

Beyond Social Darwinism: Political Symbiogenesis as a New Paradigm in Institutional Theory

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June 07, 2026

June 09, 2026

Abstract

This article introduces the concept of political symbiogenesis as an interdisciplinary framework that, drawing inspiration from evolutionary biology, views the transformation of political institutions not merely as a result of competition and elimination, but as a consequence of sustained symbiosis, mutual interdependence, and increasing complexity. In biology, symbiogenesis emphasizes the role of symbiotic relationships in the emergence of fundamental evolutionary innovations. Critically distancing itself from social Darwinism, this article argues that certain political transformations can also be understood in terms of institutional symbiosis a process in which distinct actors and institutions, through stable relationships of mutual interdependence, transform into newer, more complex orders. The necessity of this new concept, rather than merely extending existing theories, arises from the inability of competition-centric frameworks to explain complex contemporary phenomena such as network governance, federalism, and the coexistence of heterogeneous identity groups. Methodologically, this article is a theoretical-conceptual study that relies on conceptual analysis, interdisciplinary comparison, and critical reinterpretation of the literature. The theoretical findings suggest that political symbiogenesis can serve as a generative analytical concept for understanding these phenomena without being reduced to biological determinism or simplistic analogies. The value of this concept lies in its vision of politics not merely as an arena of conflict, but as a context for the formation of newer, more complex units.

Keywords: Political symbiogenesis, evolutionary biology, political institutions, institutional symbiosis, social Darwinism.

¹ Political Thoughts in the Movement of Imam al-Husayn

Introduction

In the history of social thought, one of the most influential metaphors for explaining societal transformation has been that of competition. Within this intellectual tradition, social Darwinism emerged as an ideological reading of evolutionary theory, seeking to extend the logic of natural selection directly to human and political order. However, historical research has demonstrated that this concept represents an ideological appropriation of Darwin's theory, tied to competition centric intellectual traditions of the nineteenth and early twentieth centuries (Hofstadter, 1944; Leonard, 2009; ScienceDirect Topics, nd). Contemporary critiques further indicate that social Darwinism oversimplifies the complexities of social life and legitimizes existing inequalities (EBSCO, 2022; Swarthmore College, nd). In contrast to this narrative, contemporary evolutionary biology presents a more complex picture of the evolutionary process. The concept of symbiogenesis reveals that major evolutionary innovations do not arise solely through competition and elimination, but rather through sustained symbiosis, endosymbiosis, and functional integration (Margulis, 1990; Margulis & Fester, 1991; Sagan, 2017). More recent research has shown that symbiogenesis extends beyond the origin of organelles and can be employed as a general logic for understanding evolutionary transformations (Archibald, 2017; Douglas et al., 2016). From this perspective, biological evolution is not merely a history of eliminating the weaker, but also a history of the formation of stable dependencies and their transformation into more complex structures (Sapp, 2017; Sagan, 2017).

This article starts from this very point and seeks to formulate the concept of political symbiogenesis as an interdisciplinary theory. By this concept, it is meant that certain political and institutional transformations can be explained not solely by the logic of domination and elimination, but by the logic of symbiosis, institutional overlap, and gradual integration. Within this framework, distinct political units can, through stable relationships of mutual interdependence, transform into newer and more complex orders an order whose characteristics transcend the sum of its simple initial components. Such a perspective aligns with the literature on social interdependence, as it demonstrates that peace, cooperation, and stability are often achieved not through absolute independence, but through the design of mutual relationships and collaborative mechanisms.

The significance of this discussion lies in the fact that contemporary politics is continually confronted with phenomena such as multi-layered coalitions, network governance, federalism, regional integration, and multi-group (multi-ethnic) coexistence phenomena that the classical language of competition struggles to explain. Hence, political symbiogenesis can serve as a new analytical concept, enabling an understanding of modern political systems without being reduced to biological determinism or simplistic analogies. Accordingly, this article seeks to propose a new conceptual language for analyzing political transformation, in which political becoming is not only a product of competition but also of constructive symbiosis. We have delineated the discursive tension between competition-centric social Darwinism and symbiosis-oriented evolutionary biology, thereby preparing the reader's intellectual groundwork for accepting a new concept. The main conclusion of this section is that the traditional approach to political analysis (relying on competition and elimination)

is inadequate for explaining complex contemporary phenomena (such as network governance, federalism, and multi-layered coalitions) and necessitates the creation of a new conceptual language. This new language must not only explain symbiosis as effectively as competition but also remain immune to the trap of biological reductionism. By identifying this gap, it paves the way for presenting the concept of political symbiogenesis.

The necessity of introducing political symbiogenesis as a completely new concept, rather than merely extending existing theories, stems from three fundamental limitations of the current theoretical landscape. First, dominant frameworks particularly social Darwinism, rational choice, and historical institutionalism share a competition-centric bias that systematically marginalizes the role of cooperation, mutual adaptation, and institutional interdependence in political transformation. Second, extending these theories would merely perpetuate their inherent limitations: social Darwinism naturalizes inequality, rational choice remains trapped in methodological individualism, and historical institutionalism struggles to explain the emergence of genuinely novel institutional forms beyond incremental change. Third, and most importantly, complex contemporary phenomena such as supranational integration, multi-level governance, and the coexistence of heterogeneous identity groups cannot be adequately explained by competition-centric models alone. Political symbiogenesis fills this critical gap by offering a paradigm shift that integrates both competitive and cooperative dynamics, explaining how distinct political units can transform into newer, more complex orders through symbiotic relationships characterized by mutual interdependence, functional overlap, and emergent properties. In this sense, political symbiogenesis is not a dismissal of existing theories but a necessary response to their collective inadequacy in explaining the full spectrum of political transformation.

Classical literature on social transformation, particularly in formulations known as social Darwinism, portrays society as an arena of competition, elimination, and the pursuit of supremacy. However, historical research has shown that this intellectual tradition is not a direct reflection of Darwin's theory, but rather a product of ideological readings of evolution within the intellectual context of the nineteenth century (Hofstadter, 1955; Leonard, 2009). Moreover, contemporary critiques have demonstrated that such a perspective, especially in its political and social applications, has been used to justify inequality, racism, and the exclusion of subordinate groups (EBSCO, 2022; Swarthmore College, nd; Cambridge University Press, 2019). In contrast, contemporary evolutionary biology opens different horizons. The concept of symbiogenesis shows that major evolutionary innovations can occur through sustained symbiosis, functional integration, and long-term linkages among distinct organisms, not solely through competition and elimination (Margulis, 1990; Sagan, 2017). Recent research has extended this insight beyond the origin of organelles and proposed it as a general principle for understanding biological innovation (Archibald, 2017; Douglas et al., 2016; Lane, 2015). From this perspective, the pattern of change in nature is not only the logic of survival of the fittest but also the logic of emergence through symbiosis.

The main problem of this article begins here: if in biology, symbiosis can underpin the formation of new and more complex units, can we speak of a similar logic in politics and society? In other words, can certain political transformations be understood not merely as the outcome of one actor's triumph over another, but as the result of institutional overlap, mutual interdependence, and the profound recombination of units? This question gains further importance when we recognize that research on social interdependence demonstrates that the way relationships among actors are organized directly affects the quality of participation, cooperation, and the sustainability of outcomes. Accordingly, political symbiogenesis is proposed as an analytical concept to explain new forms of political organization, including multi-level coalitions, network governance, federalism, and regional integrations. This concept seeks, on the one hand, to avoid biologicistic simplifications and, on the other, to employ the logic of symbiosis in political analysis. The value of this concept lies in its refusal to view politics as a perpetual field of elimination, instead reconceiving it as the formation of productive dependencies and composite orders.

In this section, we have exposed the epistemic fault line between the classical approach and the proposed approach. It can be argued that competition-centric theories, due to their inherently simplistic nature, are incapable of explaining complex contemporary political phenomena (such as network governance, federalism, and the coexistence of identity groups), and this incapacity doubles the necessity of creating a new concept. Furthermore, emphasizing social interdependence as the theoretical foundation of this concept demonstrates that political symbiogenesis is rooted in the empirical findings of the social sciences and is not merely an unsupported analogy. The four research questions, covering conceptual, comparative, and applied dimensions, chart a clear path for the remainder of the article. Ultimately, the new concept is not a metaphor but a serious and defensible analytical framework. The objective of this article is to present a new political concept for analyzing institutional transformation, drawing on the literature of evolutionary biology and theories of social interdependence. This concept is not meant to reduce politics to biology, but rather to demonstrate that certain patterns of order-formation in nature can inspire our understanding of participation, integration, and institutional transformation in society. To formulate political symbiogenesis, it is first necessary to clarify the theoretical foundation upon which this concept rests. In evolutionary biology, symbiogenesis refers to the idea that fundamental biological innovations can emerge through sustained and functional symbiosis, not merely through point mutations and natural selection (Margulis, 1991; Margulis, 2000; Guerrero et al., 2013). In this tradition, a living organism is never a completely self-sufficient unit but rather the result of a history of symbiosis and mutual interdependence. For this reason, the concept of the holobiont is based on the idea that the biological individual should be understood as a collection of genomes and internal relationships (Guerrero et al., 2013; Sagan, 2017).

This perspective conflicts with classical competition-centric readings of evolution. In effect, what is highlighted in symbiogenesis is the construction of stable linkages to create new levels of organization a level that transcends the simple combination of parts and acquires emergent properties (Archibald, 2017;

Lane, 2015). From this viewpoint, symbiogenesis is not merely a specific biological process but a logic of order-production: distinct units can retain part of their differentiation, integrate into a new whole, and shape functions that were impossible at the previous level. In the social sciences, the closest support for this idea can be found in the theory of social interdependence. This theory demonstrates that the way goals and relationships among actors are organized determines the quality of interaction and can enhance cooperation, peace, and collective efficiency (Johnson & Johnson, 2003; Johnson, 2003). Moreover, research on the coordination of complex systems in public policy shows that various institutions and actors, under certain conditions, move toward self-organized patterns and governance networks patterns precisely based on overlap, adaptation, and synergy (Peters et al., 2021). Therefore, this article is based on the hypothesis that political systems, like certain biological systems, can transform into a new level of organization through symbiotic relationships.

Accordingly, political symbiogenesis can be defined as follows: a process in which distinct actors, institutions, or units, through stable mutual interdependence, mutual adaptation, and goal alignment, lead to the formation of a new and more complex political order an order irreducible to any of its initial components. This definition, on the one hand, is consistent with the symbiosis tradition in biology and, on the other hand, prevents the reduction of politics to biology, as it relies on conceptual translation rather than crude analogizing. The theoretical framework, by systematically linking the two domains of biology and the social sciences, has succeeded in solidifying the epistemic foundations of the new concept. The result is that political symbiogenesis is not a decorative metaphor but a logic of order-production traceable in both biological and social systems. The emphasis on emergent properties and the holobiont demonstrates that political units, like biological units, are never entirely self-sufficient, and their identity is shaped within a network of mutual relationships. Furthermore, the final definition provided, by incorporating the three components of mutual interdependence, mutual adaptation, and goal alignment, offers political science researchers a precise and operational analytical tool. This section, by emphasizing conceptual translation rather than crude analogizing, protects the article from the accusation of biological reductionism and grants it the necessary scientific legitimacy.

The main distinction between this concept and social Darwinism lies in the fact that in social Darwinism, competition and elimination are considered the primary engines of transformation, whereas in political symbiogenesis, integration without the complete erasure of differences is the focal point of analysis. Consequently, this theory neither defends the supremacy of any particular group nor naturalizes inequality; rather, it seeks to demonstrate that political order can be sustained through the production of mutual interdependencies rather than through unilateral domination. To further clarify this distinction, the following table presents the fundamental differences between these two approaches across various dimensions:

Dimension of Comparison	Social Darwinism	Political Symbiogenesis
Logic of Transformation	Competition and elimination of the weaker	Symbiosis and integration of differences
Role of Conflict	Primary engine of progress	One factor among others, not the sole factor
Function of Power	Domination and pursuit of supremacy	Facilitation of cooperation and mutual interdependence
Relation to Differences	Differences as sources of threat and elimination	Differences as sources of potential for integration
Desirable Political System	A system in which the stronger rule	A system in which cooperation is institutionalized
View of Inequality	Natural and inevitable	A product of non-symbiotic structures

For this reason, this concept is effective for analyzing phenomena such as supranational unions, multi party coalitions, multi layered federalisms, and hybrid mechanisms of governance networks. In all these cases, the survival of political order depends on the actors' ability to create stable linkages and manage differences, rather than on the complete elimination of the other (Johnson & Johnson, 2003; Peters et al., 2021). Thus, political symbiogenesis can serve as a theoretical language for explaining institutional evolution in the contemporary world. Therefore, political symbiogenesis, standing in opposition to social Darwinism, emphasizes not domination and elimination but integration and management of differences. The comparative table presented visually and categorically illustrates this distinction, aiding the reader's understanding. Furthermore, this section demonstrates that the new concept, unlike social Darwinism, which views inequality as natural and inevitable, sees inequality as a product of non-symbiotic structures, and in this respect, carries clear normative implications for equitable policy-making. Ultimately, this distinction introduces the new concept as an independent analytical tool that can be used alongside other political science theories.

To clarify the relationship between political symbiogenesis and established political theories, it is important to emphasize that this concept is not intended to replace or dismiss existing frameworks but rather to complement and enrich them. Political symbiogenesis shares common ground with historical institutionalism in its attention to institutional development over time, yet it goes further by explaining how distinct institutions can merge and co-evolve into new organizational forms through sustained interdependence. Similarly, while rational choice theory focuses on self-interested actors pursuing their goals, political symbiogenesis suggests that under certain conditions, the rational

pursuit of long-term interests can lead actors toward cooperation and mutual adaptation rather than zero-sum competition. The concept also aligns closely with network governance and complexity theory, both of which emphasize non-hierarchical relationships and emergent properties in political systems; however, political symbiogenesis offers a more specific mechanism symbiotic relationships with functional overlap to explain how such emergent orders actually form and persist. Finally, while federalism and multi-level governance address the coexistence of multiple political units within a single system, political symbiogenesis shifts the focus from constitutional arrangements to the dynamic processes of mutual adaptation and institutional integration. In this way, political symbiogenesis does not stand in opposition to these theories but instead provides a fresh analytical lens that can be used alongside them, offering new insights into phenomena that existing approaches have struggled to explain fully.

First, politics should be understood as a complex and dynamic system, not merely a linear and cumulative process. Political systems, like biological systems, possess characteristics such as self-organization, path dependency, and the emergence of novel properties that linear and simplistic models cannot explain. This assumption connects the article to the literature on complex systems theory and prepares the ground for accepting the logic of symbiosis. Second, cooperation and mutual interdependence can be as generative of transformation as competition and conflict. Extensive research in social psychology and political science has demonstrated that goal-oriented cooperation and the design of mutual relationships can lead to more stable and fruitful outcomes than zero-sum competition. This assumption distances the article from the anthropological pessimism of certain Darwinian readings.

Third, biological concepts, with care and reflection, can enrich social analysis without devolving into reductionist biologism. The application of biological metaphors in the social sciences has always carried the risk of naturalizing the social. This article, being aware of this risk, emphasizes conceptual translation and the logical transfer of ideas, rather than superficial structural adaptation. The article's assumptions clarify the ontological and epistemological framework of the research and demonstrate the implicit philosophical foundations upon which the article rests. The main conclusion is that political symbiogenesis, as a theory, is based on a system-oriented view of politics, a belief in the productive power of cooperation, and a commitment to methodological self-awareness. These three assumptions, on the one hand, connect the article to cognitive and network sciences; on the other hand, they distance it from the anthropological pessimism of social Darwinism; and thirdly, they immunize it against the accusation of biological reductionism. Taken together, these assumptions guarantee the epistemic defensibility of the new concept and grant it the necessary scientific legitimacy.

Methods

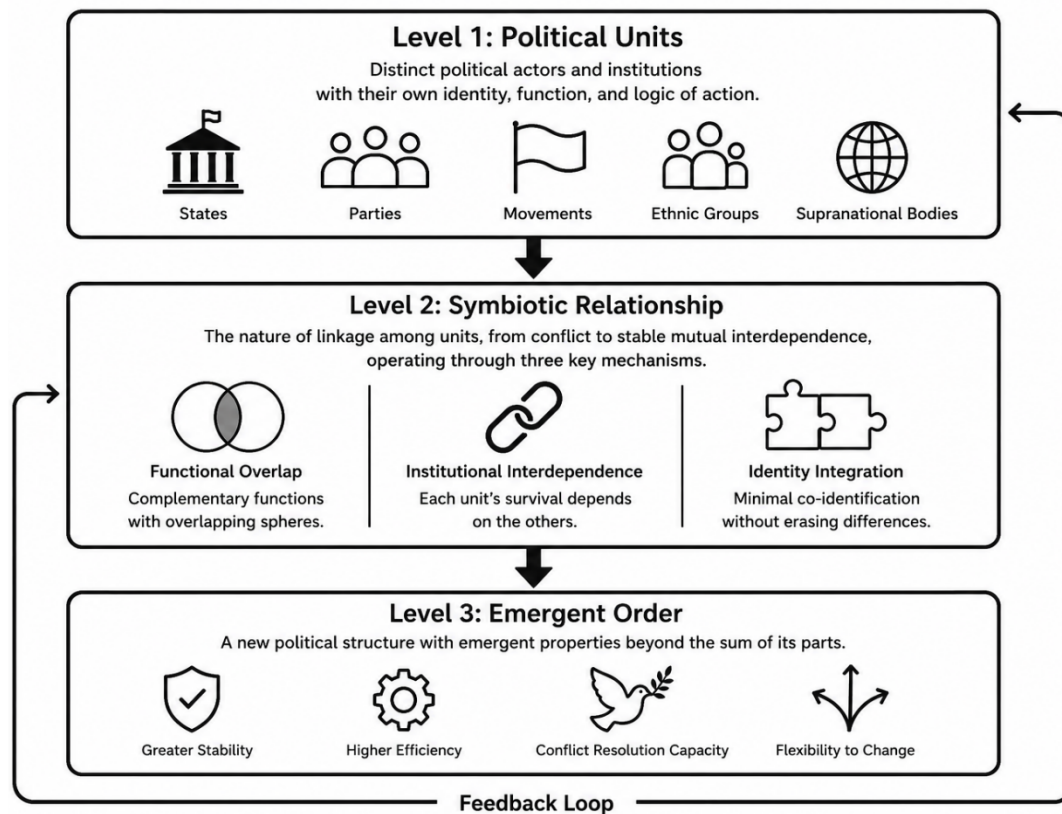
To improve the conceptual analysis methodology, this article adopts the Walker and Avant (2005) framework, which is a well established approach for developing and clarifying concepts, especially in interdisciplinary research. I chose this framework because it offers clear and practical steps that can be

applied systematically. Following its procedure, I first reviewed how the concept of symbiosis is used across different biological and social science literatures. Through this review, I identified three core attributes that define political symbiogenesis: stable mutual interdependence, functional overlap without erasing differences, and the emergence of new properties that go beyond the sum of the original parts. One concern I kept in mind throughout was avoiding the trap of biological reductionism. Instead of applying biological concepts to politics crudely or superficially, I have tried to translate them critically, drawing on what Bonis (2013) and Machado and Silva (2007) describe as careful conceptual translation. This approach helps ensure that political symbiogenesis is not just a decorative metaphor but a serious analytical tool that can hold its ground in political science.

Result and Discussion

To test these hypotheses, a three-level analytical model can be proposed: *Level One: Political Units* At this level reside distinct political actors and institutions: states, parties, movements, ethnic groups, or supranational bodies. These units, like species in biology, each possess their own identity, function, and logic of action. However, in complex political systems, these units are never entirely isolated; they are constantly in interaction with one another. *Level Two: Symbiotic Relationship* At this level, the nature of the linkage among these units is examined, ranging from conflict to cooperation, from unilateral dependence to stable mutual interdependence, along a continuum. Three key mechanisms operate at this level: *Level Three: Emergent Order* At this level resides the new political structure that emerges from these relationships. This emergent order possesses characteristics that transcend the sum of its initial components: greater stability, higher efficiency, conflict resolution capacity, and flexibility in the face of environmental changes.

These three levels, in interaction with one another, form a dynamic cycle: political units, through symbiotic relationships, arrive at an emergent order, and this emergent order, in turn, reflexively influences the relationships and identities of the units.



The three-level analytical model demonstrates that political symbiogenesis, as a theory, possesses both a clear analytical structure and practical applicability. The first level (political units), the second level (symbiotic relationship with three key mechanisms), and the third level (emergent order) together form a dynamic cycle that can be employed to analyse concrete political phenomena (such as the European Union, coalition governments, or the coexistence of ethnic groups). The emphasis on emergent properties at the third level indicates that symbiogenesis leads not to a mechanical sum of parts but to a novel quality that transcends the simple combination of units. This model both demonstrates the explanatory power of the new concept and provides a practical guide for researchers intending to apply this concept in their case studies.

The significance of this model lies in its vision of politics not merely as an arena of strule, but as a context for the production of new structures. This perspective is particularly useful for understanding regional and supranational systems, wherein states are typically neither eliminated nor completely dissolved, but rather redefine a portion of their sovereignty within networks of shared mechanisms. Consequently, political symbiogenesis can serve as an intermediate concept between classical sovereignty and networked interdependence. This concept also allows us to maintain our distinction from social Darwinism. While social Darwinism views competition as natural and desirable, symbiogenesis demonstrates that a political system can also grow through creative compromise, synergy, and institutional recombination. In this respect, the proposed concept is not a decorative metaphor, but an attempt to recover a language of political analysis.

One of the important advantages of this concept is that it does not view power solely in hierarchical terms. In many contemporary political systems, power is distributed across multiple levels, and institutions are compelled to interact and negotiate for survival. In such a situation, the complete elimination of the other is neither possible nor desirable. Instead, institutional adaptation and the production of mutual interdependence become sources of stability. From this perspective, political symbiogenesis can serve as a new analytical language for understanding institutional evolution.

First, it can be applied to the study of regional and supranational systems, assessing how independent institutions, through mutual interdependence, arrive at a new structure. The European Union, joint institutions of the Persian Gulf region, or similar regional organizations are examples of this application. Second, it can be used to analyze domestic political coalitions, coalition governments, or the coexistence of identity groups in multi-ethnic societies. Contemporary Iran, with its ethnic diversity and multiple political groups, stands as a salient example for this application. Third, this concept can serve as a useful explanatory model in studies of multi-level governance and policy networks. Research on network governance and coordination of complex systems provides a suitable background for this application. At the theoretical level, the main value of this concept lies in building a conceptual bridge between biology and the social sciences, without reducing politics to biology. This distinction is important because such interdisciplinarity aims to produce a new language for understanding complex phenomena, not to replace one discipline with another. For this reason, political symbiogenesis can be considered a heuristic concept for future research. Ultimately, it demonstrates the applicability of the new concept across various fields of political studies. Pointing to concrete applications (both at the supranational and domestic levels, including in contemporary Iran) moves the article beyond mere abstraction and grounds it in political reality. Furthermore, emphasizing heuristic rather than descriptive conceptualization reflects the article's theoretical ambition and its capacity to inspire subsequent research. Finally, this section shows that political symbiogenesis is not a closed theory but an open framework that can evolve and gain further richness through interaction with existing political science theories such as institutionalism, networking, and multi-level governance.

Conclusion

This article has demonstrated that the concept of political symbiogenesis can be proposed as a serious alternative to purely competition-centric approaches in political analysis, based on three key components: stable mutual interdependence, functional overlap without the erasure of differences, and the production of emergent orders that transcend the sum of their initial components, thereby opening a new possibility for understanding political and institutional transformation. At the conceptual level, the article shows that the logic of symbiosis, recognised in evolutionary biology as an engine of fundamental innovations, can also serve as a principle of political analysis, not by biologising politics but by enriching the language of political analysis through an efficient pattern of order formation. At the theoretical level, by critically distancing itself from social Darwinism, the article demonstrates that cooperation, symbiosis, and mutual interdependence can be as significant engines of political transformation as competition and conflict, enabling a rethinking of political progress not merely as the domination of one group over another but as the formation of systems that preserve differences while managing and aligning them. At the methodological level, the article presents a three-level model consisting of political units, symbiotic relationships, and emergent order that can guide future empirical research on phenomena such as multi-layered coalitions, federalism, network governance, and the coexistence of identity groups. Nevertheless, the article remains limited by the absence of empirical testing in concrete case studies, while the relationship between political symbiogenesis and established theories such as rational choice theory, historical institutionalism, and systems theory requires further systematic exploration. Despite these limitations, the central value of political symbiogenesis lies in its conception of politics not merely as an arena of conflict but also as a context for the formation of new and more complex political units, particularly in a world increasingly characterised by supranational unions, governance networks, and the coexistence of heterogeneous groups, where a new analytical language capable of explaining sustained symbiosis alongside competition is increasingly necessary.

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