

AUDIO SUBTITLING: MAKING MULTILINGUALISM ACCESSIBLE
A study on user experience

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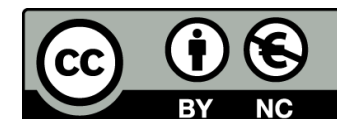
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Introduction



- Audio subtitles or spoken subtitles
 - AST as the aurally rendered and recorded version of the subtitles of a film.
 - AST are read, sometimes acted out, by one or more voice actors or by TTS software.
 - AST is recorded as a form of voice-over. The original dialogues can be heard briefly before the translation starts.
 - Sometimes it is recorded in a semi-dubbed form. Original dialogues are substituted by a form of dubbing
- (Reviere & Remael, 2015)
- Challenges: hybrid technique
 - Interface between subtitling, audio description and voice-over (Braun & Orero, 2010)

Technical categorisation



- Autonomous
 - Use of different technologies (TTS and OCR)
 - Experiences:
 - The Netherlands (Miesenberger, Klaus & Zagler, 2002; Theunisz, 2002; Verboom et al., 2002)
 - Sweden (Ljunglöf et al., 2012)
 - Denmark (Nielsen & Bothe, 2008; Thrane, 2013)
 - Czech Republic ((Hanzlíček, Matoušek, & Tihelka, 2008)
 - Estonia (Mihkla et al., 2013)
- Integrated
 - Synthetic vs. human-voiced
 - Human-voiced in fiction (Walczak & Fryer, 2017)
 - Study: (pre-recorded) human-voiced AST for fiction

Regulations, standards and guidelines



- Regulations
 - Some countries: AST as a regular service
 - Normally referred to as “on-screen text”
- Standards and guidelines
 - What has to be described but no or less information on the how.
 - Some guidelines:
 - Use of different voice talents to distinguish AST and AD
 - Adding “subtitle reads”, “he/she says”, etc.

Multilingualism



- Trend
- Dubbing countries (Spain)
 - Either disappear or maintained with subtitles
 - Blind and visually impaired: AST
- Different information can be revealed to the audience
 - In subtitles for the deaf and hard of hearing: Szarkowska et al. (2013)
 - Sternberg's theory (1981)
 - Based on visual features (information provided, colours and form)
 - Applied to AST

Multilingualism through AST



- **Vehicular matching:** original soundtrack
- **Selective reproduction:** AST in voice-over effect
- **Verbal transposition:** reproduction of original patterns (dubbing/voice-over)
- **Explicit attribution:**
 - Explicit attribution: adds information about the language
 - Explicit attribution + translation: adds information about the language and translation
- **Homogenising convention:** AST in dubbing effect

AST and their “effects”



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- Dubbing and voice-over: two different strategies (Braun & Orero, 2008; ISO/IEC 20071-25, 2016, Remael, 2014; Reviers & Remael, 2015)
 - Dubbing effect
 - Acted (dubbese, “imitation” of orality) (see Baños & Chaume, 2009; Sánchez Mompeán, 2016)
 - Original barely heard
 - Synchronised
 - Voice-over effect
 - Read (less changes in prosodic features)
 - AST is superimposed and original can be heard
 - AST displayed after the original (imperfect isochrony)

User experience (UX)



“a person’s perceptions and responses that result from the use of anticipated use of a product, system or service”

(ISO9241-210, 2010)

- From preference to an audiovisual/filmic holistic experience
- Questionnaires: presence, emotional arousal
- Psychophysiology
 - Videogames, VR but also other less immersive activities

Methodology's theoretical framework



- Main use of media → entertainment (Plantinga, 2009; Vorderer & Hartmann, 2008)
- Entertainment → media flow (Sherry, 2004), presence (Lombard & Jones, 2015) → emotional arousal
- Emotional arousal → changes in organism → psychophysiological markers
 - SAM questionnaire (Bradley & Lang, 1994)
 - Psychophysiology
 - EDA
 - HR

Experimental procedure



- Validation of scenes (Polish language) → online
 - Which emotion does the scene suggest?
 - SAM questionnaire*
- Subexperiment 1: blind and visually impaired participants
 - Randomly assigned audio subtitled scenes with dubbing and voice-over effects
- Subexperiment 2: sighted participants
 - Subtitled scenes

Pilot study

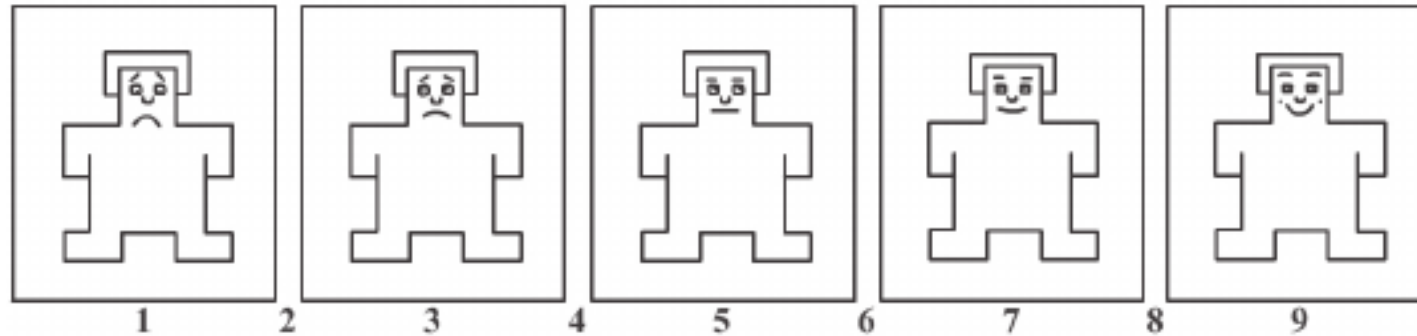


Serrano Ratera, A.; Méndez Ulrich, J.; Soler-Vilageliu, O.; Iturregui-Gallardo, G.; Jankowska, A. (forthcoming)

- Sighted participants
- Previously validated scenes (Megía et al., 2011)
 - When Harry met Sally... (Reiner, 1989)
 - Schindler's list (Spielberg, 1993)
- Pre-experimental questionnaire
 - Toronto Alexithymia Scale (TAS-20) (Bagby et al., 1994)

Pilot study

- Questionnaires
 - Emotional Arousal: SAM questionnaire



- Presence: Busselle & Bilandzic (2009)

Pilot study



- Psychophysiological markers
 - Electrodermal activity (EDA)
 - Heart Rate (HR)
- Results:
 - Correlation between validated emotions and data collected
 - Correlation between questionnaire results and data collected

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