

THE PHILOSOPHY OF DARWINIAN EVOLUTION: HISTORICAL CONSTITUTION, CONTINGENCY, AND BIOLOGICAL INTELLIGIBILITY

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Abstract

Darwin's theory of evolution by natural selection transformed the scientific understanding of life, but its philosophical significance extends beyond explaining biological change. This article argues that Darwin historicizes biological form: living forms become intelligible through descent, variation, selection, environmental relations, and contingent historical processes. The central problem is whether the history through which a biological form emerges is merely relevant to its explanation or is constitutive of its intelligibility. Through philosophical and hermeneutical analysis of Darwin's principal works, together with critical engagement with major interpretations in the philosophy and history of biology, the article examines common descent, natural selection, adaptation, teleology, contingency, genealogy, and human evolution. It argues that Darwin's historicization entails a corresponding naturalization, relationalization, and temporalization of biological intelligibility. Contingency is treated not merely as an event within evolutionary history but as a condition for understanding why particular biological forms emerged rather than others. The article's original contribution is to synthesise these dimensions under the concept of historical constitution, understood not as a new evolutionary mechanism but as a philosophical thesis about intelligibility: biological forms do not merely possess histories; their histories are indispensable to understanding what they are.

Keywords: natural selection; biological form; historical constitution; contingency

1. Introduction

Charles Darwin's theory of evolution transformed the modern understanding of life by placing biological diversity within a history of descent, variation, selection, and environmental relation. In *On the Origin of Species*, Darwin explains the differentiation of organisms through descent with modification and natural selection, while *The Descent of Man* extends the historical framework to human beings and places human capacities within the continuity of life (Darwin, 1859, 1871). Sexual selection further demonstrates that evolutionary explanation cannot be reduced to immediate survival advantage. Darwin's philosophical significance therefore lies not only in proposing an account of biological change but also in changing the kind of question that can be asked about biological form: alongside the question of what a form is comes the question of how that form came to be.

This shift has a direct consequence for biological intelligibility. A static conception of form primarily identifies characteristic properties and structures. Darwinian explanation adds genealogy, temporal

sequence, inheritance, environmental circumstance, variation, and differential reproduction. Once these become explanatory categories, present organization cannot be understood adequately as an isolated fact. Its intelligibility is connected with the historical processes through which it emerged. The central thesis of this article is therefore that Darwin historicizes biological form: the history through which a form emerges becomes indispensable to understanding the form itself.

The expression historical constitution is not attributed to Darwin and should not be mistaken for a Darwinian technical term. It is an interpretive concept proposed here to identify a philosophical implication of Darwinian explanation. Mayr emphasizes the historical character of evolutionary explanation; Sober clarifies selection and adaptation; Lennox complicates the relation between Darwinism and teleology; and Gould and Beatty illuminate the philosophical importance of contingency (Mayr, 1982; Sober, 1993; Lennox, 1993; Beatty, 1995; Gould, 1989). The present argument brings these strands together by asking a precise philosophical question: is biological history merely useful background information, or does history belong to the intelligibility of biological form?

The claim should be distinguished from the broader thesis that evolutionary explanations have a historical dimension. Recent work on evolutionary explanation argues that historical information can possess genuine explanatory force rather than merely supplying background conditions for selection-based explanations (Reydon, 2023). The present article moves one step further at the philosophical level: it asks what follows for the intelligibility of biological form when historical dependence is treated as constitutive rather than merely supplementary. Historical constitution is therefore not another theory of evolutionary explanation; it is an interpretive thesis about the status of history within the understanding of biological form.

2. Methodology and Philosophical Scope

This article employs a qualitative philosophical and hermeneutical methodology based on textual interpretation, conceptual analysis, historical contextualization, and critical reflection. Darwin's *On the Origin of Species* and *The Descent of Man* constitute the principal primary sources. Mayr, Sober, Lennox, Beatty, and Gould provide the principal secondary perspectives used to interpret historical explanation, natural selection, teleology, adaptation, and contingency (Darwin, 1859, 1871; Mayr, 1982; Sober, 1993; Lennox, 1993; Beatty, 1995; Gould, 1989).

The inquiry is philosophical rather than empirical. It does not test evolutionary hypotheses, reconstruct population-genetic models, or claim that Darwin's nineteenth-century formulation exhausts contemporary evolutionary biology. Its concern is conceptual: what changes in the intelligibility of biological form when descent and historical development become fundamental explanatory categories? The article consequently distinguishes evolutionary mechanisms from the philosophical interpretation of their explanatory significance. Historical constitution is proposed as an interpretive thesis about intelligibility, not as an additional mechanism alongside variation, inheritance, selection, or reproduction.

This distinction is methodologically important. The article does not seek to adjudicate every scientific controversy concerning evolution, nor does it attempt to establish that all biological characteristics are equally dependent upon historical explanation. Rather, it examines the philosophical consequence of treating biological organization as the outcome of processes unfolding through time. The claim is therefore neither that biology becomes merely historical nor that structure ceases to matter. The stronger and more limited claim is that, in evolutionary explanation, structure and history are internally related: present biological organization is partly intelligible through the pathway by which it was produced.

This formulation also preserves an important distinction between historical constitution and historical determinism. To say that history is constitutive of intelligibility is not to say that history uniquely determines outcome. Evolutionary trajectories remain conditioned by multiple processes, including selection, drift, developmental constraints, inheritance, and ecological interaction. Contemporary accounts of evolutionary explanation likewise emphasize explanatory pluralism and the complementary roles of historical and processual explanation (Reydon, 2023; Santis, 2024). Historical constitution identifies the philosophical significance of this plurality without reducing it to a single causal factor.

3. From Fixed Form to Historical Constitution

Darwin changes the philosophical meaning of biological form because descent becomes indispensable to explaining diversity. In the *Origin*, geographical distribution, comparative morphology, embryological evidence, rudimentary structures, and relations among species become intelligible through descent with modification (Darwin, 1859). Characteristics that might previously have been treated principally as classificatory properties can instead be read as traces of historical relationships. Biological diversity is consequently transformed from a problem of classification alone into a problem of historical explanation.

Mayr's account is especially significant because evolutionary biology introduces a historical mode of explanation in which temporal sequence and genealogy can themselves be explanatorily relevant (Mayr, 1982). Historical constitution develops this insight by making a distinction between possessing a history and being intelligible through that history. An organism obviously has a history in the ordinary chronological sense. The philosophical claim is stronger: for many biological characteristics, understanding why the present organization is as it is requires reconstruction of inherited structures, developmental possibilities, environmental circumstances, and selective histories.

Consider a limb, eye, or wing. Present morphology can describe its organization and function, but evolutionary explanation asks how inherited structures were modified and retained under particular historical conditions. The historical dimension does not replace structural explanation; it specifies a further level of intelligibility. This is why historical constitution should not be understood as a

rejection of form. It is an account of how relatively stable forms can themselves be historically produced.

Historical constitution therefore avoids two opposite errors. On one side lies static essentialism, according to which biological identity is adequately explained by timeless properties. On the other lies historical reductionism, according to which biological forms are nothing more than accidental sequences of events. Darwinian explanation supports neither extreme. Biological forms have structures, constraints, regularities, and functional organization, yet those features can themselves be products of inherited continuity and historical selection. Stability is therefore not evidence against historicity; in many cases, stability is something that historical explanation must itself account for.

4. Natural Selection and the Historical Intelligibility of Adaptation

Natural selection is central to Darwin's explanation of adaptation. Organisms vary; more individuals are produced than can survive; and differences associated with survival and reproduction can be preserved across generations (Darwin, 1859). The philosophical importance of this account is that adaptive organization no longer needs to be treated as an immediately given correspondence between organism and environment. The apparent fit between structure and circumstance becomes historically explicable.

Sober's analysis connects differences in reproductive success with the distribution and persistence of traits (Sober, 1993). Natural selection therefore contributes to the naturalization of adaptation. What appears as an already established correspondence between biological structure and function can be explained through heritable variation and differential reproduction. Naturalization, however, should not be confused with mechanical simplification. Selection operates within particular ecological and reproductive circumstances. A trait advantageous under one set of conditions may be neutral or disadvantageous under another.

Adaptation is consequently both historical and relational. Its significance depends upon relations between organisms and environments, while its persistence reflects histories of variation, inheritance, reproduction, and selection. Biological form is not first completed and only later assigned an adaptive meaning. Rather, aspects of form emerge, persist, and acquire evolutionary significance through historical interactions. Historical constitution names the broader philosophical implication of this process: to understand an adaptive feature is, in significant part, to understand the historical conditions under which its organization and persistence became possible.

5. Relationality, Variation, and Biological Form

Variation deepens the historical interpretation. Darwinian selection requires differences among organisms, but the evolutionary significance of a variation cannot be determined independently of circumstances (Darwin, 1859). A variation may have different consequences in different ecological settings. Its significance depends upon relations among organisms, environments, reproduction,

competition, and survival. Biological form is therefore not intelligible as an entirely self-contained entity.

This relational claim does not dissolve organisms into their environments. Organisms retain biological integrity and possess structures that cannot simply be reduced to environmental descriptions. The point is more precise: characteristics cannot always be understood adequately in isolation from the relations through which they acquire evolutionary significance. Relation does not replace form; it helps explain the historical development and functional significance of form.

Historical constitution consequently has an essential relational dimension. Present forms embody histories of interaction between inherited possibilities and environmental conditions. The organism is neither simply internally determined nor externally imposed. Its evolutionary identity emerges through structured relations unfolding over time. This relationality distinguishes historical constitution from a static conception of identity: biological form is intelligible as a structured reality situated within a history of relations.

6. Teleology and the Transformation of Explanation

Darwinian evolution raises a persistent problem concerning teleology. Biological structures appear directed toward functions: eyes are organized for vision and wings for flight. The philosophical question is how such purposive-looking organization can be understood once biological forms are explained through natural processes. Lennox argues that Darwin should not be understood simply as eliminating teleological explanation, since functional and teleological language remains significant within biological reasoning (Lennox, 1993).

The crucial transformation concerns where purposive-looking organization receives its explanation. Natural selection permits functional organization to be explained through variation and differential reproductive success rather than through an externally imposed biological design. Teleological vocabulary may remain useful for describing function, while the explanatory basis of that function is relocated within natural history. A trait is retained under particular conditions because inherited variation affecting reproductive success contributes to its persistence.

This distinction separates biological teleology from metaphysical teleology. Darwinian theory can explain the emergence and persistence of functional organization without invoking supernatural design, but it does not by itself determine whether reality as a whole possesses an ultimate purpose. Historical constitution therefore concerns the intelligibility of particular biological forms, not a final metaphysical verdict on meaning, purpose, or value. Darwin transforms the explanatory location of purposiveness without necessarily abolishing every philosophical question concerning teleology.

7. Contingency and the Constitution of Biological Form

The most distinctive philosophical consequence of Darwinian historicization emerges in the problem of contingency. Evolutionary processes display regularities, yet particular outcomes depend upon

variations, environmental conditions, reproductive events, genealogical pathways, and historical circumstances. Regular processes therefore do not entail that a particular evolutionary history was inevitable.

Beatty's evolutionary contingency thesis emphasizes dependence upon historical circumstances, while Gould stresses historical pathways and the possibility of different trajectories (Beatty, 1995; Gould, 1989). The present argument distinguishes contingency as an event from contingency as a condition of intelligibility. As an event, contingency refers to the occurrence of particular circumstances. As a condition of intelligibility, it means that understanding a particular biological form requires attention to the circumstances through which that form actually emerged.

This distinction prevents contingency from being confused with mere randomness. Contingency does not imply irrationality or unrestricted chance. Selection, inheritance, reproduction, and ecological interaction remain structured. Evolutionary explanation therefore occupies a position between strict necessity and unrestricted randomness. Regularities provide explanatory constraints, while contingency helps account for the particular trajectory that was realized. Earlier events can open some pathways and close others, thereby shaping later possibilities without determining every subsequent event.

The philosophical consequence is significant. If two historically possible pathways could produce different biological outcomes, then a general description of evolutionary mechanisms may be insufficient to explain why the actual form has the organization it possesses. Historical reconstruction becomes explanatorily relevant because the actual trajectory matters. To explain a particular biological form is therefore partly to explain why this pathway, under these circumstances, generated this outcome rather than another. Contingency thus contributes directly to historical constitution.

This formulation also avoids identifying contingency simply with chance. Recent philosophical analysis distinguishes different possible sources and strengths of evolutionary contingency and emphasizes that sources of contingency may interact with sources of directionality (Wong, 2020). The present argument does not attempt to settle that probabilistic debate. Its narrower claim is that whatever precise account of contingency is adopted, the possibility that evolutionary outcomes could have been otherwise reinforces the explanatory importance of actual historical pathways. Contingency thus matters here primarily as a philosophical condition of intelligibility, not as a synonym for randomness.

8. Species, Genealogy, and Biological Identity

Darwin's conception of species further illustrates the movement from static to historical identity. If species are related through descent with modification, their characteristics and boundaries must be understood within genealogical processes rather than solely through timeless definitions (Darwin, 1859). Species become intelligible as populations embedded within histories of descent and differentiation.

This does not make species distinctions arbitrary. Populations exhibit continuities, reproductive relations, inherited characteristics, and differentiation. Such continuities themselves have histories. Darwin therefore complicates the traditional opposition between identity and change. Identity need not mean persistence of an immutable essence; continuity can itself be historical. A lineage can remain connected through descent while undergoing substantial modification.

The distinction between essential and genealogical identity is consequently useful. Essential identity emphasizes what remains invariant through change, whereas genealogical identity emphasizes continuity through descent and transformation. Darwin does not eliminate continuity; he historicizes it. Biological forms can be relatively stable while remaining historically produced, and their stability may itself require explanation in terms of inheritance, selection, developmental continuity, and ecological relations.

9. Humanity as Product and Interpreter of Evolutionary History

The *Descent of Man* places humanity within the history of life and argues for continuity between human and non-human forms (Darwin, 1871). The philosophical significance is that humanity becomes capable of understanding itself as a historically emergent form of life. Human beings are not detached observers standing outside the history they investigate; they are products of the history they seek to reconstruct.

This produces a distinctive reflexive structure: evolutionary history has produced a form of life capable of conceptualizing evolutionary history. Humanity is simultaneously object and interpreter of natural history. This reflexivity should not be confused with biological exceptionalism, nor should Darwinian evolution be treated as a complete philosophy of human existence. Evolutionary theory can situate human beings within biological history without exhausting questions concerning consciousness, morality, meaning, value, and justification.

This distinction is particularly important because an evolutionary explanation of the origin of a capacity does not by itself establish the truth or normative status of the beliefs or values associated with that capacity. Historical explanation and normative justification are different philosophical tasks. Darwin transforms human self-understanding by embedding humanity within nature, while leaving open philosophical questions that cannot be settled simply by tracing biological origins. Historical constitution therefore has an epistemic and anthropological implication without becoming a total theory of human normativity.

10. Critical Assessment

Historical constitution requires critical examination because its philosophical force depends upon avoiding both triviality and overstatement. If it means only that organisms possess evolutionary histories, it adds little to Darwinian theory. If it means that biological forms are nothing more than accidental products of historical events, it risks dissolving the structural regularities that evolutionary

explanation presupposes. The defensible position lies between these extremes: biological forms are structured realities whose present organization is partly intelligible through the histories that produced and constrained them.

A first objection is that historical constitution merely redescribes descent with modification. If Darwin already explains organisms through ancestry, variation, and selection, why introduce a further concept? The answer is that historical constitution is interpretive rather than causal. Darwinian theory identifies historical processes; historical constitution articulates a philosophical implication concerning intelligibility. It claims that the history through which a particular form emerges is not merely additional background information but can be indispensable to explaining why the form has its particular organization.

The concept also differs from a purely historical account of evolutionary explanation. A historical explanation can reconstruct the pathway by which a trait arose; historical constitution asks what this dependence on pathway implies for the status of biological intelligibility itself. The distinction is subtle but important. Reydon (2023) argues that historical and processual components can jointly constitute evolutionary explanation. The present article accepts that explanatory insight but interprets its philosophical implication more broadly: if the explanatory identity of a biological form depends partly upon its evolutionary pathway, then history is not merely an evidential supplement to the explanation of form; it is part of the conditions under which the form is intelligible as the form it is.

A second objection is that the concept may exaggerate the explanatory importance of history. Biological organization also depends upon structural, developmental, physiological, and ecological constraints. Historical constitution does not deny these dimensions. Rather, it argues that such constraints operate within historical trajectories. The concept should therefore be understood as structured historicity: biological forms are historically produced without becoming historically arbitrary.

A third issue concerns the status of natural selection. If historical constitution includes descent, variation, environment, reproduction, and contingency, does it weaken selection? It need not. Natural selection remains central to Darwin's explanation of adaptation. The claim is instead that selection should not be conceptually isolated from the historical conditions in which selection operates. A trait becomes intelligible through the interaction of inherited variation, ecological relations, developmental possibilities, reproductive success, and historical circumstances (Darwin, 1859; Sober, 1993). Historical constitution therefore contextualizes rather than displaces evolutionary mechanism.

Contingency raises a further concern: if different circumstances could generate different outcomes, does historical explanation become merely narrative? Contingency does not entail causal unintelligibility. General evolutionary processes constrain possibilities, while historical conditions influence which possibilities become actual (Beatty, 1995; Gould, 1989). Historical explanation therefore remains explanatory precisely because it identifies the pathway and circumstances through which a particular outcome was produced.

Teleology establishes a further limit. Natural selection can explain functional organization without supernatural design, but this does not settle whether nature as a whole possesses ultimate purpose (Lennox, 1993). Historical constitution should consequently not become a metaphysical doctrine. Its strongest defensible formulation remains modest: the history through which a biological form emerges is constitutive of its intelligibility, even though history does not arbitrarily determine biological reality.

The resulting argument is synthetic. Darwin supplies the evolutionary framework; Mayr clarifies historical explanation; Sober clarifies selection and adaptation; Lennox complicates the relation between Darwinism and teleology; and Gould and Beatty illuminate contingency. Historical constitution brings these dimensions into a single philosophical claim: biological forms do not merely have histories; their histories can be indispensable to understanding their present organization. The concept therefore names a level of philosophical interpretation without competing with the mechanisms of evolutionary biology.

11. Conclusion

Darwin's evolutionary theory transformed the philosophy of life by changing the conditions under which biological form becomes intelligible. Through descent with modification, variation, selection, environmental interaction, and contingency, living form can no longer be treated simply as an ahistorical given. The explanatory question becomes not only what a living form is but how it came to be the form that it is.

The central argument of this article is that Darwin historicizes biological form. Genealogical continuity, inherited variation, environmental circumstances, reproductive relations, selection, and contingent pathways contribute to explaining present biological organization. This historicization makes adaptation historically explicable, situates form relationally, renders functional organization naturally intelligible, and gives contingency an explanatory role without reducing evolution to randomness.

Historical constitution should nevertheless be understood modestly. It is not a new evolutionary mechanism, an ontology explicitly formulated by Darwin, or a claim that history arbitrarily determines biological reality. It is a philosophical thesis about intelligibility. Biological forms remain structured and constrained, while the history of their emergence becomes part of what must be understood in explaining them. The position therefore avoids both timeless essentialism and historical arbitrariness.

The broader philosophical significance of Darwin consequently extends beyond the claim that life changes through time. Darwin changes what it means to understand living form. To understand a biological form is, in significant part, to understand the historical relations, genealogical pathways, environmental circumstances, and selective processes through which it became what it is. Historical

constitution captures this philosophical transformation: biological form is not merely located in history; its intelligibility is historically constituted.

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