

# Preface

There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.

(Darwin 1996: 396; 'by the Creator' not in the first (1859) edition)

Since at least the middle of the eighteenth century, the relationship between the living world and the products of human intelligence has stimulated and challenged many writers. Parallels drawn between nature and culture since the time of Darwin have tended to see changes in socio-cultural products in terms of similarities with biological evolution, but before Darwin, the opposite was the case: the ebb and flow of culture, specifically the structure, development and transmission of language, was used as a weapon in the debate between creationists, with their static view of the universal order, and those advocating the dynamic mutability – the evolution – of species.

Organicism – the conception of cultural products in terms of ideas derived from the biological sciences – reached its height in the nineteenth century and its incorporation into discourse on music coincided with, and nourished, the growing discipline of musical analysis, which had by this time become distinct from its *alter ego*, music theory. After the high tide of organicism had receded, some theorists, notably R ti and Schenker, continued the tradition well into the twentieth century with analytical systems which were predicated on (and developed in order to demonstrate) an assumed organic unity in their objects of study. It is clear that the reverberations of organicism, albeit more subtly expressed, still affect our thinking about music today, despite the apparent triumph of postmodernism, with its celebration of fragmentation, multiple readings and the anti-structural and anti-hierarchical.

This book reconceives organicism, not in an endeavour to rehash long-spent notions of high romanticism and German Idealism, but as a consequence of its focus on the *meme* concept formulated by the ethologist Richard Dawkins. This idea sees human culture as comprised of a near infinity of independent, selfish *replicators* analogous to the genes of biological evolution. In this work, tangential to his main concerns with biological replicators and their effects on animal behaviour, Dawkins has powerfully reinvigorated an idea which has its roots in the work of many earlier writers, some dating back to the ancient world. Thirty years

after its initial presentation in the first edition of *The Selfish Gene*, the idea of memes has spread widely in human culture – it is clearly a successful replicator. While the reproductive success of a replicator is no guarantee of the veracity of the ideas it encapsulates (popularity, in other words, does not signify truth), the *meme meme* (Ball 1984: 146; Costall 1991) has, nevertheless, shown itself to be a powerful tool for understanding human behaviour and the artefacts it gives rise to. The time is ripe to apply the meme concept systematically to music, to develop a *memetics of music*.

The purpose of this book, therefore, is to show that memetics offers a new perspective on musical structure – which can be conceived as the disposition of memes within a work, at various hierarchical levels; musical style – the nature of memes within a single work, within the output of a composer, or within the output of an historically or geographically discrete group of composers; and musical style change – the transformations occurring in memes at these three ‘levels of stylistic relevance’ (Nattiez 1990: 135–6) over a given time span. To this end, the book is organized as follows.

Chapter 1 provides a context for the book’s central ideas by reviewing conceptions of biological evolution before and after Darwin’s revolutionary idea – his ‘Dangerous Idea’, as the philosopher Daniel Dennett has described it (1995: 21) – including the *selfish gene* perspective advocated by Dawkins and fundamental to this study. After consideration of the scope of nature-culture analogies, a brief initial overview of memetics sets the scene for its more detailed treatment in subsequent chapters. The chapter concludes with reflections on some philosophical issues pertinent to developing a memetics of music.

Chapter 2 and Chapter 3 offer an introduction to what might be regarded as the ‘static’ aspects of memetics. Chapter 2 starts with a discussion of the nature, ontology and basic attributes of memes in general. After considering some issues concerning style analysis which offer a useful bridge between more conventional musicological concerns and the less familiar standpoint of memetics, it concludes by suggesting some ways in which memes might exist in its various parameters.

Chapter 3 continues the definition of musical memes, introducing an analytical symbology for their representation and discussion. After discussing the central issues of particulatness, segmentation and coindexation, it goes on to examine ways in which musical memes combine to form complexes and how such complexes are hierarchically structured. It concludes with a consideration of how memetic-structural and memetic-cultural hierarchies might be analogically related to those of nature.

Chapter 4 turns to the ‘dynamic’ aspects of memetics, the propagation and evolution of memes, by examining the mechanisms by which memes are transmitted in the environment of human culture. It considers how memetic mutation and differential selection is the driving force of socio-cultural evolution and, therefore, of musical style.

Chapter 5 looks at the origin of large-scale musical structures – especially the complex formal archetypes of eighteenth- and nineteenth-century music – in terms

of the replication and evolution of *structural memes* originating in the music of earlier periods. This concept allows the ontogeny of a musical work, its individual genesis by means of memetic conglomeration, to be related to the phylogeny, the ‘species-history’, of the structural meme of which the work is an instantiation.

Chapter 6 moves from the theoretical to the practical in considering how musical analysis might be conducted in the light of the meme concept. After a discussion of the memetic nature of theoretical frameworks and analytical systems and a consideration of methodologies in memetic analysis, it discusses ways in which computer resources, in particular David Huron’s *Humdrum Toolkit* software, may be used to expedite the theoretical development of memetics and to facilitate the practice of memetic analysis. A short case study illustrates the mechanics of using *Humdrum* for the latter purpose.

Chapter 7 begins with a formal summary of the meme concept as it applies to music. After reviewing some of the central problems and prospects for musical memetics, it briefly explores some other ways in which memetics impinges upon music, including the issue of animal culture and musicality. In the light of recent research in neuropsychology, it concludes by offering a critique of the notion of the conscious intentionality or agency of the composer, replacing it by a view of consciousness as the consequence of vast meme-complexes running like software on the physical platform of the human brain.

The present study is interdisciplinary in nature. Taking as its basis ideas from contemporary science, it attempts to apply a scientific perspective to the realm of music in the wider aim of fostering a more unified approach to the spheres of nature and culture. It seeks to do this using the tools of musicology, music analysis and music psychology, and is both qualitative and quantitative, critical and technical, in its scope. It also draws upon, and adapts, the somewhat arcane language of evolutionary biology and (especially) memetics. The use of such terms here (‘phmnemotype’, of my own coining, is perhaps the most extreme) is not motivated by a fondness for jargon: rather, one might justify this terminological expansion by an appeal to Gould and Vrba’s observation that ‘unnamed ideas generally remain unconsidered’ (1982: 4). Nevertheless, the book avoids the explicitly mathematical formulation of its subject matter found in some sources on evolution and memetics; and the tone is at times rather more humanistic than is perhaps the norm in most current work in music psychology.

To a large extent, therefore, a good deal of the book is concerned with developing hypotheses which might act as stimuli for, and which might be refined by, later empirical research. More broadly, it is a work of theory; and like many scientific theories, it is speculative (even improvisatory), hunch-driven and often provocative. As with much speculation in this broad tradition, it does not claim to offer proof for all of its claims; yet while I do not claim to offer a complete confirmation, I hope to have provided some useful concepts, frameworks and methodologies for future research to do so. Moreover, it does not always take an orthodox line on certain controversial issues in memetics – even where orthodoxy is established in such a new and often turbulent discipline.

I largely focus in this study on the music of Haydn, Mozart and Beethoven and, more broadly, on the ‘common-practice’ era of J.S. Bach to Brahms of which the classical trinity are a central part. Yet, in the process of examining memetics using this time frame and these composers as my ‘home base’, I shall introduce concepts that have far wider resonance, with applicability to musics of all styles, times and places; and I shall aim to demonstrate this applicability by reference, albeit somewhat limited, to such musics. It is typical of the boldness – some would say the recklessness – of memetics that its claims are not chronologically or geographically circumscribed, but are argued to be of universal applicability to all ages and all cultures. Therefore a theory of *musical memetics* – stimulating the development within musicology of such a sub-discipline being one of the principal aims of this book – must embrace the same ambitious claims to universality and it will be judged to have failed if it cannot substantiate them.

I embarked upon this book because, having written several articles on musical memetics, I felt that only a book-length study could do the subject full justice. Having now written such a study, I have now come to the conclusion that one book is insufficient for the task – I have merely scratched the surface of an immense field here – and that several books are necessary to deal with all the implications for music of this powerful and wide ranging theory. As a result, I have had to omit discussion of many interesting and provocative topics, such as the relationship between memetics and chaos theory and memetics and information theory, cultural-taxonomic questions in memetics, and the concept of evolutionarily stable strategies. I hope to consider these subjects in future publications, as well as developing further the issues covered here.

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Didsbury, Manchester, July 2006.