

# EARLY PROSODIC DEVELOPMENT OR EARLY MUSICAL DEVELOPMENT? FINDINGS FROM PSYCHOLINGUISTICS AND MUSIC PSYCHOLOGY



Maria de Fatima de Almeida BAIA (PPGLin/GEDEF)

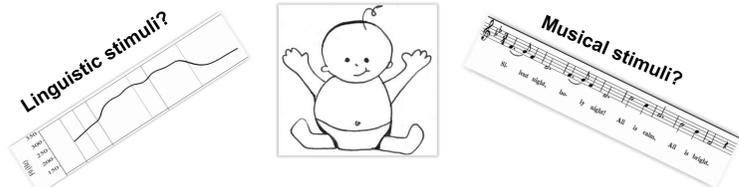
Ph.D in Linguistics & Music therapist

Universidade Estadual do Sudoeste da Bahia– UESB  
mariadefatimabaia@uesb.edu.br



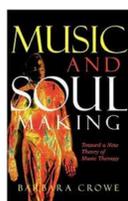
## Goals

- The aim of this ongoing study is to establish a dialogue between the two areas through a joint analysis of the prosodic development and musical development literature.
- To present a literature review on the (dis)encounters between studies of phonological development (prosodic) and studies of musical perception / learning.



## Dynamic Systems Theory

- **Dynamic Systems Theory** (Thelen & Smith, 1994) deals with the study of **complex, chaotic, self-organizing, adaptive and open systems**.
- The theory assumes that all systems, including the linguistic ones, interact with each other in a way to come out with a more complex order than the previous one (Larsen-Freeman & Cameron, 2008: 4).
- (...) *in our view, development does not “know” where it is going from the start (...)* There is not set end-state other than the end of life itself. (Thelen & Smith, 1994: 44).
- (...) *a new paradigm was emerging – one based on process, wholeness, and nonlinear reactions. This new paradigm holds beliefs that include chaotic movement, wholeness of events, and most importante, the inherent complexity of the real world.* (p.26)
- *I found that complexity science [...] greatly informs th full process I see in music therapy.* (p. 29)



Crowe (2004)

## EARLY PROSODIC DEVELOPMENT Psycholinguistics/Linguistics

- **Perception**
- Infants’ basic speech perception abilities offer a starting point for observing how sound patterns are organized in their native language;
- Studies have focused on infants’ sensitivities to sound properties of language (Jusczyk, 1997).
- **Production**
- [...] *mastery of the tongue as a phonetic articulator can be expected to require an extended period of experience with production* (Vihman, 1996: 115).
- Universals in early intonational patterns as the alternation between high and low tones in intonation, short melodies, binary rhythmic sequence of (un)stressed syllables (Scarpa, 1997) .

## Pre-linguistic babbling?

### Discontinuity between babbling and first words : Jakobson (1972).

- babbling as a period with universal production of sounds;
- babbling as a set composed of random sounds;
- a rupture;
- phonological distinctive units when there are words.



### Continuity between babbling and first words:

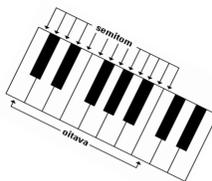
- Similar segmental, phonotatic and prosodic characteristics shared by the periods (Vihman *et al.*, 1985);
- Babbling and words are produced in parallel in early speech (Elbers & Ton, 1985).

## EARLY MUSICAL DEVELOPMENT Music Psychology/Music (therapy)

- Studies on perception and musical production of babies find specific musical intervals of each stage of development (Parizzi, 2006).
- There is no distinction between verbal or musical sounds until the first year (Parizzi, 2006; Gratier, 2011).



*The sounds produced by the infants to speak and to sing gradually differentiate during their second year of life* (Parizzi, 2006: 42)

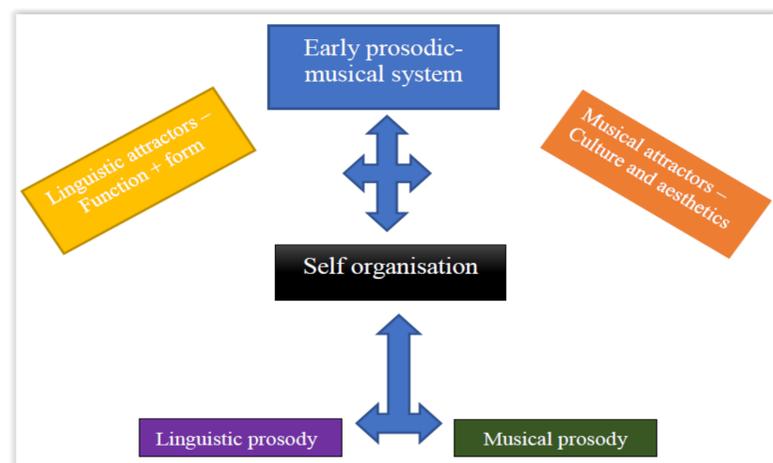


### Musical babbling? Spontaneous singing?

- Spontaneous singing indicates a possible relationship with the cognitive and musical development;
- Spontaneous singing starts from short babies’ babbling to transcendent songs (Parizzi, 2006).

*What if I am ... a linguist who is a musician?  
a linguist who is a music therapist (protocols etc?)*

### Early unified prosodic-musical system?



## FINAL REMARKS

- The unified system becomes two, its parts, although distinct, operate in parallel from the moment the child produces sound with linguistic form and function altogether;
- *Exprosodia* software (Ferreira-Netto, 2017) for the musical and linguistic analysis of early data.
- The findings will be relevant for the practice of the music therapist who deals with both linguistic and musical aspects.

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Gustavo Gattino – Music therapist and assistant professor at Aalborg University – Denmark.