Acoustic Perception and Emotion Evocation by Rock Art Soundscapes of Altai (Russia)

López-Mochales, S.; Aparicio-Terrés, R., Díaz-Andreu, M. and Escera, C.

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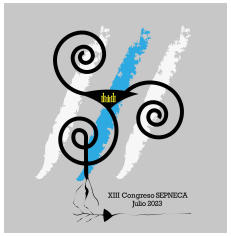

ARTSOUNDSCAPES

SEPNECA 2023 – Santiago de Compostela, 19-21 July

Introduction: rock art soundscapes and the sacred

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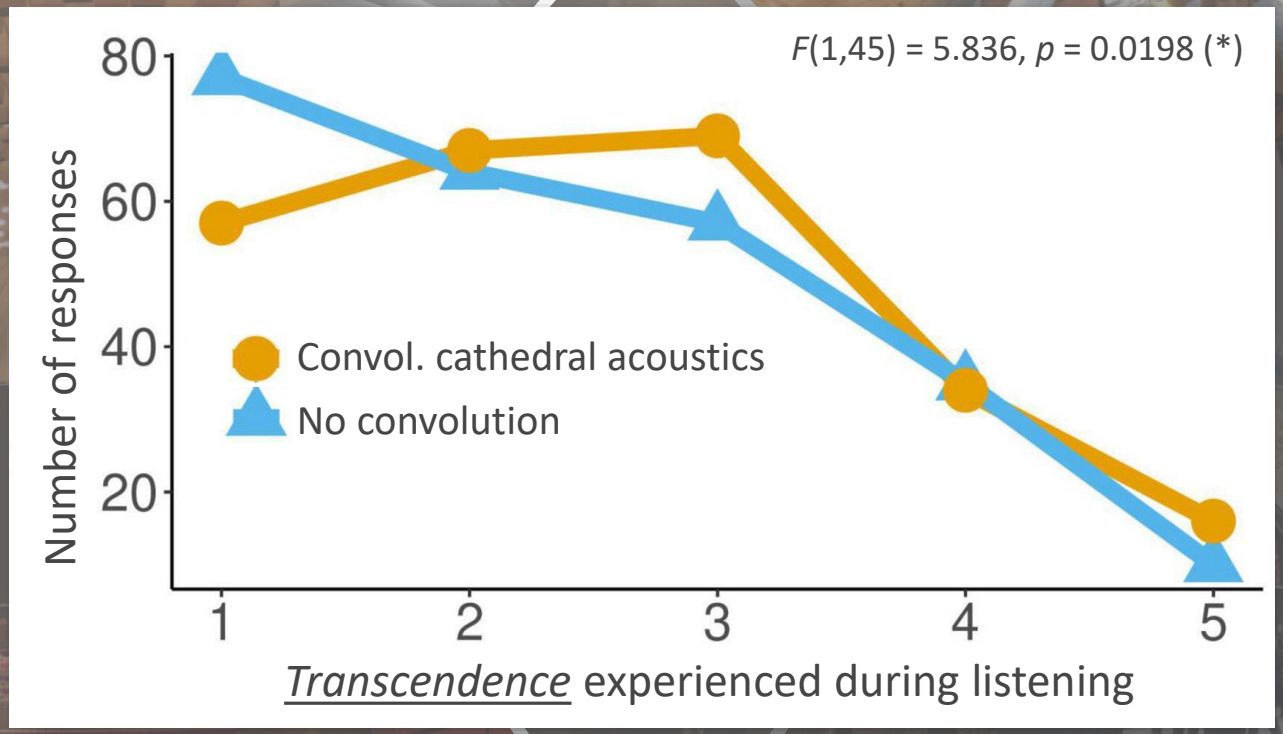
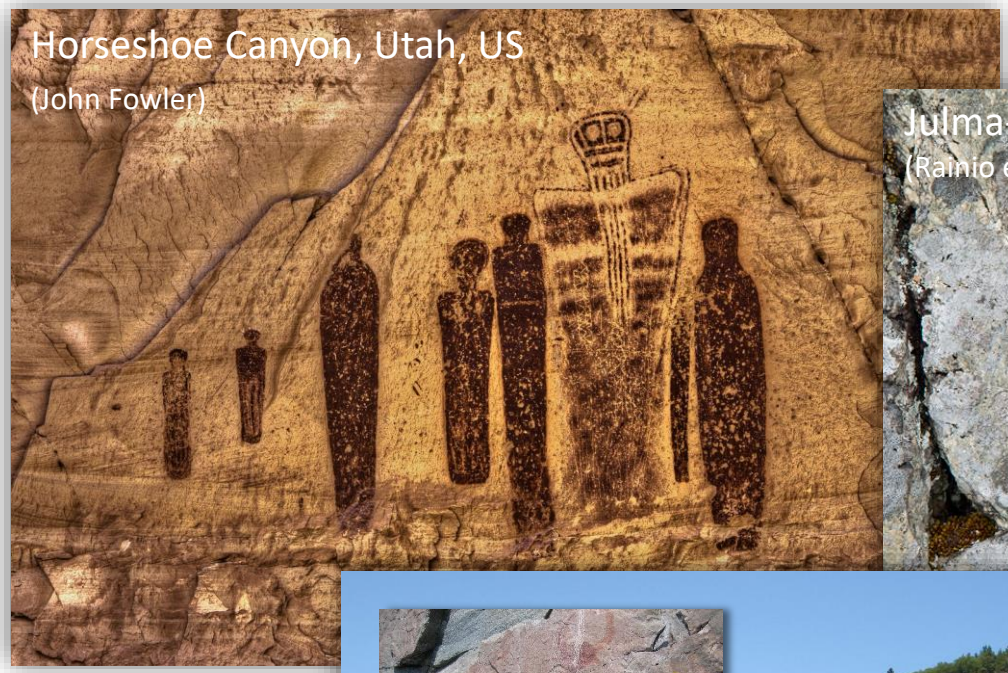
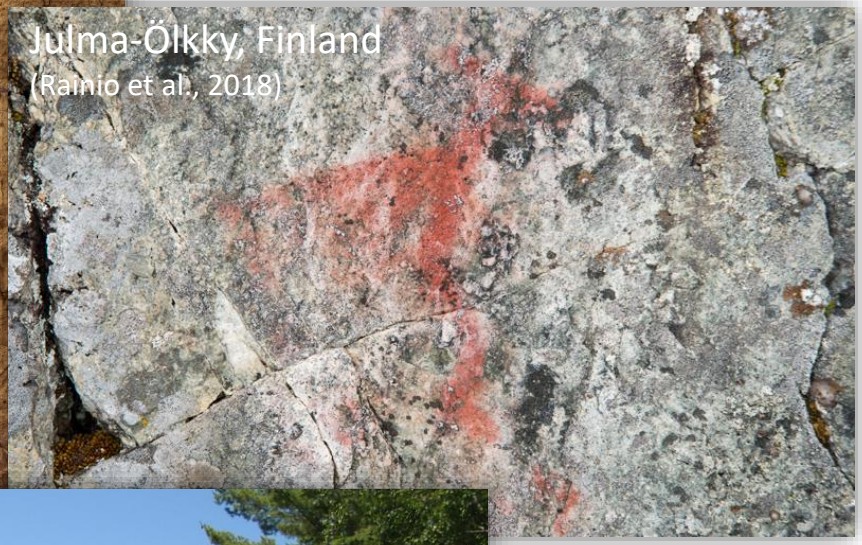


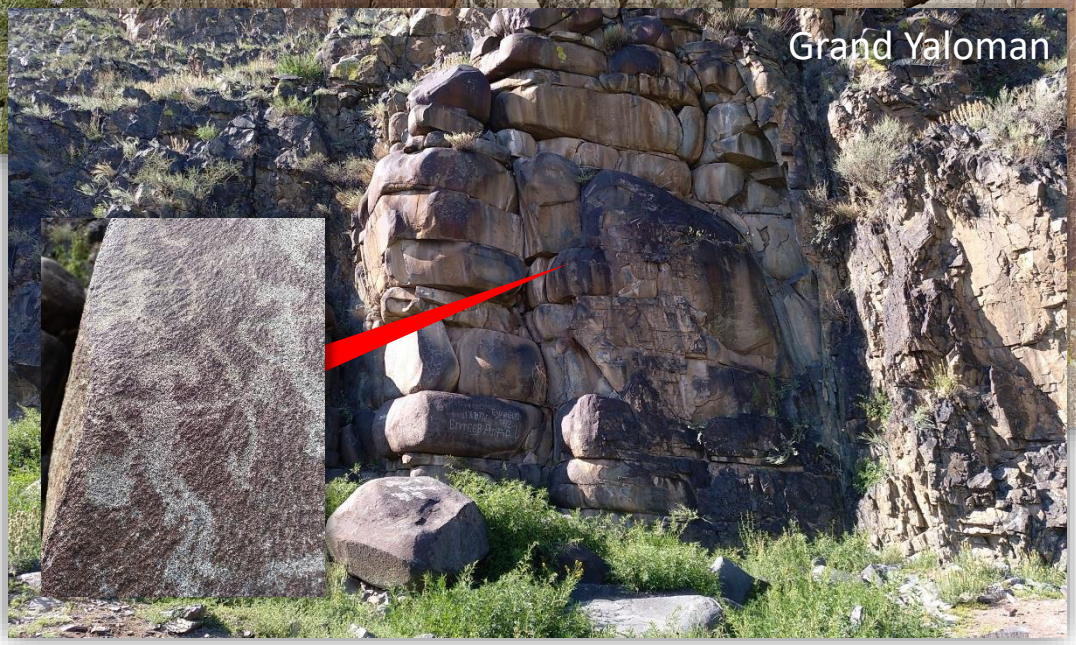
Ratings of Transcendence *for the liturgical piece* Ave Verum Corpus *(William Byrd) convolved and not convolved with catedral acoustics. López-Mochales et al., 2022.*

Introduction: rock art soundscapes and the sacred

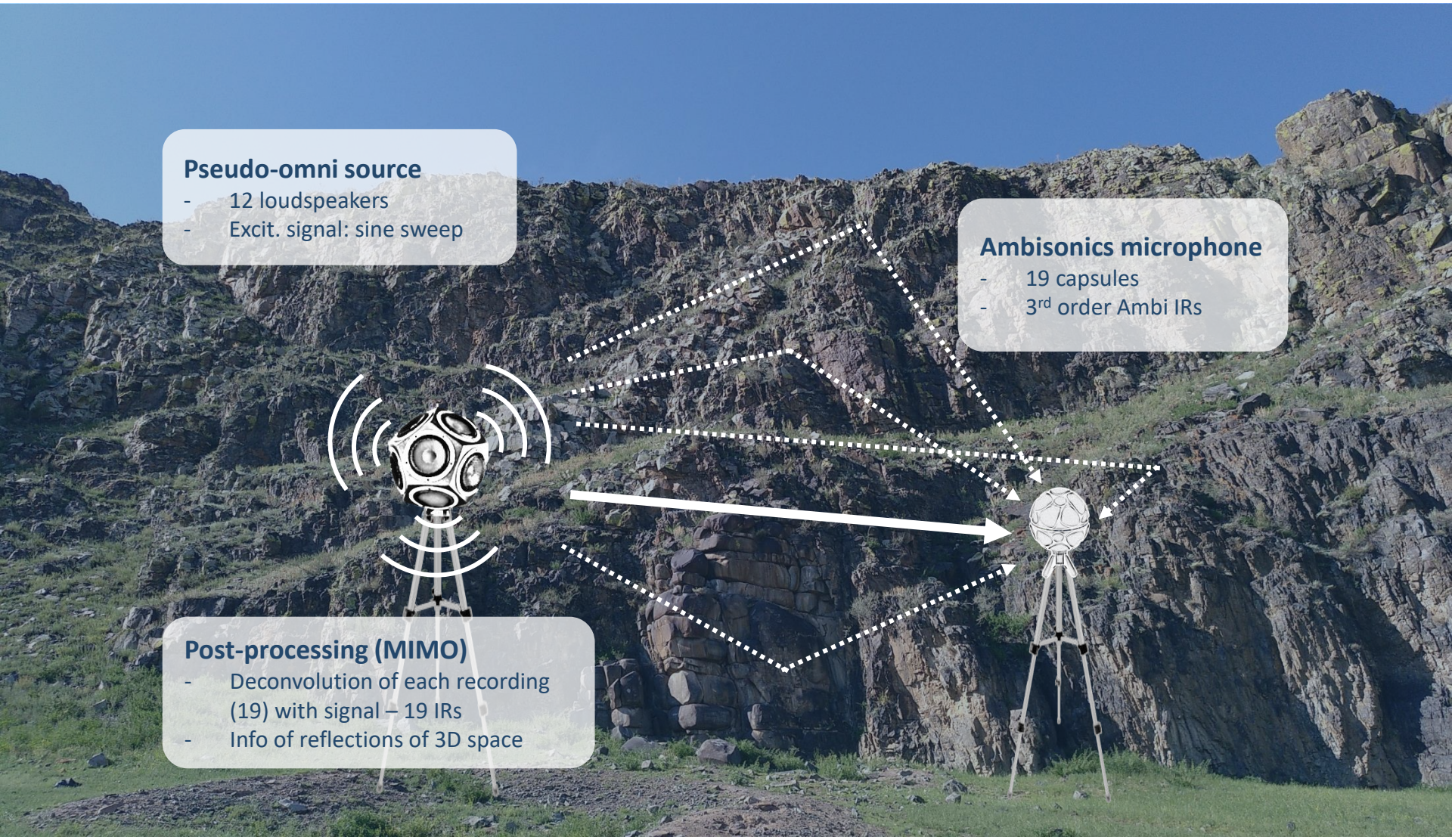




Rock Art of Altai (Russia)



Impulse Responses



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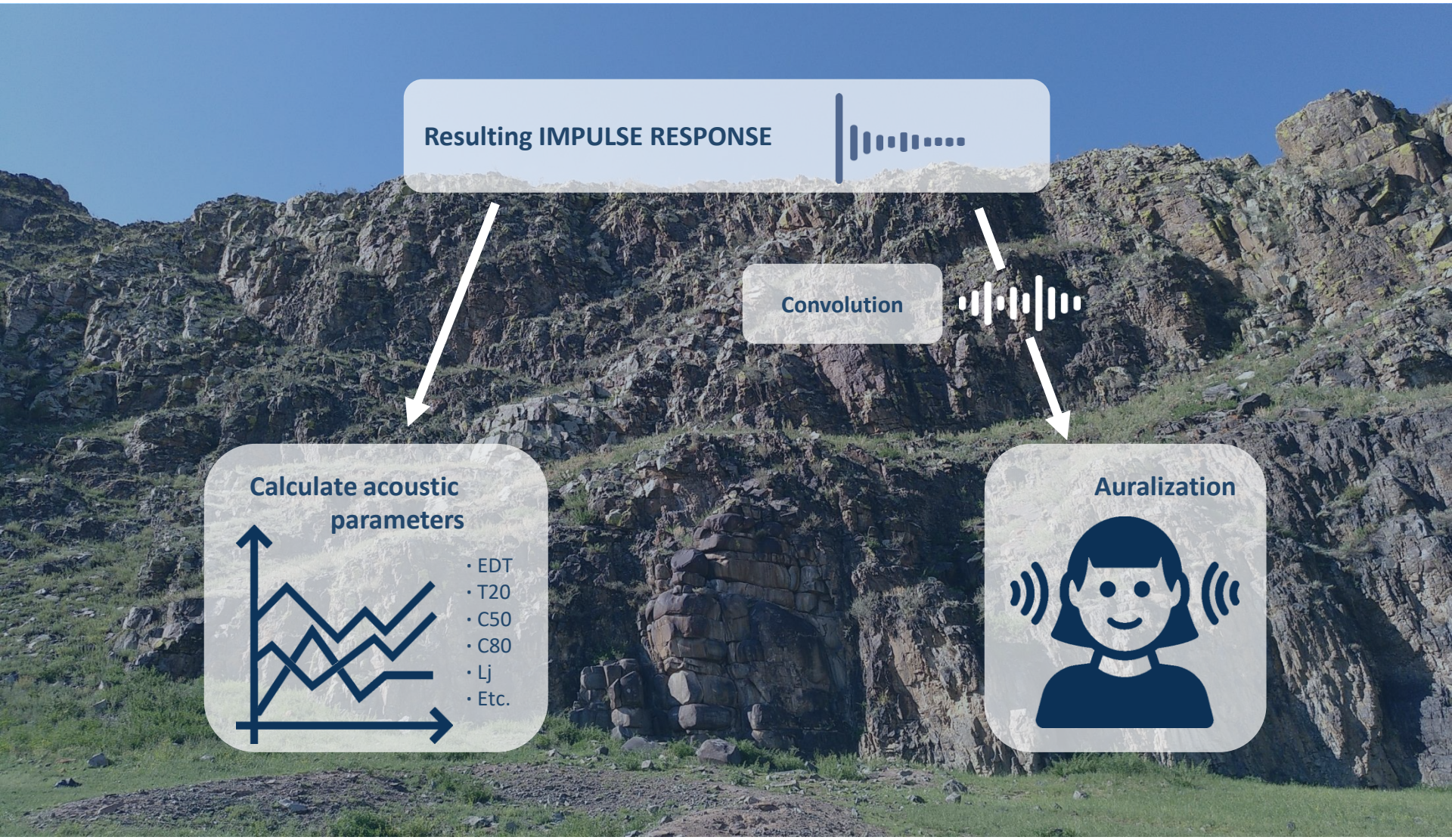
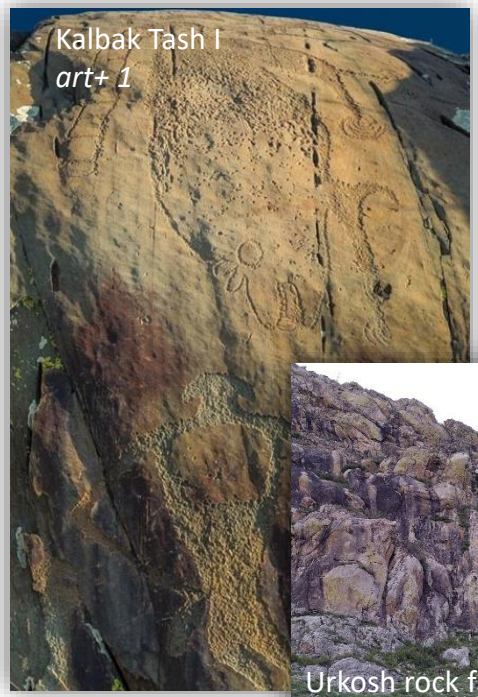
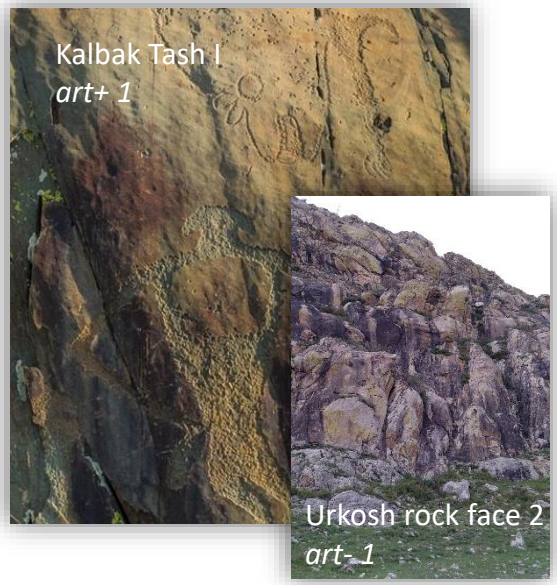
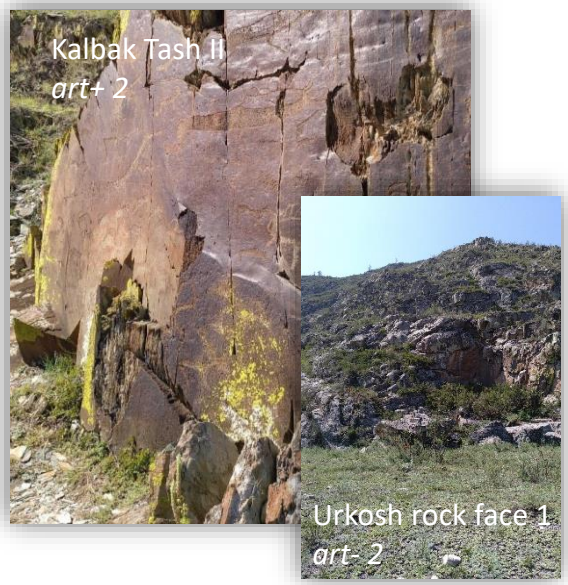


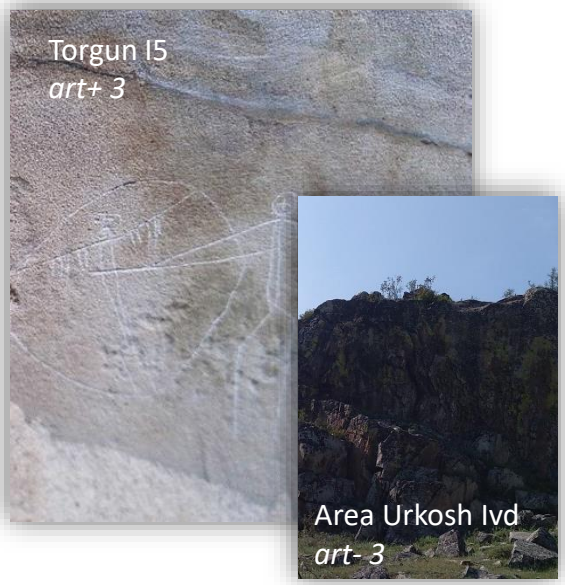
Listening test with IRs from Altai (Russia)



Set of 17 sounds from natural sources







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Set of 17 sounds from natural sources

Convolutions

Listening test with IRs from Altai (Russia)

Set of 17 sounds from natural sources

Convolutions

GROUP 1
34 auralizations

GROUP 2
34 auralizations

GROUP 3
34 auralizations

Listening test with IRs from Altai (Russia)

Set of 17 sounds from natural sources

Convolutions

GROUP 1
34 auralizations

N = 20 participants

GROUP 2
34 auralizations

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34 auralizations

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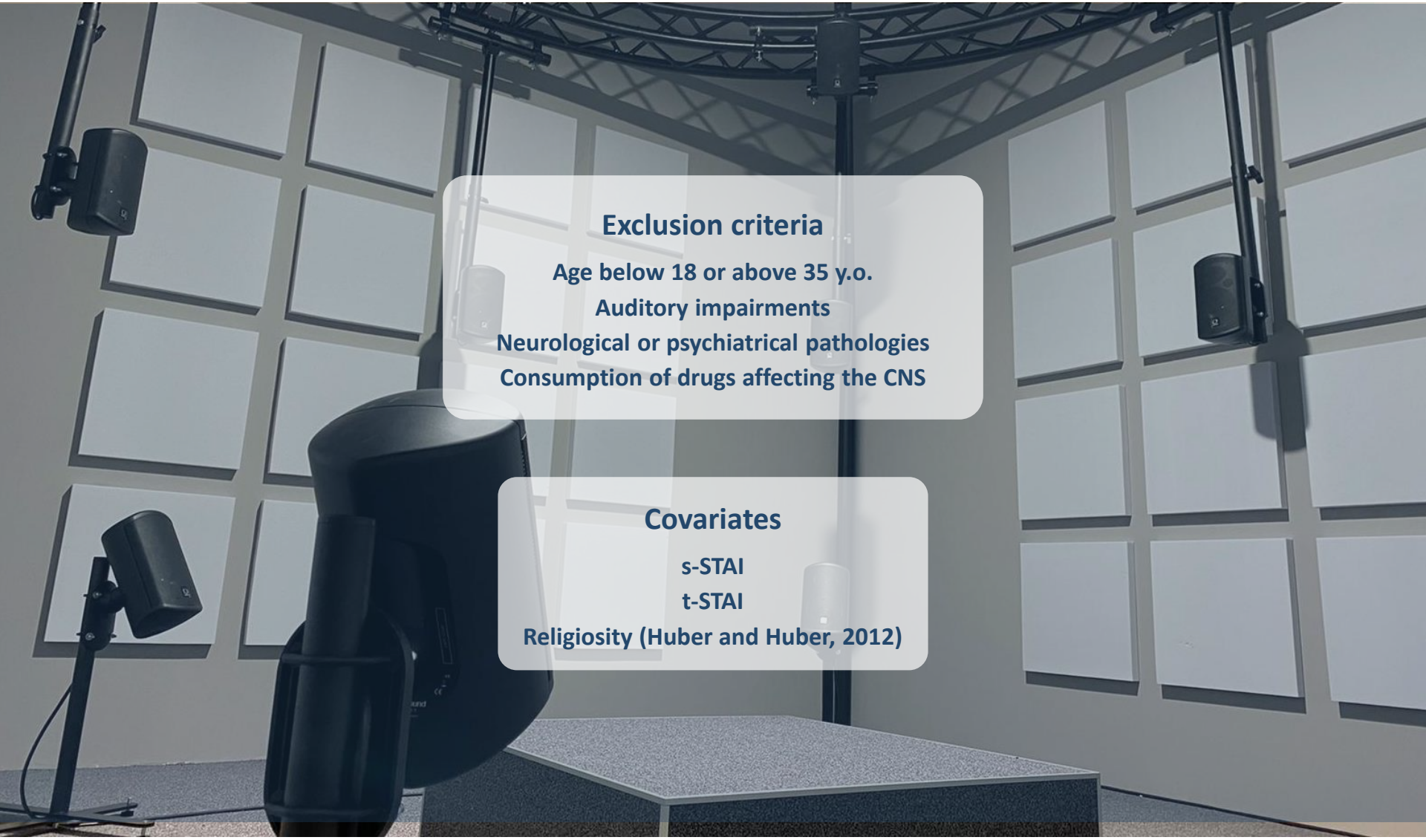


Exclusion criteria

Age below 18 or above 35 y.o.

Auditory impairments

Neurological or psychiatrical pathologies

Consumption of drugs affecting the CNS

Covariates

s-STAI

t-STAI

Religiosity (Huber and Huber, 2012)

Listening test with IRs from Altai (Russia)

34 auralizations (random order) ~ 34 trials

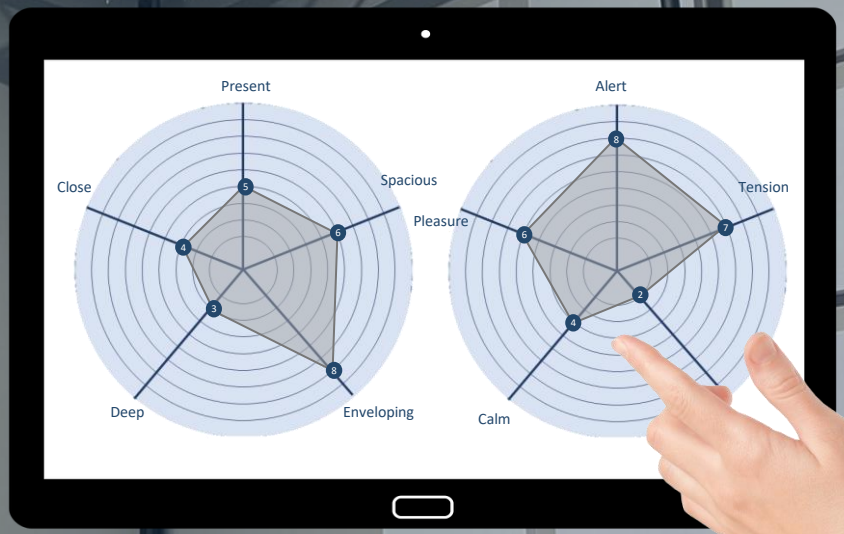
How…
- Present
- Spacious
- Enveloping
- Deep
- Close

was the sound?

Rate 1-10

How much…
- Alert
- Tension
- Peace
- Calm
- Pleasure

did you feel?



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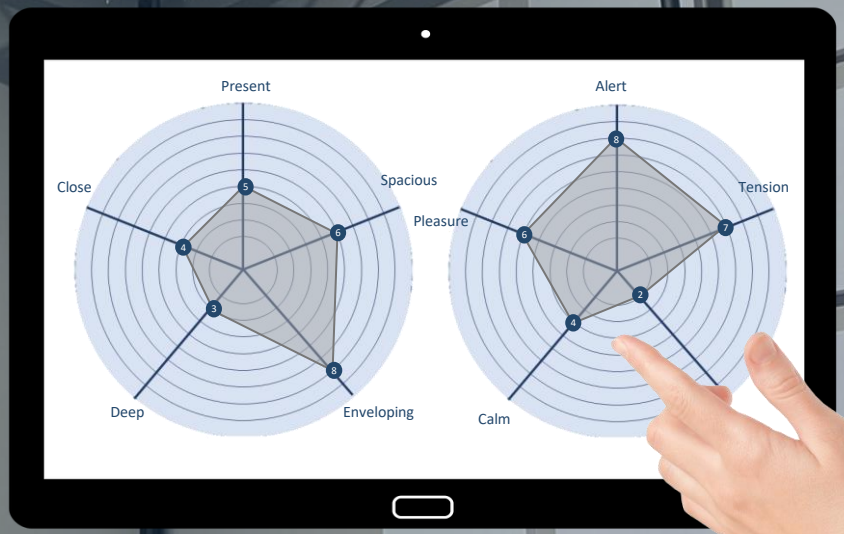

Mixed ANOVA

Factors

Within-subjects
- Art (*art+, art-*)
- Sound (17)

Between-subjects
- Group (3)

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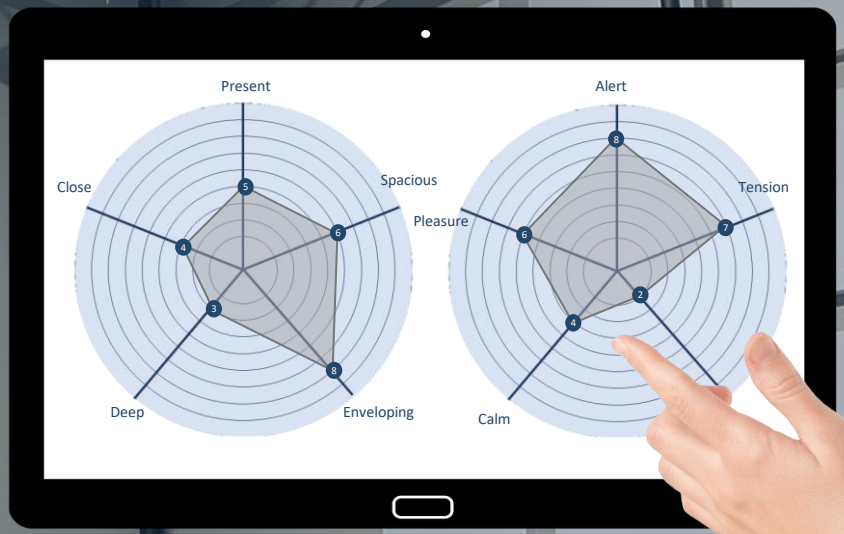
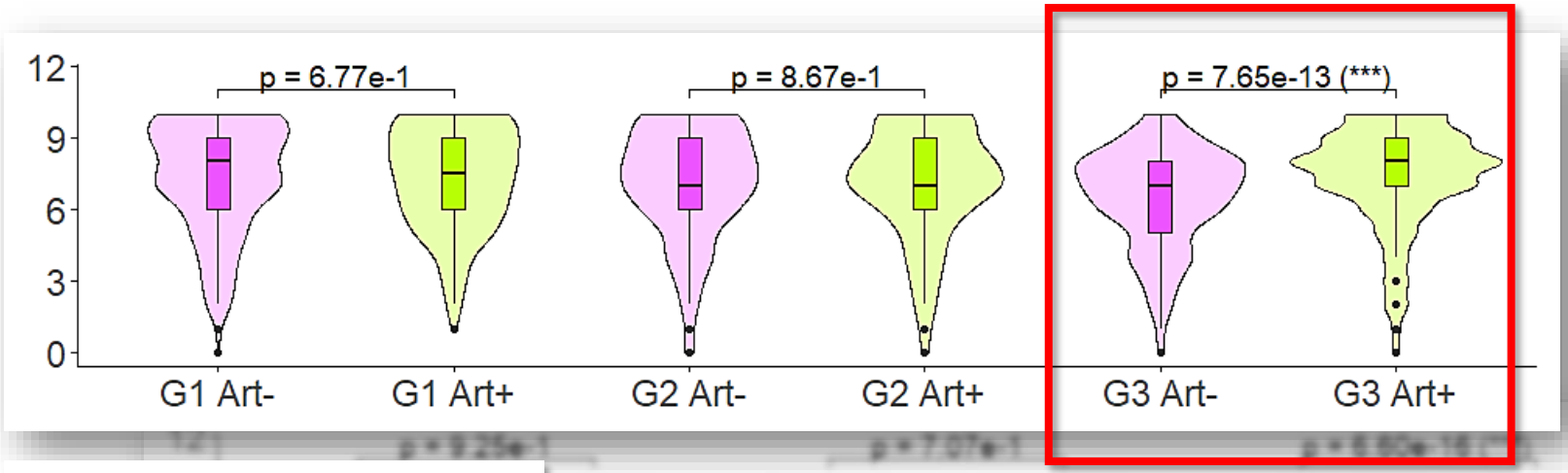


Descriptors: *present*, *close*, *tension*

Art:Group interaction, significant

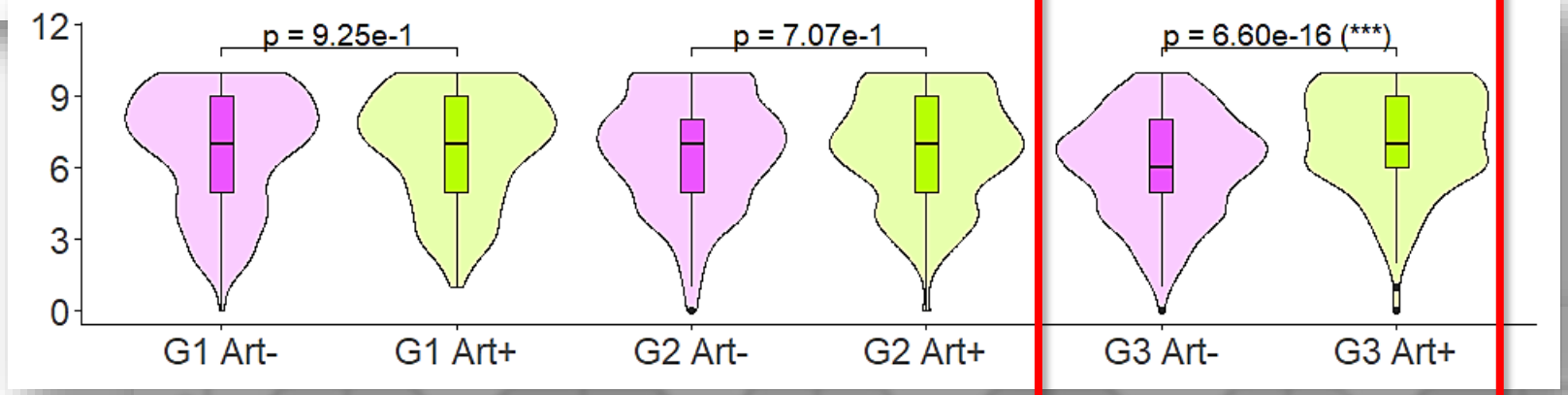
Post-hoc analysis

Listening test: results



Descriptor: **PRESENT**

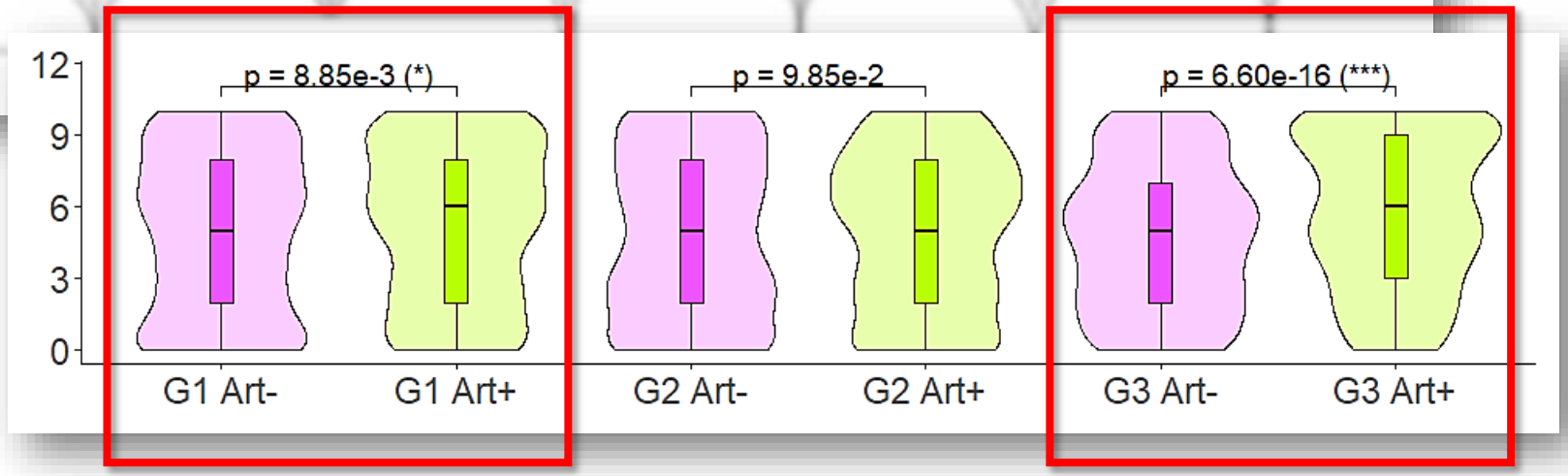
Listening test: results



Descriptor: **CLOSE**

Listening test: results

Descriptor: **TENSION**



Listening test: discussion

	GROUP 1		GROUP 2		GROUP 3	
	art+	***art-***	***art+***	***art-***	***art+***	***art-***
EDT (s)	0.044	0.048	0.081	0.109	0.045	0.088
T20 (s)	**0.118**	**0.596**	**0.166**	**0.423**	**0.137**	**0.288**
T30 (s)	0.142	0.549	0.311	0.342	0.171	0.222

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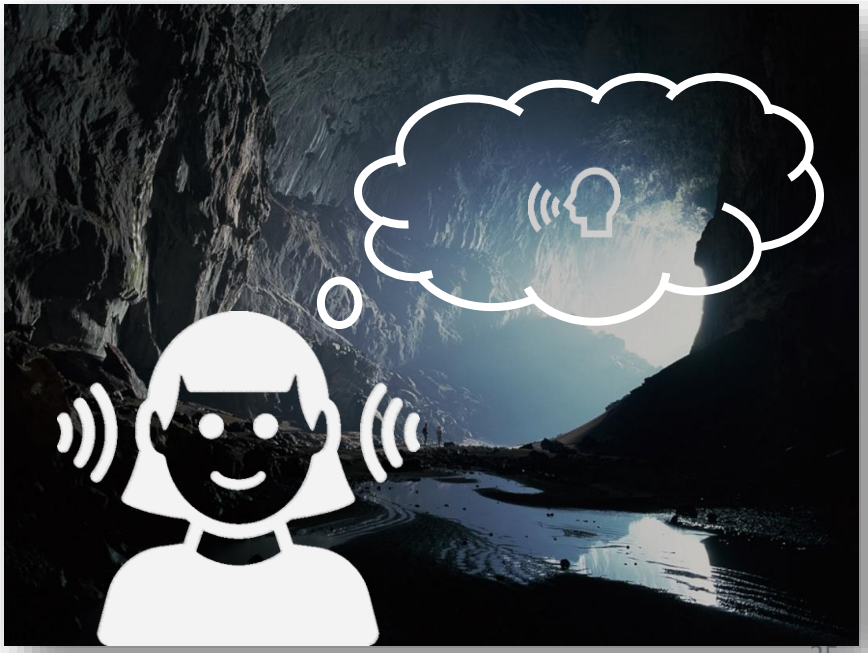
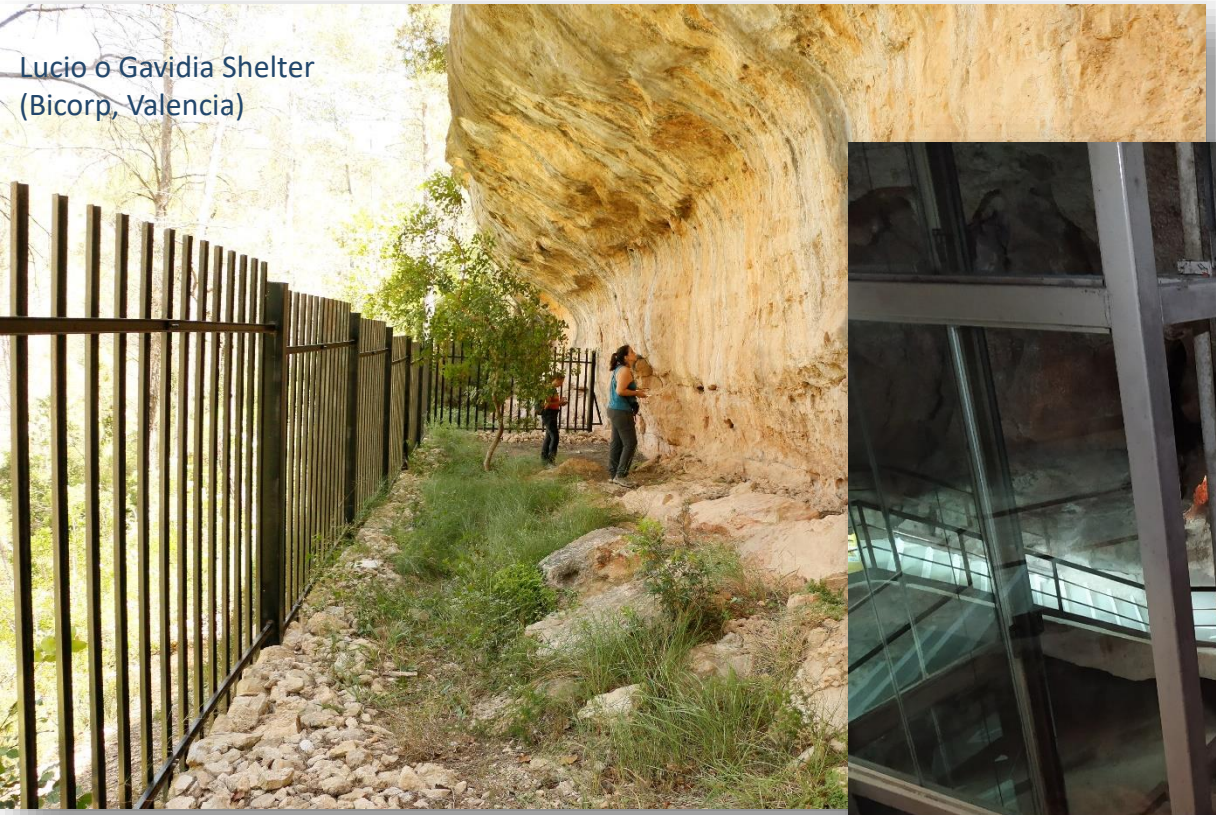
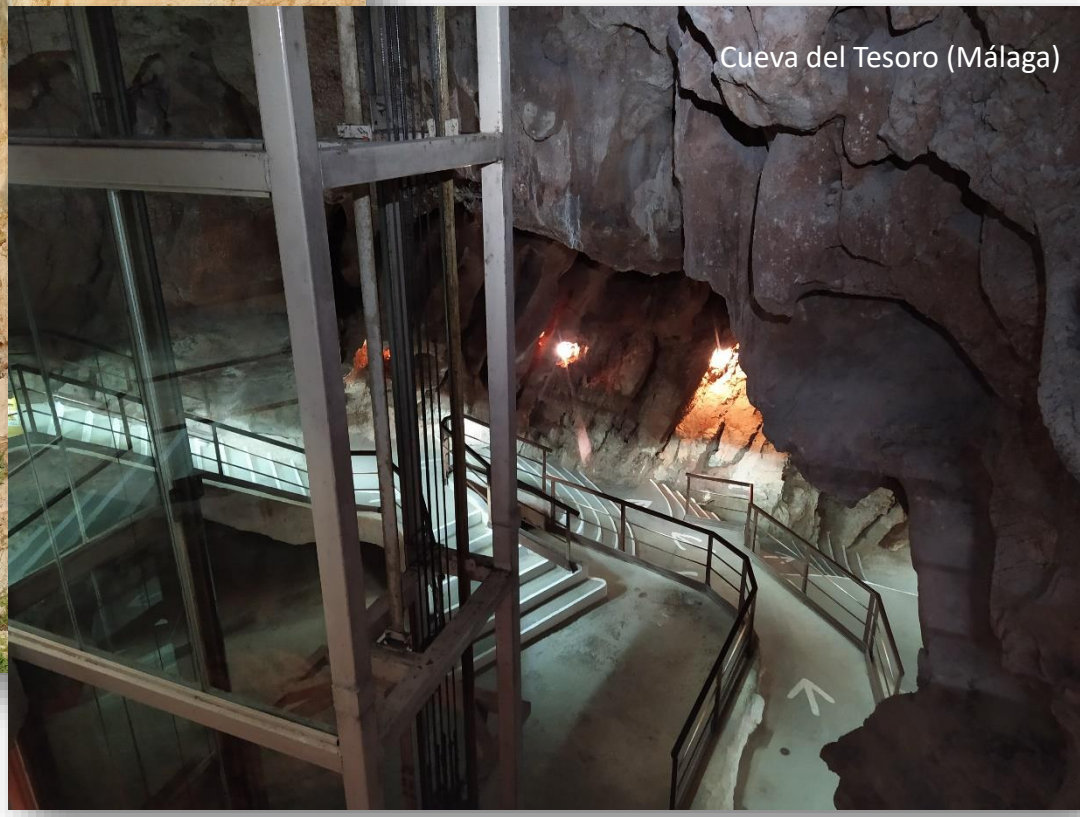


1) Modifications in the environment

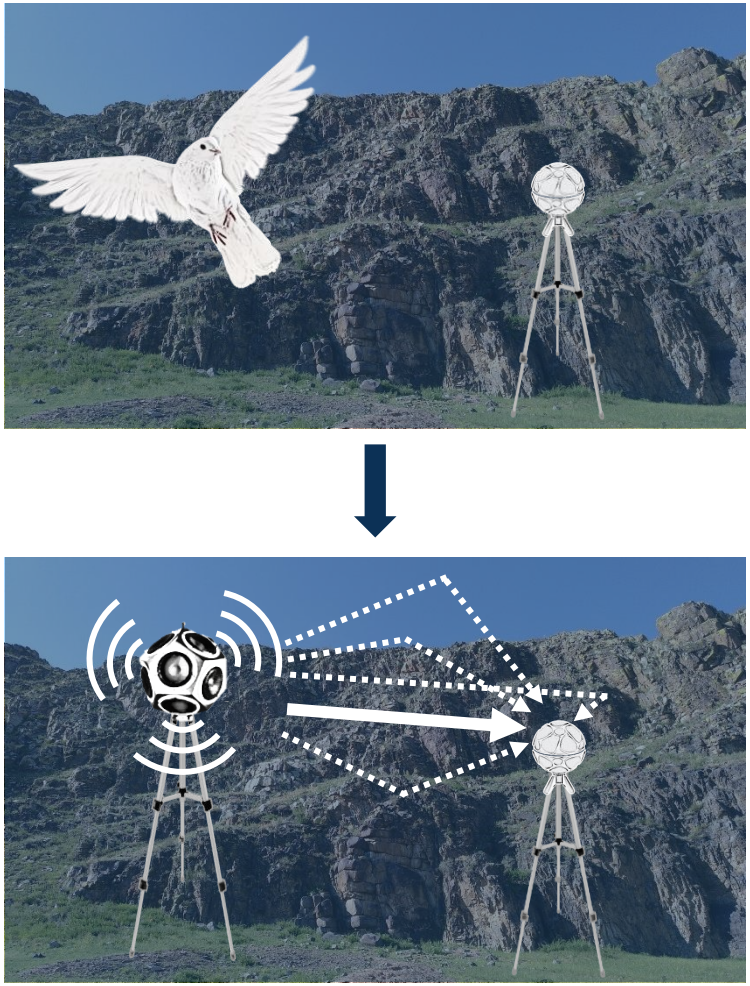


Lucio o Gavidia Shelter
(Bicorp, Valencia)



Cueva del Tesoro (Málaga)

2) Sounds: not anechoic



Future studies: musical stimuli and electrophysiological measures

Spiritual Experience

- **Mysticism scale** (Streib et al., 2012)
- **OAV scale** (Studerus et al., 2010)
- **EDA** + **ECG**

Psychoacoustics

Ratings of

- Reverberation
- Directivity
- Room Size
- Distance

Emotion

- **GEMS-9** scale (Zentner et al., 2008)
- **EDA** + **ECG**

Thank you!

ARTSOUNDSCAPES

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