# Music as Socio-Emotional Confluence: A Comment on Bispham

Rodger Graham
*Ards Hospital, Northern Ireland, UK*

Bispham's (2006) address of the question 'why' humans demonstrate musical rhythmic behavior provides a compelling evolutionary, contextualized view of rhythm as an essentially corporate activity yielding convergence of emotional and motivational states in ways that augment individuals' fitness. In broad agreement with this viewpoint it is tentatively suggested here that such a model could be termed 'socio-emotional confluence signaling.' Adoption of an accordingly integrative biomusicological position circumvents many of the impasses incurred in the demarcated research agendas currently evident within this early phase of the study of human origins of music. Such a model provides a suitably broad theoretical substrate to facilitate a wide range of experimental studies that are necessary to enable the nascent field of biomusicology to progress beyond conjecture.

*Received July 2, 2007, accepted August 21, 2007.*

**Key words:** music, evolution, behavior, biomusicology, rhythm

In the December 2006 issue of Music Perception Bispham addressed the serious questions of *what* rhythm is and *why* it might feature as a ubiquitous, longstanding component of the human behavioral repertoire. The paper is lucid, comprehensive, and critically outlines a series of putative evolutionary and comparative accounts of the nature of rhythm. The interested reader is directed to this discussion in the initial sections of the paper. His dealing with the latter question, addressing *why* humans display rhythmic instinct, is the focus for this brief commentary. Bispham is to be congratulated for addressing this formidable question and providing a compelling view on the origins of rhythmicity—which could perhaps legitimately be extrapolated to music manifest in its fullest forms replete with melody and harmony. It is unfortunate, and almost certainly an unintentional byproduct of most nascent research fields, that tenable accounts of the origins of music have developed in some degree of isolation and therefore arise as exclusive, competing views. Such is the friendly-factional nature of almost all scientific theorizing in emerging disciplines. While this provides a productive scholarly momentum in the initial stages of a movement, seen clearly in the seminal text of Wallin, Brown and Merker (2000), the preponderance of demarcated research agendas in the origins of music, and associated concerns regarding the status of music as a bona fide evolutionary adaptation (Fitch, 2006), are likely to be limiting progress. This is especially notable in the essential work of experimental testing of putative hypotheses. A potential outcome of such a delimited research framework in biomusicology is the pursuit of hypotheses with a working assumption of mutual exclusivity. While theory falsification is certainly the job of good experimental science, it is here suggested that the field of biomusicology has, broadly speaking, lacked an integrative, organizing framework wherein various hypotheses can be fruitfully tested without the potential for early dismissal. It is within this context of theoretical divergence that the latter sections of Bispham's recent paper, while apparently not explicitly aimed at so doing, demonstrate potential as an organizing substrate for the development of experimental testing of hypotheses within the broader scheme of biomusicology.

Bispham provides a perspective on the human capacity for rhythm that demonstrates concurrent anthroplogical, biological, and social-cognitive considerations, and in this sense is noteworthy for providing an essentially integrative, inclusive lens on both social and individual aspects of musical-rhythmic behavior. In brief, his view of human rhythmicity presented indicates that pulse provides a temporal framework that facilitates collective emotionality, shared experiences, and drives cohesion in group activities and ritual. Bispham suggests that musical-rhythmic behaviors are operative in the co-regulation of emotional and motivational functioning by way of changing states of action readiness—and here proposes that musical beat is a coordinating force for human actions in whatever corporate activity might be undertaken. Within this framework rhythm and music serve as social co-regulating forces that foster predictability in behavioral sequences, augmenting

*Music Perception* volume 25, issue 2, pp. 167–168, issn 0730-7829, electronic issn 1533-8312  doi:10.1525/mp.2007.25.2.167

otherwise complex behavioral schema through pulse. Additionally, referring to Cross's (2005) notion of music as an inherently ambiguous entity that can be conferred with meaning but is not inherently possessive of it, Bispham contends that music, in social contexts, serves to amplify, exemplify, and reinforce ongoing experiences unique to the situation.

This contextualizing formulation of the conditions in which the human capacity for musical-rhythmic enterprise has evolved is additionally timely as cognitive neuroscience makes marked progress using neuroimaging studies. Such research programs almost exclusively provide an idiographic focus on the effects of music listening on discrete brain regions, often in passive listening protocols. Bispham's discussion, by contrast, draws repeated attention to the social, dynamic, and contextual basis of rhythm as an evolutionary function forged within the individual's social milieu, affording corporate convergence of emotional and motivational states. While not explicitly argued by Bispham, the model he outlines provides a promising template for the development of both empirical and experimental studies of human musical rhythmic behavior. Most positively, his closing remarks identify the need for further research to explore the core mechanisms involved in these processes, including personality, interaction, and social context. There are few good examples of such work in the extant literature. One exception is a piece of research by Hagen and Bryant (2003), in which the authors examined the role of musical-rhythmic synchrony on appraisals of social cohesion. Such work is most definitely moving in the right direction.

I tentatively suggest one addition to Bispham's paper that he has not presently offered - and it is, where possible, to give the model an explicit term of reference. Labels of course can present themselves as double-edged swords given the limits of language and potential for inadvertent imposition of arbitrary boundaries based on linguistics. Reservations aside, perhaps the term 'socio-emotional confluence signal' is an apt (if clumsy) term of reference for rhythmic-music and captures the socially embedded nature of rhythm and music as means of coordinating affective experiences and corporate behavior in groups? It would prove useful to consider alternatives that equally capture the various facets of the model in a succinct manner. Such a view leads us to consider broad questions of what kinds of information such signals convey, and how they lead to the co-ordination of behavior and emotional states in groups. For example, the sexual selection model (Miller, 2000) can be accommodated with this formulation, indicating that rhythmic-music, by in some degree indicating one's genetic fitness, creates a behavioral convergence towards more judicious reproductive activity. Likewise, a mother singing a lullaby to her infant (Dissanayake, 2000) fosters a reciprocal emotional state of calm. Equally, rhythm and music in religious ceremony and group ritual, which would appear to be Bispham's main emphasis as a biological anthropologist, can be seen as sonic-gestural signals that create a confluence of attention, belief, and conviction. Consistent with this primary assumption of rhythmic-music as a communicative signal, an inclusive view can be undertaken whereby evidence may be experimentally sought to support or falsify the notion that music signals information relevant to sexual selection, to attachment and bonding, to group uniformity and cohesion, and to mutual emotional regulation, etc. Adoption of a broad, behavior perspective allows progress without paralyzing concerns over the relative weight assignable to these various processes, and it circumvents the inevitable impasse created by repeatedly confronting the—possibly indeterminable—dilemma of whether music is best described as an adaptation or an exaptation. Bispham's paper orientates biomusicology researchers towards what is, in my view, a most promising formulation of human rhythmicity and musicality.

## Author Note

*Correspondence concerning this article should be addressed* to Rodger Graham, Department of Clinical Psychology, McQueen Building, Ards Hospital, Newtownards, BT23 4AS, Northern Ireland, UK. E-MAIL: rodger_g_graham@yahoo.co.uk

## References

Bispham, J. C. (2006). Rhythm in music: What is it? Who has it? And why? *Music Perception, 24*, 135-142.

Cross, I. (2005). Music and meaning, ambiguity and evolution. In D. Miell, R. MacDonald, & D. Hargreaves (Eds.), *Musical communication* (pp. 27-43). Oxford: Oxford University Press.

Dissanayake, E. (2000). Antecedents of the temporal arts in early mother-infant interaction. In N. L. Wallin, B. Merker, & S. Brown (Eds.), *The origins of music* (pp. 389-410). Cambridge, MA: MIT Press.

Fitch, T. (2006). On the biology and evolution of music. *Music Perception, 24*, 85-88.

Hagen, E. H., & Bryant, G. A. (2003). Music and dance as a coalition signaling system. *Human Nature, 14*, 21-51.

Miller, G. (2000). Evolution of human music through sexual selection. In N. L. Wallin, B. Merker, & S. Brown (Eds.), *The origins of music* (pp. 329-360). Cambridge, MA: MIT Press.

Wallin, N. L., Merker, B., & Brown, S. (2000). *The origins of music*. Cambridge, MA: MIT Press.

# Music as Socio-Affective Confluential Communication? Response to Graham

John Bispham
*University of Cambridge, Cambridge, UK*

In this response I largely concur with the commentary offered by Graham and argue that a label such as that proposed by Graham could additionally be useful in drawing primary attention to crucial social and affective features of music-making that have at times been undervalued in interdisciplinary investigations into music. I suggest two changes to the label proposed by Graham arguing that "affective"—rather than emotional—and "communication"—rather than signal—more broadly and precisely describe the boundaries of relevance that should be applied to music.

*Received and accepted August 21, 2007.*

**Key words:** music, sociality, affect, confluence, communication

The primary focus of the original article (Bispham, 2006) was to discuss musical rhythm in the broader context of human and animal communicative behaviors and to attempt to identify features of "rhythm"—both psychological and behavioral—that are specific to human musical engagement. As Graham notes, the proposed label—socio-emotional confluence signal—goes beyond the boundaries of this paper in that it seeks to encapsulate "music" and not just musical rhythm. I agree entirely that many of the points made in the article and by Graham in his commentary should be extended to "music." In fact, since publishing the article discussed here, I have been attempting to broaden the comparative approach to include other aspects of music including pitch and motivation (Bispham, in press). I have argued that, although hugely diverse and dependent upon cultural knowledge and immersion for "appropriate" engagement, music is universally identifiable by the presence of at least one—most commonly both—of the following quasi-organizational foundations: A more or less steady and sustained attentional temporal pulse and/or a system for maintaining certain relationships between pitches. Clearly, a full discussion on the question of universals in music and the complex interplay between culture and biology is beyond the current response (see Bispham, in press; Cross, 2003). However, the crucial point I would like to make here is that music appears to me to be generically distinct from other human and animal communicative behaviors in that it provides a temporal and/or pitch-based framework that potentiates simultaneous action and group affective social interaction. As such, and despite some small reservations about the terms "signal" and "emotional" in this context (see below), the label of "socio-emotional confluence signal," proposed by Graham, seems to me very apt.

Graham rightly points out that giving a complex phenomenon such as music a label has the potential to arbitrarily limit research agendas and ideas. However, in this case the term proposed is very broad in its applicability and I concur that the potential positives described by Graham substantially outweigh the possible pitfalls. Especially so if, as Graham clearly intends, we remain watchful and open-minded as research progresses. In addition to circumventing the possibly intangible question of music's adaptive or exaptive evolutionary status and providing the basis for an integrative model for future research, I believe that adopting a label such as is proposed could also be useful in guiding interdisciplinary researchers towards a productive vision of what music is. A growing body of interdisciplinary research into music has, in recent years, greatly increased our understanding. However, a restricting factor in some research has been an overly narrow conception of music that fails to encapsulate fully the social and affective dynamics that have created, characterized, and functionalized music across time and cultures. A strength of Graham's proposed label is that it immediately draws attention to these crucial factors. I would, however, like to suggest the term "socio-affective" in place of "socio-emotional." "Affect" is a broader term encapsulating, motivation, emotion, and mood, all of which are influenced and regulated in musical engagement. This may seem somewhat pedantic especially considering that research into "music and emotion"

*Music Perception* volume 25, issue 2, pp. 169–170, issn 0730-7829, electronic issn 1533-8312  doi:10.1525/mp.2007.25.2.169

(e.g., Juslin & Sloboda, 2003) has incorporated discussions on mood and to some extent motivation. However, I suggest this change in the interest of interdisciplinary confluence and clarity as well as ensuring that the proposed label imbues a suitable breadth of relevance.

Confluence is a concept that has, in my opinion, received too little attention within the field of music psychology and I think that Graham is absolutely right in proposing its importance to future research. Affective and social confluence are generically key experiential components of musical engagement and the assumption that engagement with music engenders convergent affective states is widespread. Researchers in the affective sciences, for example, regularly employ musical stimuli as a means of consistent mood induction in a range of experimental paradigms. Nevertheless, as music psychologists we lack a clear framework for understanding how this occurs and how confluence of this nature may have been evolutionarily functional. Addressing these crucial gaps in the literature will require the development of and/or focus on experimental paradigms that target social, interactive, and affect-regulatory aspects of musical engagement. Clearly this is a very considerable challenge. However, I strongly concur with Graham that it is a very promising and necessary avenue for exploration.

The final point I would like to make is that I would prefer the word "communication" to "signal." Again, this largely concerns the breadth of relevance of the term but would also ally the label more closely with recent research that attempts to position music within broad frameworks of animal and human communication (Cross, in press). Essentially, my concern is that "signal" will connote to readers a one-way informational process between a "signaler" and a "receiver." On the other hand "communication" comfortably encapsulates (without discounting the "passive" listening experience) the ethnographically predominant bi/multidirectional, interactive, and affective nature of musical engagement.

In conclusion, I support the proposals made by Graham and agree that a focus on social and affective confluence could offer an integrative and productive way forward for biomusicological research. I only suggest a slight modification of the label proposed by Graham for music to "socio-affective confluential communication," which I feel would more precisely describe the full scope of music's relevance to broader interdisciplinary investigations.

## Author Note

*Correspondence concerning this article should be addressed* to John Bispham, Leverhulme Centre for Evolutionary Studies, The Henry Wellcome Building, University of Cambridge, Fitzwilliam Street, Cambridge CB2 1QH, UK. E-MAIL: j.bispham@human-evol.cam.ac.uk

## References

BISPHAM, J. C. (2006). Rhythm in music: What is it? Who has it? And why? *Music Perception, 24*, 135-142.

BISPHAM, J. C. (in press). In search of music's evolutionary design features: Musical pulse, musical tone, and musical motivation. *Musicae Scientiae*.

CROSS, I. (2003). Music and biocultural evolution. In M. Clayton, T. Herbert, & R. Middleton (Eds.), *The cultural study of music: A critical introduction* (pp. 19-30). London: Routledge.

CROSS, I. (in press). Musicality and the human capacity for culture. *Musicae Scientiae*.

JUSLIN, P., & SLOBODA, J. (Eds.). (2001). *Music and emotion: Theory and research in affective science*. Oxford: Oxford University Press.