



EMUS - Expressivity in MUsic and Speech

Satellite Event around Speech Prosody 2008

EMUS – starting conference (1/4)

Speech and Music

- Are different communicative mean
- Are both based on sound (same modality)
- Share neuro cognitive processes [Ledoux2001]
- Possess both mean of transcription: Text ↔ score
- Are performed: Speaker ↔ instrumentalist
- Share the same meanings ?
 - ⇒ One at least: The expression of the emotions
 - ⇒ [Meyer1956]
 - ⇒ [Patel2008] ...

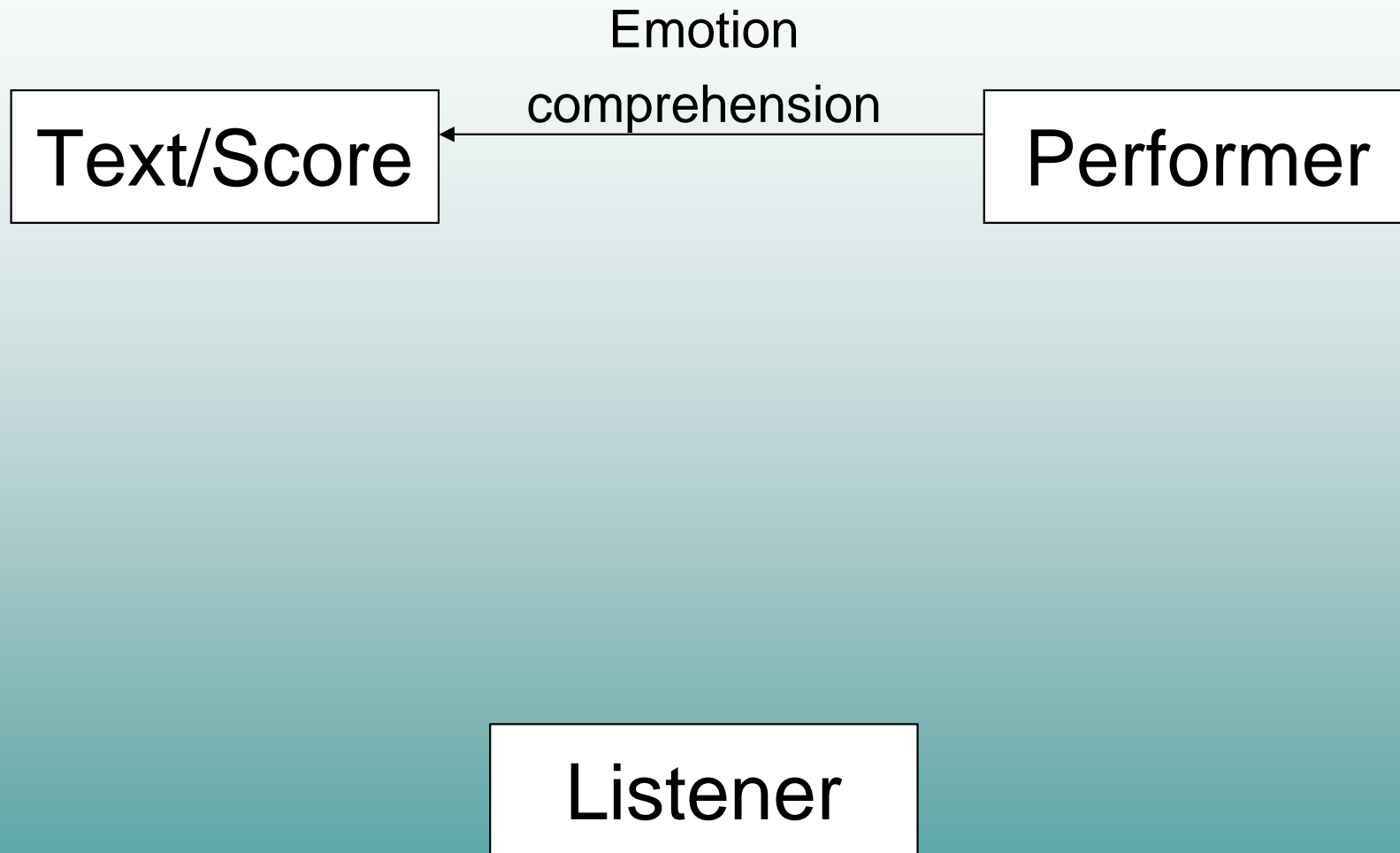
Emotion and Expressivity

Text/Score

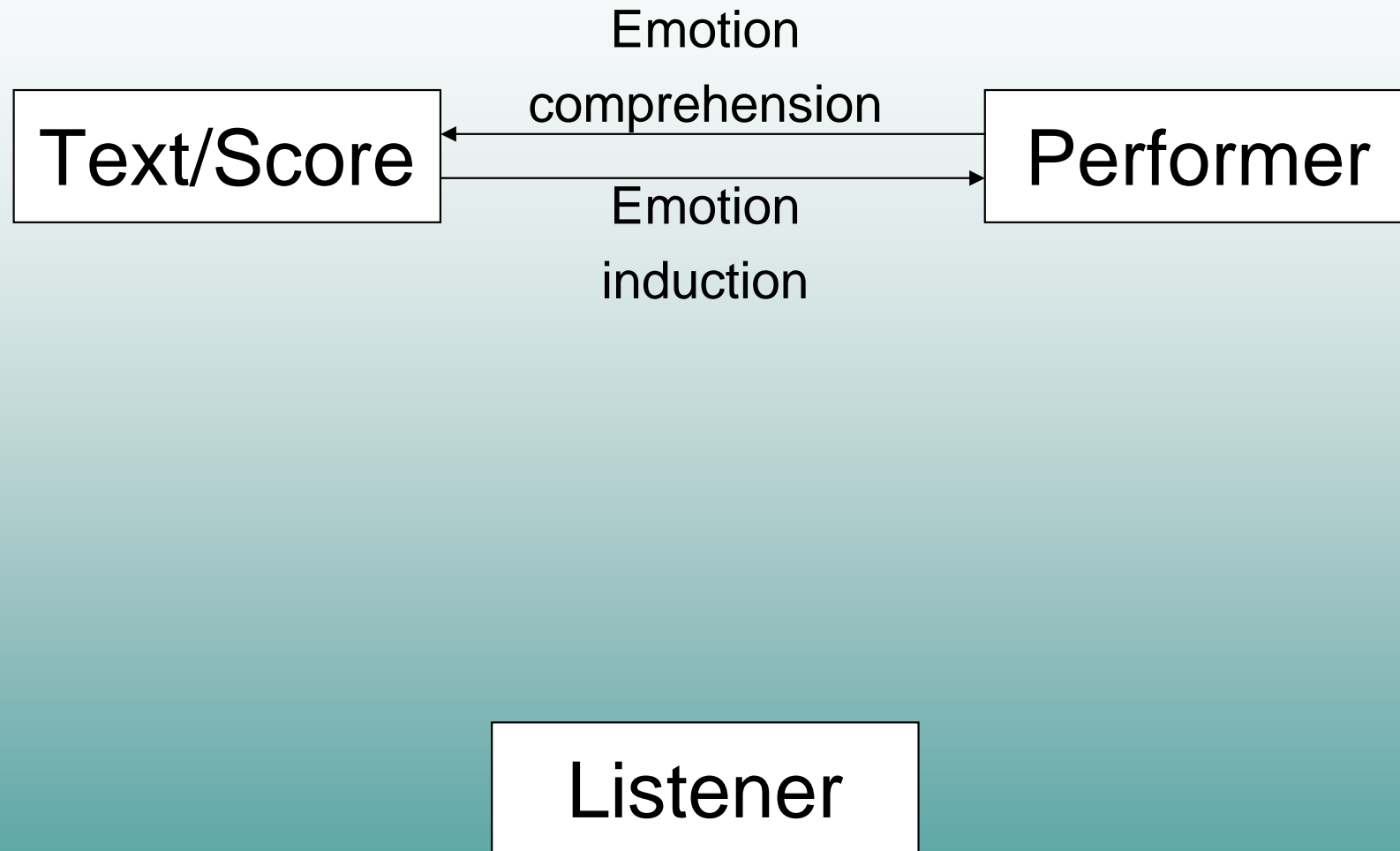
Performer

Listener

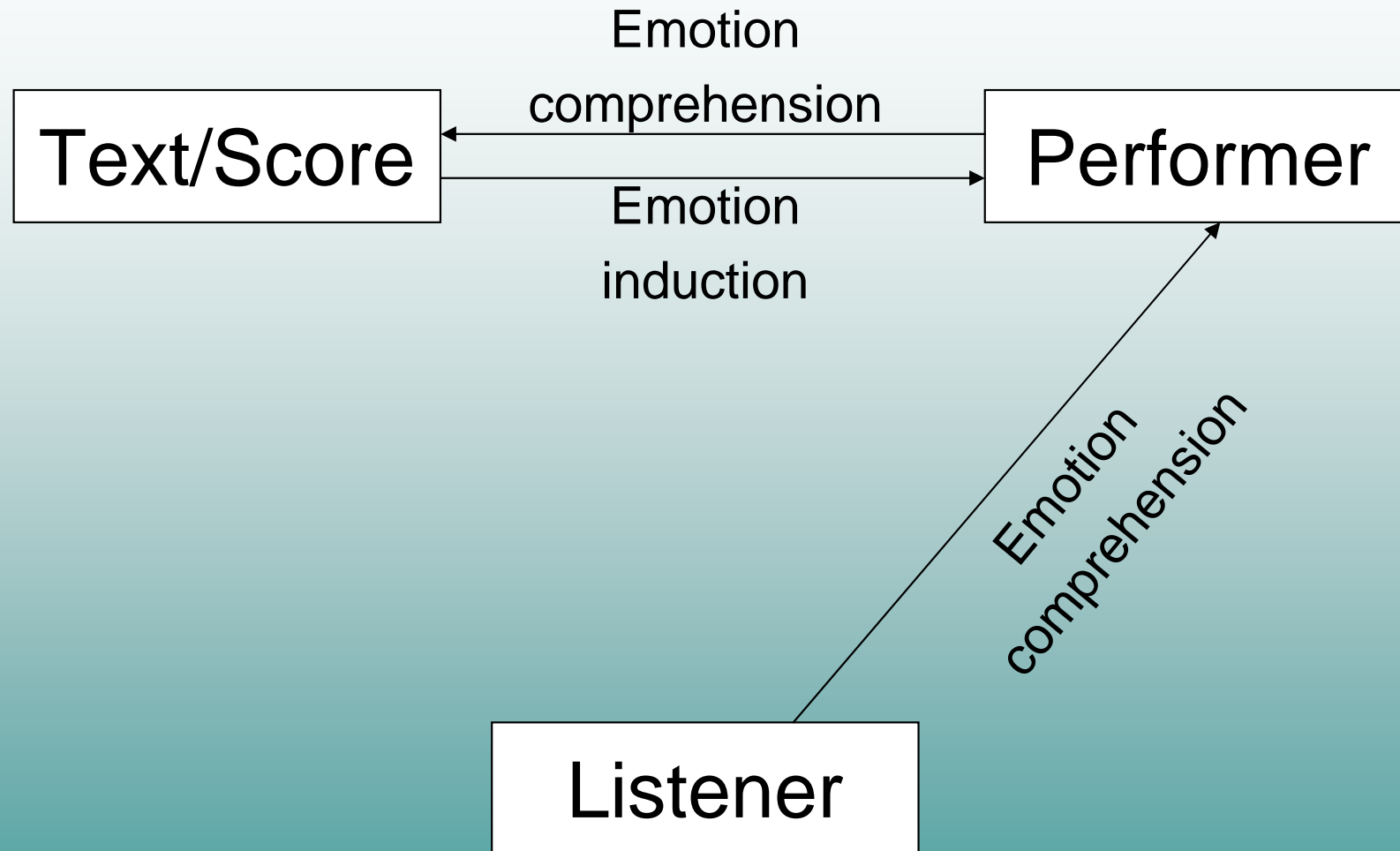
Emotion and Expressivity



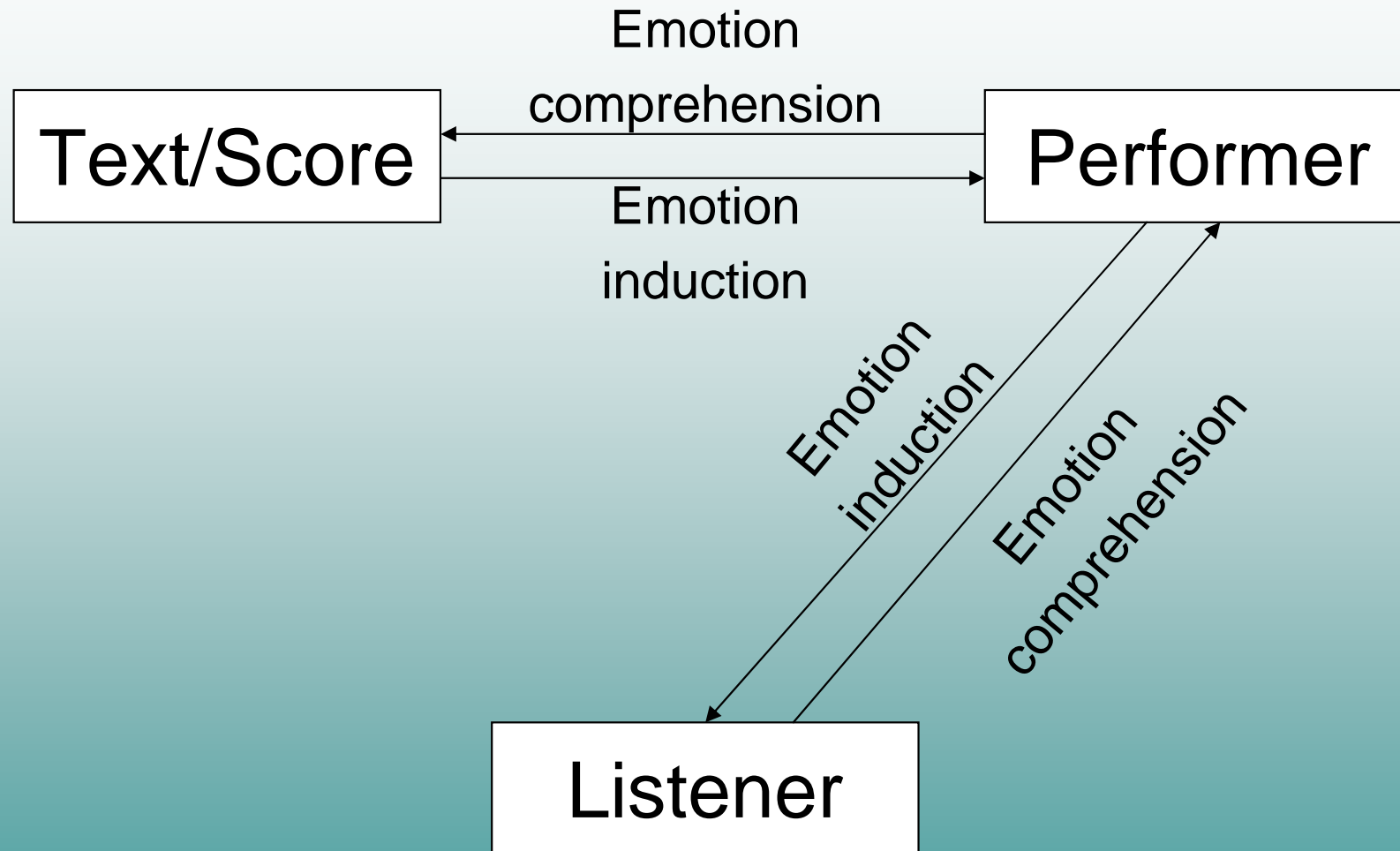
Emotion and Expressivity



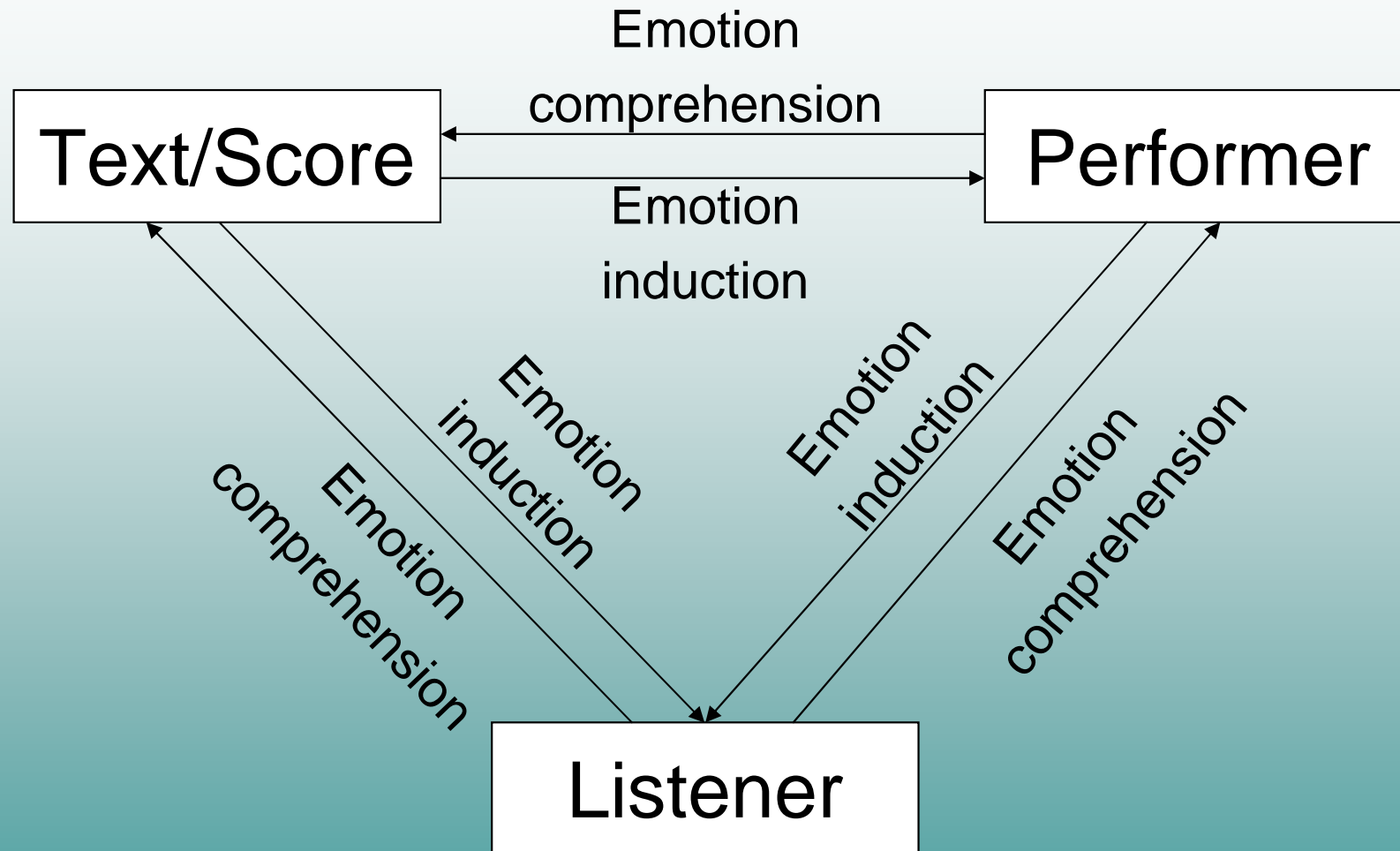
Emotion and Expressivity



Emotion and Expressivity



Emotion and Expressivity



Emotion and Expressivity

- Difference between emotion perception and induction
- Differences between emotional state and emotional expression:
 - Emotional states are not controllable (~ [Changeux1983])
 - Emotional states are only deducible from the observation of the external emotional expression [Ekman1999]
 - Emotional expressions can be controlled [Scherer1984]
 - Emotional expressions can be reproduced and enhanced (actor, performer...)

Emotion and Expressivity

■ A definition of expressivity

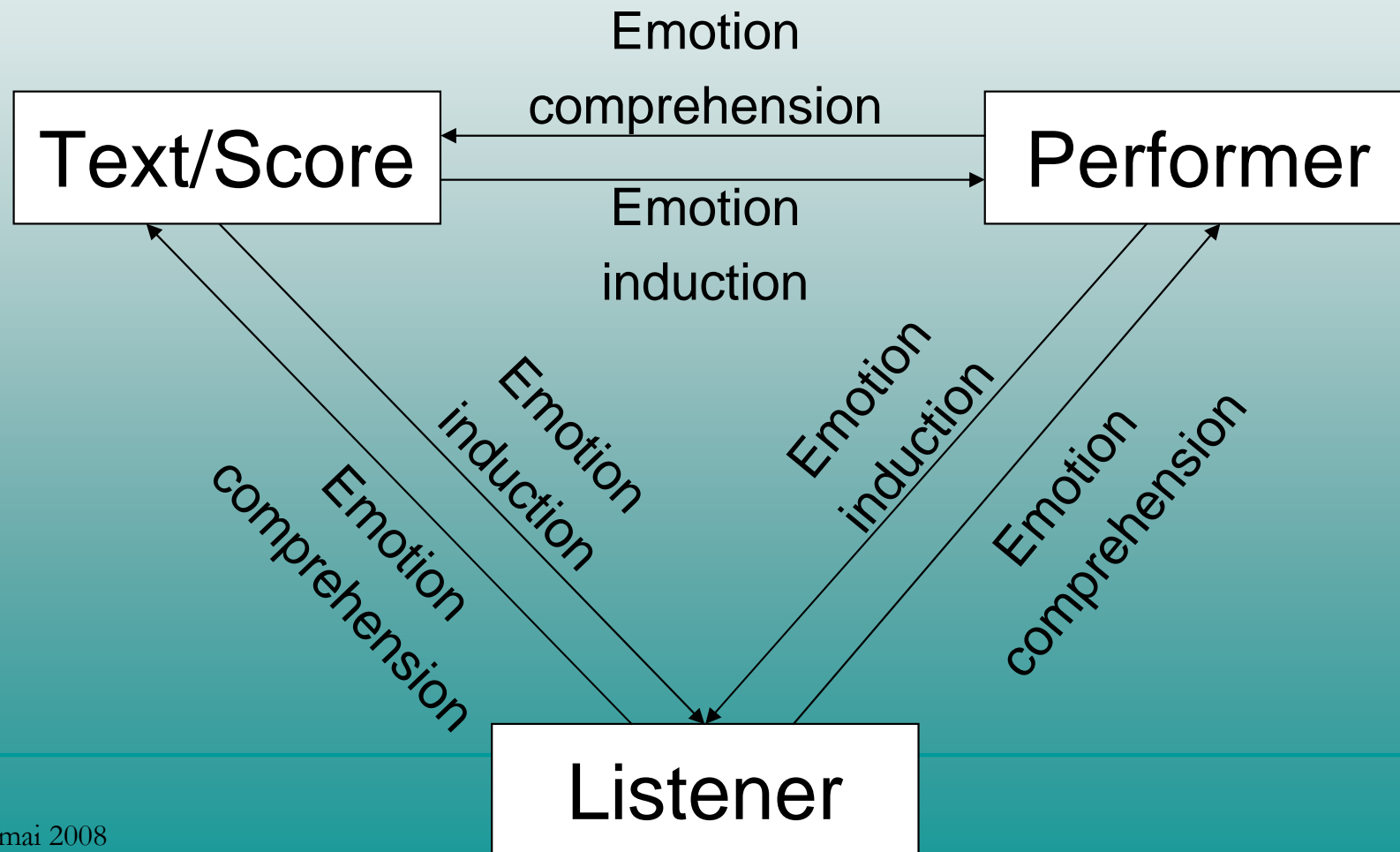
- Expressivity is a level of information in communication.
- This level groups together the external demonstrations, controlled or not, which are attributable to uncontrolled internal states. [Beller2008c]
- Among these internal states are included the emotions, feelings, attitudes, moods, humors and psychological states.
- Real emotional expressions are part of expressivity. Even if they are not controlled, they bring to the others the information of the people's internal state.
- Expressivity can induce an emotional state, but it most of the time allows only to perceive an emotional state.

Expressivity in MUsic and Speech

- Can we express the same internal states with music and speech ?
 - Category specific representations:
 - Ekman's universal emotions : Anger, disgust, fear, **happy**, **sad**, surprise [Ekman1999a]
 - Hevner's musical expressions: Vigorous, exciting, **happy**, graceful, serene, dreamy, **sad**, dignified [Hevner1939]
 - Dimensional representations:
 - Cognitive appraisal scales : Valence (positive vs. negative), Degree (weak vs. strong), Activation (introvert vs. extravert), Pleasure (pleasure vs. displeasure), Arousal (activity vs. passivity), Stance (accepting vs. stern)... [Schroeder2003]
 - Meyer's expectancy [Meyer, 1956]

Expressivity in MUsic and Speech

- How are expressed emotions in speech and music ?
 - Three “*interactors*” in expressivity communication



Expressivity in MUsic and Speech

- Beyond their semiotic differences, speech and music share acoustic features such as duration, intensity, and pitch, and have their own internal organization, with their own rhythms, colors, timbres and tones.
- The aim of this workshop is to question the connections between various forms of expressivity, and the prosodic and gestural dimensions in the spheres of music and speech.

IV. Links between prosodies

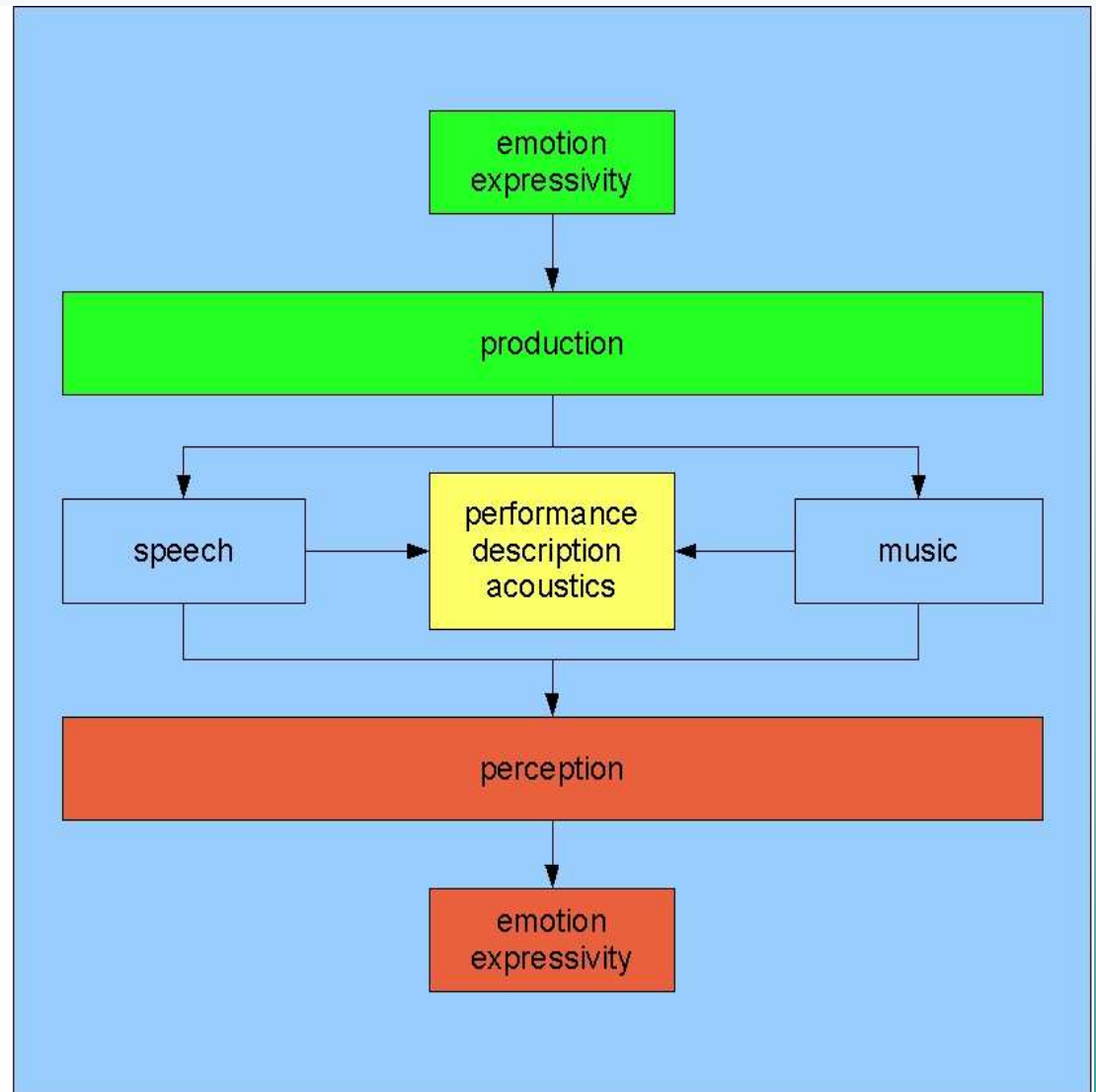
- Same temporal units ?

Language	Music	Shared attributes
Text	Score	Meanings
~Paragraph	~Movement	Coherence
Sentence	Theme	Syntax
Phrase	Phrase	Breath related
		Rhythm
Syllable	Note	Duration
Foot (consonant)	Attack	Intensity
Nucleus (vowel)	Sustain	Pitch
		Timbre
Coda (consonant)	Release	Articulation

Expressivity in MUsic and Speech

- May 5th: This workshop is the starting point of a string of events on the relations between language and music.
- May 16th: Prosody, Babbling and Music
- June 17th and 18th: Expressivity through musical and verbal performance
- September 25th and 26th: Semiotics and microgenesis of verbal and musical forms

ENS, Lyon
IRCAM, Paris
RISC, Paris
Campinas, Brazil



Program of the day

- **9h00-9h10 AM:** G. Beller, introduction
- **9h10 - 9h50 AM:** A. Auchlin & Anne Catherine Simon (Université de Genève-UC Louvain), Prosody and experiential blending: where and how do prosodies join linguistic meaning (tempo, rythm, melody) in discourse and interaction
- **9h50 - 10h30 AM:** D. Bottineau (MODYCO, Paris X, France), Co-experiencing prosody: the distributed motives and effects of prosody in languaging processes
- **10h30 - 10h50 AM:** break
- **10h50 - 11h30 AM:** N. Obin, A. Lacheret, G. Beller, I. Grichkovtsova, M. Morel (IRCAM & Université de Paris X, Nanterre), Expressivity and signification in speech synthesis
- **11h30 - 12h10 AM:** J.-Ph. Goldman (Université de Genève): Measuring and synthetising expressivity. Some tools to analyse and simulate phonostyle
- **12h10 - 12h50 AM:** N. Campbell (ATR, Nara): Laughter in conversational speech; more than just amusement
- **12h50 - 2h15 PM:** Break & lunch
- **2h15 - 3h00 PM:** Poster session
 - C. Lefrançois and S. Lacasse (Université Laval, Québec, Canada), Integrating Speech, Music, and Sound: Paralinguistic Qualifiers in Popular Music Singing.
 - J. Fornari & T. Eerola (University of Jyväskylä, Finland), Predicting Emotional Prosody of Music with High-Level Acoustic Features
 - B. Raposo de Medeiros (University of São Paulo, Brazil) Intonational Aspects of Songs and Song Competence
- **3h00 - 3h40 PM:** G. Beller (IRCAM, France): Prosody and Expressivity in Speech and in Musical Performance
- **3h40 - 4h20 PM:** A. Rilliard & Ch. D'Alessandro (LIMSI-CNRS, France): Computerized chironomy: from hand gesture in Gregorian singing to hand-controlled synthesis of intonation
- **4h20 - 5h00 PM:** Ch. Dodane (Université de Montpellier 3, France) & A. Morgenstern (Ecole Normale Supérieure Lettres et Sciences Humaines) : Emotions, language acquisition and music
- **5h00 - 6h00 PM:** Discussion and conclusion