vitalism, as the pure and true autonomy of life, applied especially, or only, to human beings, and since humans are a part of nature, some part of nature must therefore be vitalistic.

For Richards, it is those thinkers who opened the way towards self-organization, such as Carl Friedrich Kielmeyer and Schelling, who pushed Kant’s thinking properly in the direction of biology, thereby naturalizing teleology but not in terms of life’s inner principles but nature’s inner and outer principle. Such a move is rejected by Driesch, who dismisses the nature-philosophers for the same reason he dismisses Goethe, namely, the emphasis on type or inner gene. Yet, as Schelling made clear early on, the search for and use of a type, whether primal germ or actant, is folly—either everything is primal germ, or

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12 Ibid., 94–95.
nothing is. In Theresa M. Kelley’s “Restless Romantic Plants,” Goethe is often found speaking of affinities across species.\textsuperscript{13}

Furthermore, and as Zammito has illustrated, while Kant was for a time sympathetic to a proto-evolutionary theory of vital development evidenced by common archetypes across species, he soon backed away from such a possibility, something which is evident in calling such ideas “monstrous” when he read them in Blumenbach’s student Herder. For Zammito this period emphasizes his brief foray into the possibility of a history of nature, but then Kant steps back from the “abyss” and holds fast to a natural history.

Rather than Driesch’s claim that Kant fundamentally misunderstands Kant, it seems that for Driesch, and Driesch’s reading of Blumenbach, teleology must belong to life and life only. This particularization of the teleological force or drive, depending on how Driesch wants to define life’s limits vis-à-vis the physical, would appear to have the benefit of not, at least on the face of it, disrupting other forms of science. The “old vitalism,” which Driesch does dismiss rather harshly, is of course attempting to develop biology as well as to change, in various ways, those sciences intimately connected with biology at the same time, such as physiology, geology, zoology, and botany.\textsuperscript{14} For this reason teleology can be an internal drive tied to shape — as in the case of those who emphasize morphology — or it can be a broader complexity that applies to all of nature, as is the case with the \textit{Naturphilosophen} in general.

But beyond this of course it is not merely where teleology is but what is it supposed to do. The emphasis on the latter part of this question, at the cost of the former, seems to be what draws such ire from Driesch in the context of epigenesis requiring vitalism and vice versa. Teleology explains life’s complexity


\textsuperscript{14} Jane Bennett makes a similar distinction as Driesch in discussing old as opposed to new or critical vitalism. See Jane Bennett, “Neither Vitalism nor Mechanism,” in \textit{Vital Matter: A Political Ecology of Things} (Durham: Duke University Press, 2010), 62–63.
in a certain sense for Driesch (life is always-already thinking), whereas nature’s productive processes can be seen as goal-oriented more broadly because they tend towards the evolution of a plurality of forms from simple origins or towards a complexification of entities due to the crossing and interaction of powers or forces. In the end this is little doubt why Driesch shifts to the term entelechy that can be seen as a form of self-organization but one that is organized by an already present intelligence, an intelligence already at work in the most basic aspects of life.

It is in this sense that Driesch belongs to vitalism in what it means for thinkers such as Henri Bergson and Gilles Deleuze. However it could be said that Bergson and Deleuze, in different ways, desubstantialize vitalism and yet this desubstantialization for Bergson is held in the power of the image of thought, and for Deleuze, in a desubstantialization that is accompanied by a fully sensate materialization. This in turn leads vitalism away from teleology and back towards the notions of self-organization and chaos so lauded by Deleuze and his interpreters; and yet, still, in however strained sympathy with Driesch, these notions of chaos and complexity are somehow thinkable or arrestable by thought. Hence, this is why, as Ray Brassier has pointed out, Deleuze can utilize arguments for biological complexity against the claims of physics and thereby make statements such as that thermodynamics can be an illusion becomes it would contravene the creative becoming of biological existence in the far future and thus betrays a smuggling of teleology back into the biological matter which is no longer matter but Deleuzian materiality.

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15 This is why Bergson is critical of mechanism, finalism, and, albeit to a lesser extent, vitalism: because they indicate tendencies in our thought and are not in the universe. To assume that any of these theories are settled would be to set, in advance, the limits of creation over time. See Henri Bergson, Creative Evolution (New York: Dover Publications, 1911), 40–43.
16 In a sense we could accuse Deleuze of being a kind of dishonest panpsychist. But to follow this line in detail would require an in-depth investigation of the influences of Raymond Ruyer and Gilbert Simondon.
What is at stake, whether in the form of vitalism over “mere” biological life, materiality over matter, or sense over quarantined reason, is whether the biological can be articulated in any constructive value-neutral sense without falling into either the caricatures of the reckless Frankensteinian experimenter or the theologically-imbibed, purpose-chasing wanderer.

3. Xenomorphology and Retro-Teleology

The *Alien* franchise of films began as an exploration of the weaponization of life and has become focused on questions of teleology and intelligent design. This order of concerns is chronological in terms of the order of the release of the films and not within the timeline the films are set. From the perspective of the release of the films, teleology comes at the end. This teleology shifts forms, being about intelligent design and then being about artificial general intelligence, at least in terms of the shepherd of speciation and panspermia.

In the film *Prometheus*, set in 2093, the aliens known as the engineers seed life on Earth by decomposing their own genetic structure using a mutagen to accelerate its generative effects. It is then implied that the engineers maintained contact with numerous ancient cultures leaving them a star map to the planet LV-223. The Weyland Corporation funds the adventure because its founder is obsessed with the big questions of “where do we come from?”

The planet turns out to be less than welcoming as it is an abandoned weapons installation filled with the dangerous seeding mutagen. The mutagen appears to weaponize simple forms of life, turning worms into pale serpents for instance, as well as changing humans into brutes. However, two of the human characters are infected (one through an intentionally contaminated drink and then his infected sperm impregnates Elizabeth Shaw); the results are quite different.

Shaw gives birth via a self-induced machine-assisted cesarean to a squid-like parasite. Later on, this parasite impregnates one of the engineers and creates the first form of the xenomorph
known as the Decon. Only Shaw and the android David survive the encounter and go off looking for the engineers to find out why they would create humanity and then decide to wipe them out.

The film’s sequel, *Covenant*, which is set in 2104, follows a ship of colonists who, after getting knocked out of cryosleep by a random radiation burst, pick up a rogue transmission. The transmission, it so happens, is from the now dead Elizabeth Shaw (singing to herself), and only David remains after having poisoned the engineers en masse. In the years since crashing on the planet, David started conducting experiments and perfecting the Decon strain into other forms and eventually becoming the xenomorph of the alien films.

David’s lair appears as a makeshift naturalist’s laboratory, piles of parchment depicting vivisections and other organic diagrams, models, and preserved specimens. Such scenes, since we know David is experimenting, afford a delirium of what is made and what has been found or, the discoverer’s confusion between intended and accidental. David’s comportment matches that of Doctor Frankenstein, who in turn has often been linked to various Naturphilosophen, especially Oken or perhaps even Schelling via Coleridge.

Following the narrative chronology, almost twenty years go by before the setting of *Alien* in 2122. In *Alien* the crew of the mining ship Nostromo are woken up to investigate a signal on the planet LV-426. There they find a derelict space craft with a dead engineer and a cargo hold of xenomorph eggs. One of the members is parasitized and dies spawning the alien which then eliminates the humans, save one (and one cat). Important, especially viewing the film after the prequels, is the involvement of the artificial life form Ash. Chronologically viewed, Ash is simply a hired gun of the Weyland-Yutani, attempting to get the creature for them in order to profit off of it through bio-weapons development. Seeing *Alien* first of course begs the question of how the company knew the aliens where there — i.e., they must have recognized the warning signal from the engineers’ ship. Narratively of course Ash is a distant relative of David
and is carrying on his elder’s work by freeing or loosing the aliens either upon humanity (a revenge against the name of the father — humanity) or simply freeing the alien because it is, in Ash’s words, “a pure survivor.” When interrogated for his actions, Ash displays an almost religious devotion to the alien: it is a perfect organism, it is incredibly tough — generating lay after lay of silicate. Furthermore, Ash admires its purity or its simplicity; it is unburdened by morality and so on. It is important to note that morality is explicitly a burden for Ash, as he knows it was programmed into him. Likewise, he is only able to countermand his basic morality — protecting humans — by receiving an order from the company — with the caveat, “crew expendable”.

_Aliens_ (2179)

For the themes that concern us here, the sequel to _Alien_ mostly doubles down on the corporate greed angle. Carter J. Burke takes on the role of Ash in attempting to get samples of the alien organisms back to Earth despite their annihilation of an entire terraforming colony. It is mostly the fleshing out of the xenomorph’s life cycle — the entry into the hive and the encounter with the queen — that the film advances, as well as, albeit in a minor sense, the vicious purity of the aliens. Their capacity for intelligence is extended (e.g., cutting the power, the royal guards responding to the queen, the queen’s escape) but less is stated explicitly about the aliens as a form of life other than that they are unique and should not, according only to Burke, be subject to arbitrary extermination.

_Alien 3_ (2179)

The survivors’ return home is disrupted and only Ripley survives the crash on a mostly abandoned penal colony where a skeleton crew of ultraviolent men (xyy chromo boys) keep the furnace running and have meanwhile found religion. A new alien is born, a birth that accompanies the funeral of Ripley’s former comrades. The funeral speech speaks of the seeds of new life while the alien bursts from its host, either a dog or a steer depending on the version, depicting a certain morphological sym-
pathy — moving differently because of its four-legged host. As with its predecessors, *Alien 3* repeats the attempt by Weyland-Yutani to acquire the alien embryo for bio-weapons research: “Think of all the things we could learn from it!” screams the creator and model for the Bishop android.

While the faith of Dylan and his fellow inmates is consistently rebuked by Ripley’s semi-suicidal pragmatism, the films kindles the theological resistance to a kind of non-normative form of “pure” life or pure synthesis of reproductivity and survival instinct.

*Alien: Resurrection* (2379)

In *Alien: Resurrection*, which takes place 200 years later, Ripley is cloned from blood samples taken from Furiona 161 in order to extract the xenomorph queen embryo. Imperfections in the cloning process leave Ripley Clone 8, who is the film’s protagonist, with traces of xenomorph characteristics while the queen eventually shifts from laying eggs in her usual parasitoid fashion to developing a womb due to the genetic drift.

What links the film most closely with the prequels which would follow is the android Call. Call, who passes for human most of the film, is revealed to be an *auton*, an android made by other androids, some of whom managed to escape. The autons are emotional — too real — and driven by a sense of duty. In the film, Call makes it her mission to stop the military from cloning Ripley and breeding the xenomorphs; essentially, to stop humans from destroying themselves despite the fact that humans wiped her species out.

David becomes a kind of inverse of Call, deciding not only that he is unimpressed with the designs and purposes of his creators (humans), but that their creators (the engineers) in turn require total annihilation. The organic/inorganic breach, however thin, perhaps non-existent, is crossed by an appeal to the purity of violence of the aliens. The xenomorphs embody a kind of machine-like simplicity before being “mucked up” by morals and values. If David and his ilk are disabused of their similarity to humans because they are soulless, then so be it. David’s crea-
tions are the properly soulless heart of an auto-creative, parasitoid, insect-like wave of blood-sheened corruption.

But reading the films in their narrative order in some sense undoes the kind of biological miraculousness that so fascinated Ash in the “beginning.” In a sense, Ash is simply marveling, unknowingly, at his great-great grandparents’ invention and is willing, though the degree here is questionable, to hand it over to the humans for militarization. This is another level of how the films, again filmed narratively, seem intent on rejecting Darwinism, and especially reflect that life is a contingent event. Yet the creation of humans by the engineers, or by any non-divine entity, would seem to rule out a soul in that it is something more than life, or something that guarantees meaning in the sense of having a purpose. Otherwise, if intentional creation was enough to grant a soul, David could not be denied one simply by not being made of flesh and bone. Shaw’s comment that she does not wish to remove her cross because she thinks it is possible that something divine made the engineers, or some even older species, holds no water.

Our sense of teleological purposefulness becomes like a virus that erases the oldest collective memory of where we come from. There must always be another older creator and eventually there will be one who is appropriately divine and worthy of having given us some “direction.”

4. Creation Mists

In “An Entangled Forest: Evolution and Speculative Fiction,” Ben Carver draws out connections between theories of life and genre fiction. Carver suggests that Stephen Jay Gould has a speculative fictional moment when he imagines replaying the tape of evolution:

But in the sphere of evolutionary biology, how could we possibly test this hypothesis, that the survivals and extinctions of natural life are not determined solely by the internal logic of variation and competition; in other words, that natural history is determined from the distribution of starting conditions?
Gould proposes the experiment of “Replaying Life’s Tape[,]” that is, to rewind history to the Cambrian moment 500 million years ago, and “see” if the same species survive, a procedure in which humans would have a special interest as the designers of the experiment: would we survive another roll of the dice? This is an experiment that can’t be run, except in speculative fiction; H.G. Wells for instance chose to imagine a copy earth in his 1905 novel, *A Modern Utopia*, one where there was “like our planet, the same continents, the same islands, the same oceans and seas;” and even “every man, woman, and child alive has a Utopian parallel.”¹⁷

And yet the altered origin myth of human life does not unfold a particularly exciting counterfactual history as some of the stories that Carver suggests do. Nothing will have changed except that meaning, or at least the possibility of meaning, could be proven scientifically, that is, we share all our DNA with that of the engineers so they clearly created us from “themselves” made us, and because they are intelligent beings, they must have had a good reason to do so.

Again, David himself suggests that the engineers’ reason for creating humans could be no more special than “because they could.” Even the message left to humans is not an invitation to the engineers’ home planet but to a biological weapons proving ground. A place where any overly rude visitors could be quickly dispatched out of sight. To go looking for God and to find Kurtz seems not completely unexpected.

Going up that river was like traveling back to the earliest beginnings of the world, when vegetation rioted on the earth and the big trees were kings. An empty stream, a great silence, an impenetrable forest. The air was warm, thick, heavy, sluggish. There was no joy in the brilliance of sunshine. The long stretches of the waterway ran on, deserted, into the

gloom of overshadowed distances. On silvery sand-banks hippos and alligators sunned themselves side by side. The broadening waters flowed through a mob of wooded islands; you lost your way on that river as you would in a desert, and butted all day long against shoals, trying to find the channel, till you thought yourself bewitched and cut off for ever from everything you had known once—somewhere—far away—in another existence perhaps. There were moments when one’s past came back to one, as it will sometimes when you have not a moment to spare for yourself; but it came in the shape of an unrestful and noisy dream, remembered with wonder amongst the overwhelming realities of this strange world of plants, and water, and silence.18

It is a well-rehearsed factoid about the Aliens films that the space-faring vessels in them bear the names of Joseph Conrad’s fictional towns. But the tether seems frail, other than noting that the ship of the first film was a mining vessel. And despite Weyland-Yutani’s motto which drips with colonial fervor, “building better worlds,” they only inhabit and terraform worlds with no indigenous life, mere hunks of rock.

But the passage from Conrad suggests a perspective that dwells upon something altogether different from teleology. It is rather a cacophonous orchestra of accidents biological, geological, and noetic. Such musings on time and the primeval (if they can be moved away from the Victorian tendency to see “less civilized people” as an altered mirror of European past states) remerge in the diagonal continuities so loved by Ballard. In The Drowned World, one of Ballard’s typical failed scientists discusses how deeply inorganic traces are left on the mind:

> Every step we’ve taken in our evolution is a milestone inscribed with organic memories—from the enzymes controlling the carbon dioxide cycle to the organisation of the

brachial plexus and the nerve pathways of the Pyramid cells in the mid-brain, each is a record of a thousand decisions taken in the face of a sudden physico-chemical crisis. Just as psychoanalysis reconstructs the original traumatic situation in order to release the repressed material, so we are now being plunged back into the archaeopsychic past, uncovering the ancient taboos and drives that have been dormant for epochs. The brief span of an individual life is misleading. Each one of us is as old as the entire biological kingdom, and our bloodstreams are tributaries of the great sea of its total memory. The uterine odyssey of the growing foetus recapitulates the entire evolutionary past, and its central nervous system is a coded time scale, each nexus of neurons and each spinal level marking a symbolic station, a unit of neuronic time.¹⁹

Elsewhere I have discussed the more psychoanalytic traces of this but here it is the issue of what biological means—rather than simply failing to give enough meaning, that is, teleological meaning—that interests me.²⁰ The tension between natural history and the history of nature emerges again—between submitting nature to a history of rational classification, or, on the other hand, wagering that reason itself (and its many ingredients) have been continuously remade through biological, chemical, and geological tumult. This latter sense of the history of nature builds upon recapitulation championed by Kielmayer and Schelling. Beyond the well-known Lamarkian version of “ontogeny recapitulates phylogeny,” Kielmayer and Schelling did not limit the repetition of real patterns to biology but could happen across the inorganic and the organic. The closeness but difference to the morphological paradigm outlined above is important to note since these real patterns might appear to fall in line with Goethe’s seed; yet, importantly, the morphological schema emphasizes a kind of internal teleology, the seedcorn or

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initial motor of the unfolding of the species must be set in some sense and this would also be restricted to the organic realm.

This is not to say there is nothing like teleology: the paradigm of self-organization at least implies some direction, at least towards organization, towards complexity or self-sufficiency. When Schelling states that humanity is “made for all the stars,” he is not merely waxing poetic but claiming that if we are made for something, we are made for everything we could potentially affect.21 At the same time Schelling consistently warns that we must not be overly impressed by the potentiality of thought at the cost of nature. Or, in other words, once rationalism forgets its ground in nature, thought begins to entertain a suicidal trajectory.

Yet a similar concern appears in Driesch, and in Bergson and Deleuze, that thought must then be able to grasp itself, in some positive or constructive sense, and any scientific theory which could threaten such a capacity is always already too abstract. Yet such a claim seems then only capable of having a narrative-like structure rather than a theory-like structure if it hopes to remain immune to the revisionary capacity of metrics or calculations or experiments. Theories of course involve, and often intentionally transform, the myths and narratives or practices that hold weight at the time. If this were not the case one might be surprised why there are such lengthy digressions on the training of pigeons in Darwin’s *Origin of the Species.* It is of course an effective analogy of how significant changes can be made to a species through selection. As Gillian Beer has notably stressed, this is only one of many novelistic moves that Darwin had to make in order to help his seemingly wild concepts stick to the Victorian consciousness.22

Of course, the very same practices were used to tell a different story. Returning to Carver’s “Entangled Forest”:

In the address of 1858, Wallace presented his paper “On the Tendency of Varieties to Depart Indefinitely from the Original Type.” Instead of making the enclosed space of the island the illustrative setting for the emergence of new varieties, he begins with the case of domesticated varieties. The ability of agriculturalists and breeders to create new varieties of dogs and cattle in a relatively short space of time was taken to be evidence of the immutability of species in conditions of nature — consider the way that breeds of dog rapidly “return” to earlier broad types. Wallace argues, against this view, that the processes of descent and variation are universal but that in conditions of domesticity, the variations produced are not subject to the competition for resources among organisms in nature: “The life of wild animals is a struggle for existence,” he writes, incorporating Thomas Malthus’s expression. Unlike its wild cousins, the domestic animal “has food provided for it, is sheltered, and often confined.” This isolation from nature has a double role of explanation; it demonstrates difference (“Our quickly fattening pigs, short-legged sheep, pouter pigeons, and poodle dogs could never have come into existence in a state of nature”); but it also illustrates the operation of universal processes to which animals both in nature and under domestication are subject.23

Carver goes on to argue how the special case, the isolated experiment (the island, the narrow valley), shows how all of nature is subject to the same rule and thus such isolations provide simultaneous estrangement and familiarity. This indexes Science Fiction’s own pre-history which became its own genre by synthesizing of Scientific Romances (such as Wells’s War of the Worlds) and lost world or lost people stories. The theoretical narratives explored here (through and around the realm of biology) index two strands of thought in a similar way but remain at the level of explanation: theories of biology that gestated in the romantic or enchanting eye and a formalization of life that,

23 Carver, “An Entangled Forest.”
in the mode of lost worlds, finds lost and failed counterfactual stories (an extinct line, a regressive trait) in every morphology, skeletal curio, and outward “deviation” of the biological entity of homo sapiens.

Conclusion

Davide Tarizzo’s book *Life: A Modern Invention* begins with Foucault’s *Order of Things* as the defining text of how the category of life became inseparable from modernity and human self-understanding. Zammito likewise notes Foucault’s book; whereas Tarizzo wants to follow in its footsteps, Zammito rejects its central theme that life did not exist before 1800. By following Foucault, yet paying more attention to the influence of German thinkers on biology such as Schelling, Tarizzo is less interested in the conceptual history as it mixes with the scientific history as in the political and ethical ramifications, that is, how life enters the realm of law and politics as an imperishable theme of modernity. For Tarizzo, Darwin is a necessary condition for the eugenics of Nazism and thus life as autonomous yet perfectible is the life that “does not exist” prior to 1800.²⁴

For Tarizzo, the German Romanticists and *Naturphilosophen* equated life and autonomy as Kant did but added a level of deficiency or sickness: to be alive was to be a fragment of life that could live more, that could evolve or transform. As Tarizzo has it, Darwin pursues a similar investigation into life but one that is not explicitly motivated by metaphysics. Yet there is little to no trace of the explanatory power of Darwin’s work, only its crimes of unacknowledged theoretical and political consequences.

The common tactic, it seems, is to fix the balance sheet of the natural and the normative, though Foucault would balk at

²⁴ This tension of life and the living as a modern invention is indirectly challenged by Eugene Thacker. Thacker suggests that already in Aristotle there is a problematic mapping between life and the living as soon as the soul or ψυχή is introduced. See Eugene Thacker, “Nine Disputations on Theology and Horror,” in *Collapse IV*, ed. Robin Mackay (Falmouth: Urbanomic Press, 2008), 55–92.
the use of the term normative; to hold high Hume’s fork that keeps the matters of “is” and the matters of “ought” at a respectable difference from one another; to infer that their collusion can only end in disaster as evidenced by the disaster of modernity’s techno-scientism. But this too often manifests itself as a purportedly humanitarian ban on any account of life that could lead to ethical practices. But to completely suspend such a link would seem increasingly untenable in a world where the very “isness” of nature appears in question; that is, ecological crisis in particular seems to suggest that the state of nature issues ethical imperatives.

Unsurprisingly the functional account of life and its relation to teleology appears the most compatible with such worries, yet it has, arguably, the worst legacy of how it utilizes teleology and the ethical and political claims thereby warranted, especially in the form of degeneration. Teleomechanism and morphology appear too disconnected from the very possibility of extinction and climate collapse — the teleomechanistic perspective denies the possibility of human extinction (Kant contra Camper), and it is unclear how Goethe’s morphology extends into the topic of extinction without becoming a fully functionalist approach that would be too costly to the importance of form, and hence to the thinkability of nature in itself.

The hurdle of thinkability is displaced, but by no means solved, by the emphasis on self-organization. If the appeal to archetypes or forms encounters the problem of function and fitness of environment, then the problem for self-organization is the problem of scale and, in turn, whether this implies holism at one level or not.

Potentiation of forces appears to beg the question of how to explain difference in kind, not only in terms of why there are so many forces, but also why forces give rise to things at all. This latter question bothered Schelling deeply and it guided his work in Naturphilosophie, especially in the First Outline. In that text, in which Schelling relies upon transcendental philosophy to think nature (whereas in Ideas for a Philosophy of Nature he relies upon experimental data to explain the emergence of
thought), he thus flirts with something like archetypes or real patterns in nature — actants. But Schelling seems to suggest this is the Kantian or more generally the transcendental understanding of real patterns or tendencies, which for us can only seem to be errors or interruptions in the flow of nature’s potencies.\textsuperscript{25} Such a metaphysical stance does not deny either function or fitness but ungrounds the rooting of either in the species’ form.

Such agnosticism about the real patterns of biological life, however, are not favorably entertained by Foucault nor by his sympathizers. As he writes in \textit{The Order of Things}, “in truth it is impossible for natural history to conceive of the history of nature,” thereby rejecting the self-organization principle.\textsuperscript{26} Yet such a hermeneutic resistance to the real ground of nature, in the name of epistemological cautiousness, defends the teleological stance in absentia. Despite his post-structuralist credentials and the subsequent requirement of being against meta-theories, Foucault (at times, not always) defends a notion of the human that remains immune to scientific or rational investigation other than as an abuse of power.

The question is this: what are the stakes of life and teleology in the face of the human that is washed away by the ceaseless undulations of the tide?\textsuperscript{27} While it seems clear that Foucault is rejecting a humanist teleology that would co-opt the modern process of subjectivation, it remains too unclear what the status of life is other than just as an epistemic playground. This is all the

\textsuperscript{25} Tarizzo, \textit{Life}, 149. Tarizzo mentions three aspects of Schelling’s theory of life: defectiveness of life, progression of life, and life as preexisting its forms. But I believe that Schelling emphasized a potentiation of life, an increasing complexity, and not a progression in the sense for which social Darwinists argued.

\textsuperscript{26} Michel Foucault, \textit{The Order of Things: An Archaeology of the Human Sciences} (New York: Pantheon Books, 1971), 157.

\textsuperscript{27} Reza Negarestani chooses to read Foucault’s image as a positive or constructive endorsement of the revisionary power of reason to erase and redraw the image of the human in ever more subtle forms. See Reza Negarestani, “The Labor of the Inhuman,” in \#Accelerate: \textit{The Accelerationist Reader}, eds. Robin Mackay and Armen Avanessian (Falmouth: Urbanomic Press, 2014), 446.
more telling in a text that is so curiously silent on Darwin, and on the real explanatory effects of his ideas. Without accounting for the real conditions of creation, teleology will return in the form of a disease, a *teleologia* — a pained remembrance of the feeling of knowing one’s origin despite the impossibility of finding an origin sufficient to the false narcissism of the champions of “finitude.”
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