



# JUAN G. ROEDERER

## AUTHOR OF THE PHYSICS AND PSYCHOPHYSICS OF MUSIC: AN INTRODUCTION

There is increasing evidence that music is a co-product of the evolution of human language. In this evolution a neural network emerged, capable of executing the ultra-complex operations of sound processing necessary for speech information processing. It is therefore conceivable that with the evolution of human language a drive emerged to train the acoustic sense in sophisticated sound pattern recognition from the moment of birth. The acoustical communication with the mother or her surrogate plays a fundamental role, in which an acoustical communication feedback cycle is established which may reinforce the emotional relationship with the mother, feeding both the motivational drive to acquire language in the infant and the motivational drive of the mother to vocalize simple musical tones. Regardless of the particular culture to which individuals are exposed later in life, since music conveys information on affective states, it can contribute to the equalization of the emotional states of a group of listeners just as a speech may contribute to the equalization of their intellectual state (knowledge).

In the distant past this could have had an important survival value, as

the increasingly complex human environment demanded coherent, collective actions by large components of society. The role of music and the feelings it triggers in superstitious and sexual rites, religion, ideological proselytism, military arousal, even antisocial behavior, testify to its spiritual value.

Based on quotes from the latest edition of Juan G. Roederer's book "*The Physics And Psychophysics Of Music: An Introduction*" (2008) available from Springer Publishing. Used with permission.