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The embodied and the cultural in the conceptualization of pitch space in Croatian

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PROBLEMS OF BASIC CONTEMPORARY MUSICAL TERMINOLOGY IN CROATIA

AN INTERDISCIPLINARY RESEARCH PROJECT (2014 – 2018)

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Croatian Science Foundation

Conceptualization of music

- musical motion
- the spatial conceptualization of musical pitch

The conceptualization of pitch based on spatial and orientational image schemas:

VERTICALITY, HORIZONTALITY, PATH, SOURCE-PATH-GOAL

Western pitch space – VERTICALITY

Aim

- analysis of the conceptualization of musical pitch space and pitch relations in Croatian
- conceptual metaphors based on the image schemas VERTICALITY, THICKNESS and SIZE.

Assumption: the motivation of mappings is embodied, but under cross-cultural and cross-linguistic influences.

Theoretical framework

- **anthropological approaches** (Zemp 1979, Feld 1981, Ashley 2004)
- **corpus based studies** (Adlington 2003, Aksnes 1998, 2002, Brower 2000, Cox 1999, Johnson and Larson 2003, Saslaw 1996, Spitzer 2004, Zangwill 2007, Zbikowski 1998, 2002)
- **psychological research** (Cabrera and Morimoto 2007, Casasanto, Phillips and Boroditsky 2003, Lidji Kolinsky, Lochy, and Morais 2007, Roffler and Buttler 1968, Ruscon et al 2006).

Disagreement about the sources of verticality metaphors and their role in experiencing music

- cultural motivation
  - Western musical notation
  - Zbikowski (2002): ancient Greece, Bali and Java, Suyá of the Amazon basin
- embodied relationship of pitch and vertical space (vocal production)

Empirical works suggest strong association with spatial verticality, at least by Western subjects.

Experimental work

The neurological basis of the connection of pitch and space relations (Cassanto and Boroditsky 2003), but also of pitch changes and musical motion (Thompson, 2013)

→ music, language and motion are intertwined

- conflicting results regarding the nature of the pitch-verticality association

- **innate or easily learned perceptual relationship** (Wagner et al. 1981, Roffler and Butler 1968)
- **a learned response**, probably related to **linguistic** and **notational** convention (Ashley 2005, Abril 2001, Costa-Giomi and Descombes, 1996)
- music conceptualization based on **deeper perceptual modalities**
  - Antović (2009) 'visuo-spatial' modality, Eitan and Timmers (2010) VERTICALITY, SIZE (MAGNITUDE) and INTENSITY

Musical pitch space in Croatian

- an analysis of Croatian terms related to musical pitch and pitch relations
- pitch relations relying on image schemas of VERTICALITY, THICKNESS, and SIZE or MAGNITUDE
- three basic metaphors:

  RELATIONS ARE VERTICAL RELATIONS

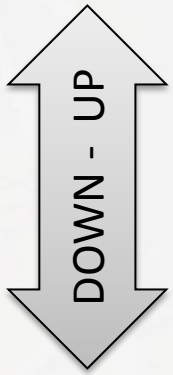
  PITCH RELATIONS ARE RELATIONS IN THICKNESS

  PITCH RELATIONS ARE RELATIONS IN SIZE

PITCH RELATIONS ARE RELATIONS IN VERTICAL SPACE

Croatian & most European languages (< Latin):

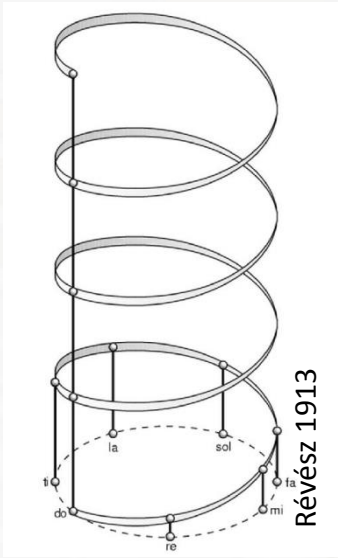
- **linear** (vertical) model of the pitch space
  - up-down = high-low



- direct mapping:
  - pitches, registers (high – middle – low)

- indirect mapping:
  - human voice types, instruments
  - musical scale degrees
  - manual pitch representation (cheironomy)
  - representation of pitch/tonal relations

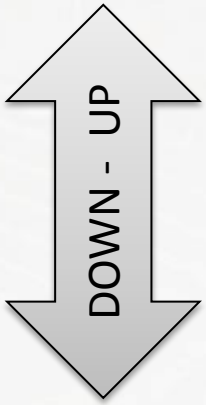
- spatial models:
  - linear („up – down")
  - helical (tone quality *vs.* absolute height)



Révész 1913

PITCH RELATIONS ARE RELATIONS IN VERTICAL SPACE

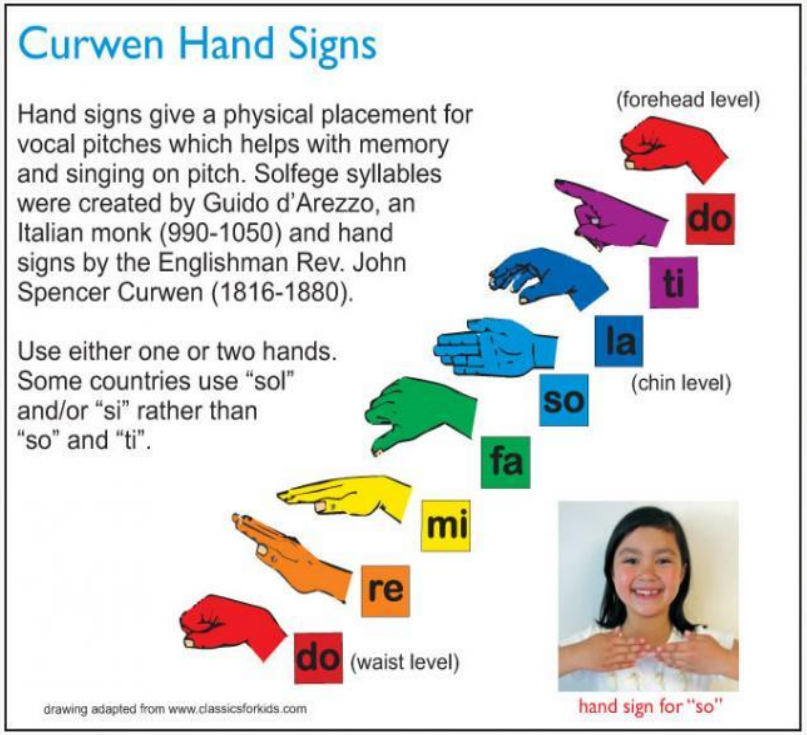
- direct mapping: pitches, registers (high – middle – low), general sound quality



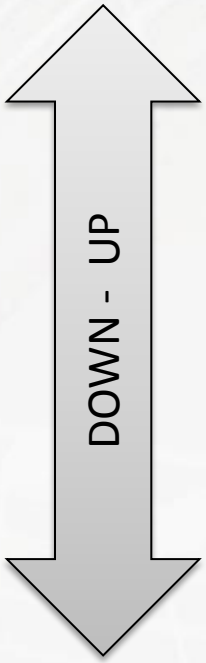
Eng.	Ger.	Cro.
HIGH	HOCH	VISOK
MIDDLE	MITTEL	SREDNJI
LOW/deep	TIEF/niedrig	DUBOK/nizak

(not interchangeable in all contexts)

PITCH RELATIONS ARE RELATIONS IN VERTICAL SPACE



manual pitch representation (cheironomy)



Eng.	Ger.	Cro.
HIGH	HOCH	VISOK
MIDDLE	MITTEL	SREDNJI
LOW	TIEF	DUBOK

explanation: embodiment (Zbikowsky 1998: 3.9)

PITCH RELATIONS ARE RELATIONS IN VERTICAL SPACE

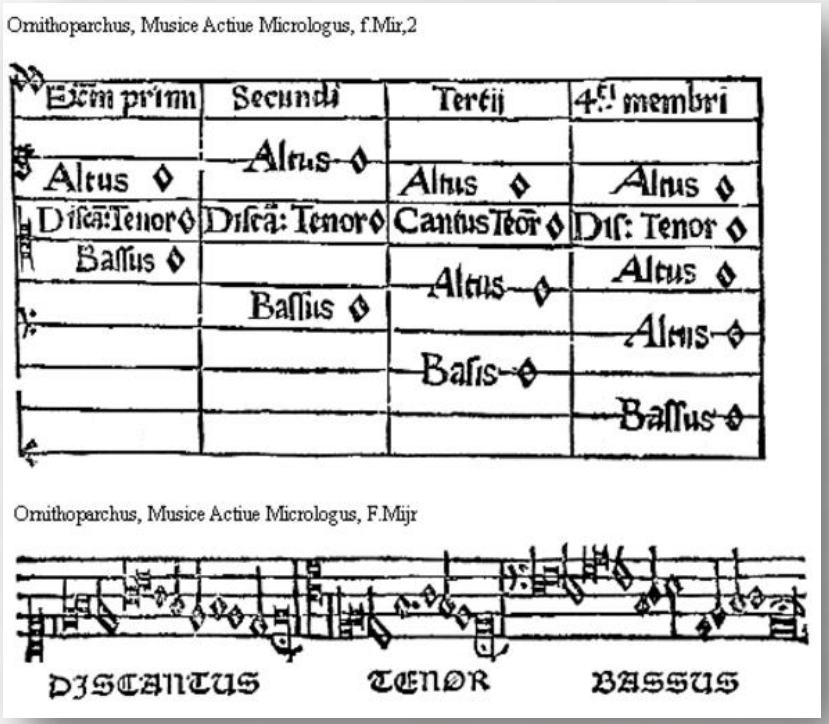
HUMAN VOICE TYPES

Latin: *(cantor) supremus/sopranus*
altus
bassus

altus: high, hoch, visok

bassus (basis): low, tief, dubok

Croatian: sopran, alt, bas (< Latin)
mezzosopran (< Italian)



[Ornitoparchus, Musice Actiue Micrologus, 1517

PITCH RELATIONS ARE RELATIONS IN VERTICAL SPACE

SCALE DEGREE RELATIONS: *sub, super, medians*

DOWN - UP

scale degree	***term*** (Cro. – Eng.)	***position in tonal space***
V	dominanta - *dominant*	
IV	subdominanta - *subdominant*	***below*** *dominant*
III	**medijanta - *mediant***	*in the **middle** (upwards):* ***between*** *tonic and dominant*
II	**super**tonika - ***super****tonic*	***above*** *tonic*
I	tonika - *tonic*	
VII	**sub**tonika - ***sub****tonic*	***below*** *tonic*
VI	**donja** medijanta – ***lower*** *mediant*	*in the **middle** (downwards)* ***between*** *tonic and subdominant*
V	dominanta - *dominant*	
IV	subdominanta - *subdominant*	***below*** *dominant*

Croatian examples diverging from the verticality schema:

PITCH RELATIONS ARE RELATIONS OF **PHYSICAL SIZE**

„Glas [today: *ton*] je pravilno trepteći vesak pogledom na odnošaj visine mu. Polagani treptaji daju **krupne**, a brzi treptaji **sitne** veskove.” (Kuhač 1875: 1)

„Tone is a regularly oscilating sound with respect to its pitch.
Slow oscillations result in **big sounds**, and the quick ones in **tiny sounds**.”

Croatian examples diverging from the verticality schema:

PITCH RELATIONS ARE RELATIONS OF **PHYSICAL SIZE**

Istrian traditional music

velika (vela, **debela**) i mala (**tanka**) sopila
big (grand, **thick**) and small (**thin**) *sopila*

sopci Zoran Karlić i Noel Šuran

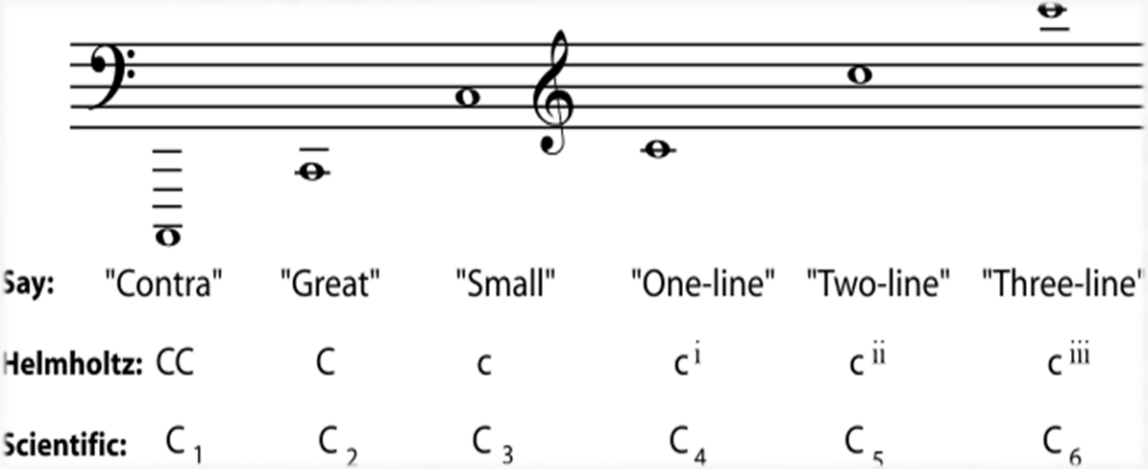
kanat „**na tanko i debelo**" – „po domaću"
(„**thin** and **thick**" singing)

Examples diverging from the verticality schema:

PITCH RELATIONS ARE RELATIONS OF **PHYSICAL SIZE**

naming registers of pitch space („octaves”):

small octave = mala oktava
great octave = velika oktava



Examples diverging from the verticality schema:

PITCH RELATIONS ARE RELATIONS OF **PHYSICAL SIZE**

interval

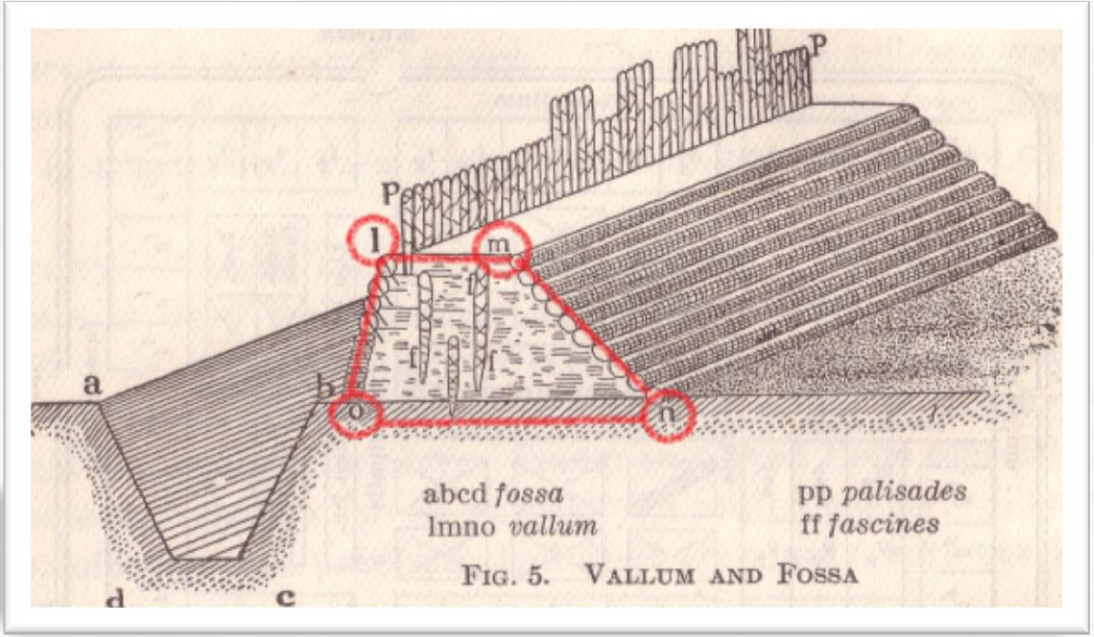
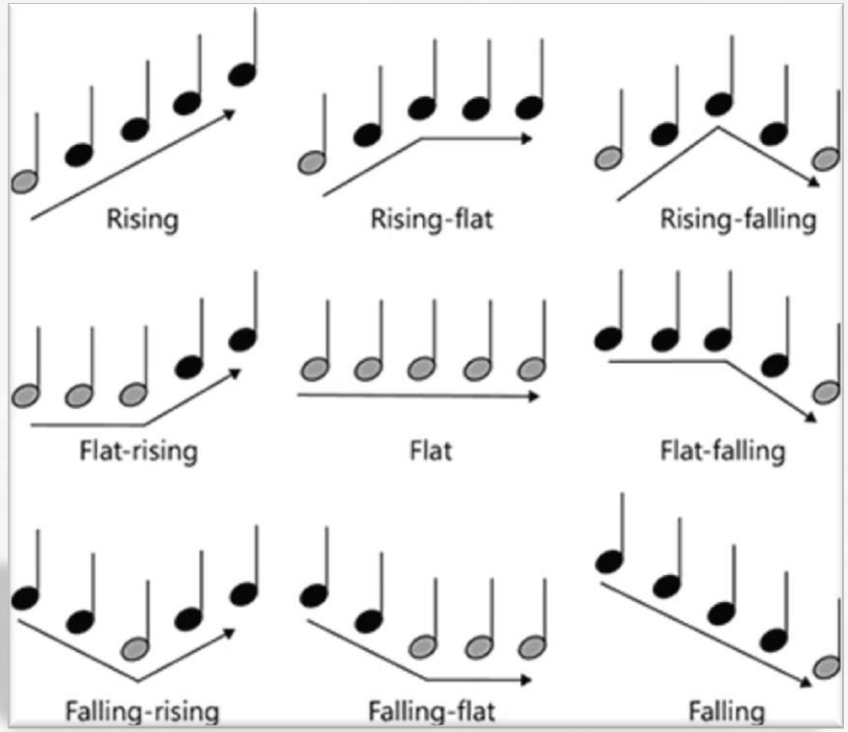


FIG. 5. VALLUM AND FOSSA

inter vallos - inside the walls: since 50 b. C.

Basic pitch contour schemata



pitch contour: static
gesture: dynamic

Traditions & False Friends

LANGUAGE BORROWING in music terminology:

- **Romanic tradition:**

classical languages → vulgarized mediaeval Latin → Old French → English

- **Germanic tradition:**

classical languages → vulgarized mediaeval Latin → and German → Croatian

ENG: *parallel tonalities*

- major & minor
- same diatonic pitch class collection
- **same tonic**
- HR: *istoimeni tonaliteti*

HR: *paralelni tonaliteti*

- major & minor
- same diatonic pitch class collection
- **different tonic**
- ENG: *relative tonalities*

Conclusion

- both vertical and horizontal relations mapped onto the pitch space
- PATH schema

  ascending – descending

  uzlazni – silazni

PITCH CONTOUR IS MOTION

Embodied concepts strongly influenced by the cultural forces of language borrowing processes, and by local folk tradition.

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