'REVERSE-ENGINEERING' THE HUMAN VOICE: EXAMINING THE ADAPTIVE PREREQUISITES FOR SONG AND LANGUAGE

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Background

This research represents the modelling of vocal development and potential in three categories so as to devise means of examining how the specific attributes of human vocality evolved. Assuming singing to be universal and instinctive, the hypothesis is proposed that musical communication represented the bridge between animal communication and human language (sometimes referred to as 'the continuity paradox'). Ontogeny is interpreted in the light of phylogeny, whereby it is proposed that language exploits neural structures adapted for communicative interaction whose purpose may have been different from speech and the effects of which were closer to what we would term Music.

Aims

A tripartite model of vocal potential is developed, drawing on: archaeological evidence of primate and hominid anatomy; the communication of modern primates; and the anatomical and neurological features of singing in living humans. This is related to a time-line for the evolution of the prerequisites for the eventual expression of which the modern vocal mechanism is capable.

Main Contribution

Referring to key evidence in a variety of disciplines, this study sets out to re-analyse the available data from the viewpoint of voice research informed by specifically musical properties of human vocality in addition to language capacity.

Implications

'Reverse-engineering' human singing involves unravelling the various selective pressures which may have endowed advantages at different points in the 6 million year evolution of the human voice. The study illustrates how both adaptation and exaptation played a part in a complex process involving natural, sexual and group selection. Implications for further research and possible outcomes in music therapy and pedagogy are also suggested.

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