

**Review: Steven Jan, *Music in Evolution and Evolution in Music*
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MUSIC IN EVOLUTION AND EVOLUTION IN MUSIC¹ is an ambitious work that attempts to bridge diverse academic disciplines—ranging from genetics and evolutionary theory to linguistics, artificial intelligence, and musicology—with the purpose of explaining both the origin and the ongoing evolutionary nature of music. Jan argues that music is not merely an epiphenomenon or a cultural ornament, but a phenomenon intimately intertwined with the biological and evolutionary development of *Homo sapiens*. He claims that music was essential in shaping human morphology and cognition, influencing language development and social interactions. To fully understand music, one must adopt an approach that encompasses both its biological origins and its cultural manifestations. Furthermore, he suggests that music not only mirrors but also internalizes evolutionary processes through mechanisms analogous to those observed in genetic evolution. According to Jan, the coevolution of music and the discourses about music constitutes a significant arena for cultural evolutionary analysis. He proposes that the processes underlying both human consciousness and musical evolution may be seen as reflections of Darwinian algorithms operating at different temporal and perceptual scales. By integrating these ideas across seven chapters, Jan builds a complex narrative that positions music as a microcosm of evolutionary change itself.

One of the book's greatest strengths lies in its impressive interdisciplinary elaboration. Jan draws on insights from diverse fields to construct a unified narrative. The text illuminates how early hominins might have benefited from vocalizations used to foster group cohesion, facilitate infant-

¹ Open Book Publishers, ebook available at <<https://www.openbookpublishers.com/books/10.11647/obp.0301>>. Doi: <https://doi.org/10.11647/OBP.0301>.

caregiver interactions, and even influence sexual selection. For instance, Jan discusses how the impact of bipedalism on the movement of the larynx may have enhanced vocal range, suggesting that an anatomical innovation did not yield its full communicative potential without the parallel evolution of social and cognitive contexts. This synergy, where physical evolution and cultural context interact to produce complex human behaviors like music-making, is both original and thought-provoking.

Furthermore, Jan's discussion of memetics—with reference to ideas originally advanced by Dawkins and Dennett—provides a formalized model for understanding pattern replication at multiple hierarchical levels in music. His use of the VRS algorithm (a formal conceptual tool in his argument) to draw parallels between genetic and cultural replication systems offers a novel window on how music might both shape and be shaped by broader evolutionary dynamics.

While the interdisciplinary ambition of the volume is impressive, the book is not without its shortcomings. One recurring issue is its heavy reliance on Universal Darwinism. Jan consistently interprets diverse phenomena through the lens of Darwinian evolution, sometimes at the expense of alternative perspectives. For example, although he critically discusses Lamarckian evolution, he omits significant consideration of Mendel's classical genetic discoveries. This selective theoretical allegiance leads to an evolutionary narrative where alternative models—such as those emphasizing self-organizing principles or even Grauer's ideas on self-recognition—receive only brief and somewhat dismissive treatment.

One particularly important critique concerns Jan's unilateral focus on Universal Darwinism. This position is explicitly stated, but readers who are skeptical of such a pan-perspective may find the limited engagement with alternative viewpoints troubling. For instance, the broader debate among ethnomusicologists is not adequately addressed. There is no discussion of the seminal works and theories of Victor Grauer, Christopher Small, Tia DeNora, or Philip Bohlman (to name just a few), who have challenged the idea of an inherent evolutionary drive in music and its supposed teleological nature—from simplicity to complexity. Alternative visions, such as those emphasizing cultural cross-contamination, fortuitous events (randomness and chaos), relational dynamics, or theories focusing less on linear progression and more on music's role in preserving cultural memory and reinforcing communal identity, are given little space. In contrast to the Darwinian narrative of constant evolutionary innovation, these perspectives view music as a means of perpetuating intrinsic patterns—a self-referential dynamic that resists the notion of progressive change in the conventional sense. Integrating these perspectives could have enriched Jan's discussion, offering a valuable counterbalance to the model's emphasis on adaptation and evolutionary advancement.

Another area of concern is the book's dense reliance on specialized biological and genetic terminology—terms such as 'paraphyly' and 'tremotypes' are introduced with minimal contextual explanation. While this reflects the author's deep engagement with evolutionary biology, it poses a

significant challenge for scholars not routinely immersed in this lexicon. Although Jan provides some definitions and explanatory passages, the overall effect is one that may alienate readers whose expertise is primarily in musicology or cultural studies, limiting the text's accessibility.

In addition, Jan's method of layering arguments—adding a 'new' evolutionary argument in each successive chapter—can lead to a sense of forced coherence and tautological structure. The constant use of 'if we accept that... then...' constructions suggests that the author is appending arguments *ad hoc* to reinforce his thesis rather than building a progressively integrated framework. This approach, while ambitious, sometimes results in an assemblage of parallel phenomena (from the origins of language and vocal range to consciousness and tonal systems) that may appear contrived.

Despite its wide-ranging theoretical contributions, the book's empirical focus is somewhat narrow. A large portion of Jan's discussion centers on Western classical repertoires, notably when applying his evolutionary model to the development of the tonal system. This focus is particularly surprising given the author's affiliation with an institution—Huddersfield University—known for its engagement with contemporary and experimental music practices. The exclusion of more diverse musical cultures and exploratory practices not only weakens the universality of his claims but also represents a missed opportunity to test the broad applicability of his evolutionary framework. An expanded discussion that included non-Western and non-classical musical forms could have further demonstrated how evolutionary principles manifest across varied musical traditions.

A further critique arises in Jan's treatment of the concept of 'musicality'. While he defines musicality in terms of a set of competences developed through evolutionary processes, his analysis increasingly emphasizes music production—vocal and instrumental—while largely overlooking the equally vital role of listening, particularly the unconscious perceptual processes that underlie music appreciation. In Chapter 7, for instance, Jan links musicality directly to higher-order consciousness, an association that appears somewhat reductive when contemporary research underscores the significance of unconscious perceptual skills. This partial focus has the effect of reinforcing the book's overall positivist orientation, reducing the rich complexity of musical experience to a set of observable, and arguably engineered, processes.


In sum, *Music in Evolution and Evolution in Music* stands as a noteworthy contribution to the field of evolutionary musicology. Its strengths lie in its ambitious interdisciplinary scope, its integration of complex concepts from genetics, memetics, and neuroscience, and its bold assertion that music is both a reflection and a driver of evolutionary change. The volume's discussion of mechanisms such as the VRS algorithm provides a formalized framework that promises to further our understanding of how musical structures develop and replicate over time.

Nevertheless, Jan's unyielding commitment to a Darwinian framework—coupled with a selective engagement with alternative theoretical perspectives (notably Grauer's vision of self-recognition in

music)—results in a narrative that occasionally feels over-determined and forced. The reliance on advanced biological terminology and the narrow empirical focus on Western classical music further detract from the book's broader accessibility and applicability.

While the book undeniably offers a richly detailed roadmap of how music might have evolved in concert with human biology and culture, its rigidity and occasional theoretical overreach suggest that further work is needed to fully reconcile alternative models—particularly those that view musical evolution as a process of self-affirmation and erratic movement rather than solely adaptive progression. Future research would benefit from a more pluralistic approach, one that equally values the insights of Darwinian theory alongside models emphasizing probabilistic processes, self-recognition and the unconscious dimensions of musical experience.

In conclusion, Steven Jan's work is an intellectually rigorous, ambitious and innovative text that pushes the boundaries not only of evolutionary musicology but of academic research in general. Its synthesis of diverse scientific disciplines stands as its principal contribution, even as certain conceptual and empirical choices leave room for further debate. For scholars interested in exploring the deep interrelations between music, biology, and culture, the book is both a valuable resource and a provocative invitation to challenge, refine, and expand current evolutionary narratives.

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