

Călătoria > Destinația!

BSc Electronică & Tehn. Inf.
Pollitehnica Bucuresti

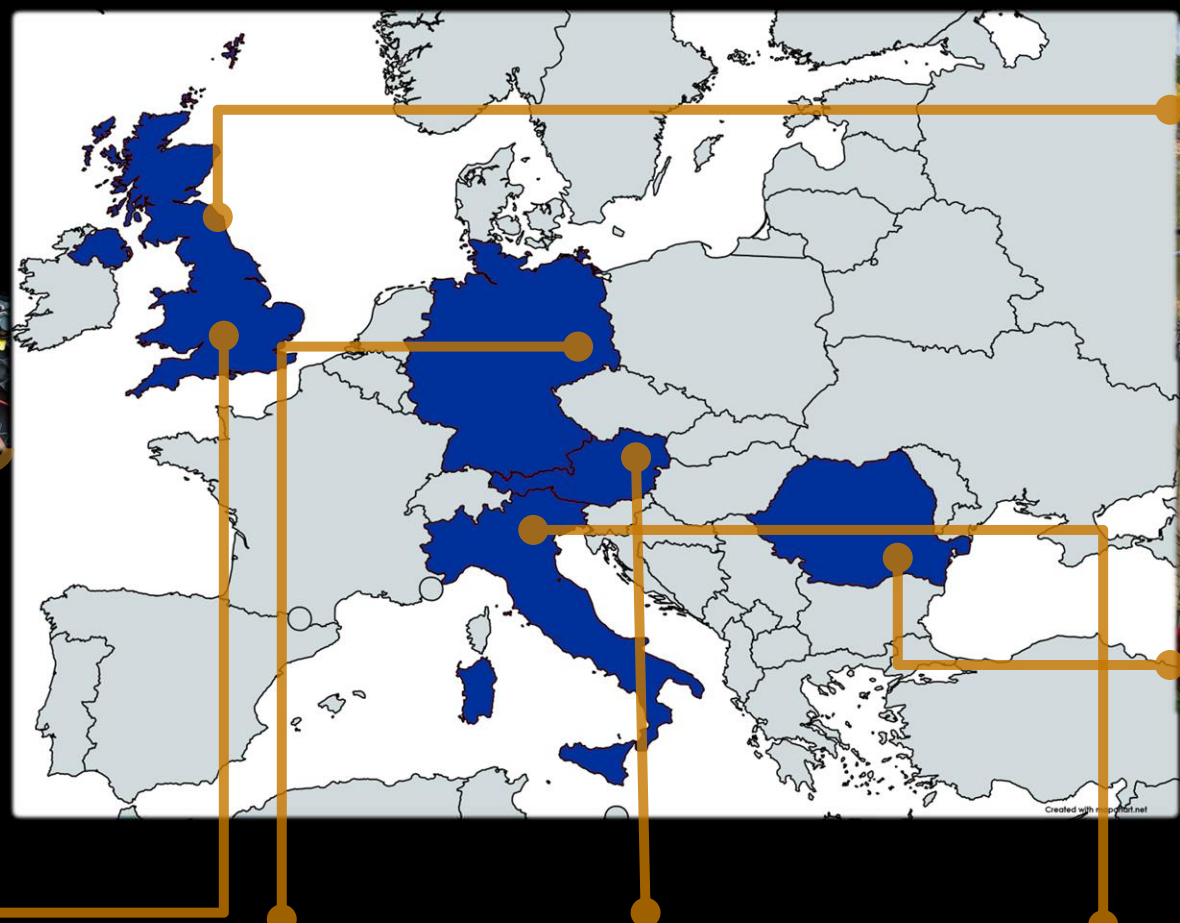
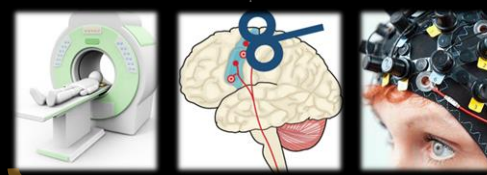
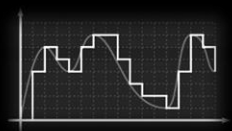
MRes Psihofizică
Durham

PhD Psihologie Exper.
Oxford

postdoc
Dresda (Muzicologie)

postdoc
Viena (Biologie Cognitivă)

PI
Padova (Psihologie)

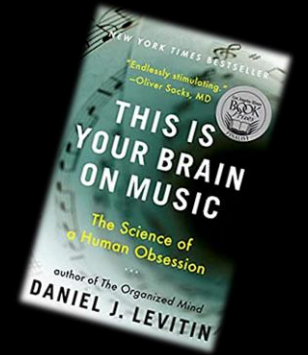
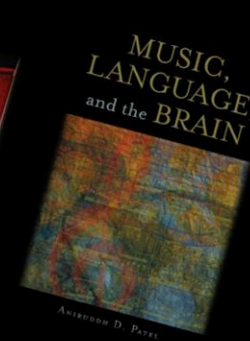
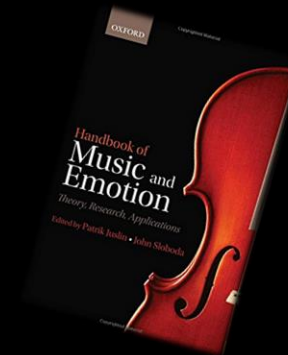


CE: Domeniul psihologiei muzicii

CUM: Meta-research

Muzica: doar „un model excelent”?

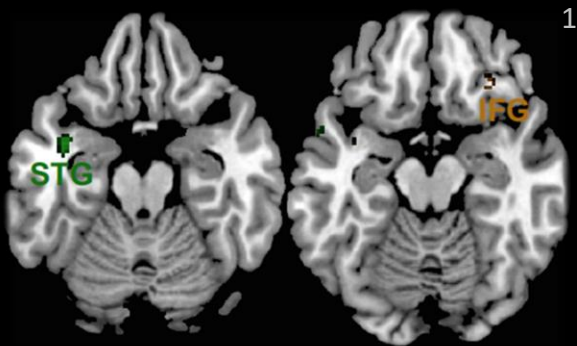
- subiecte de mare importanță pentru psihologia **cognitivă** (și **clinică**, **comparativă**, ..):
 - percepția auditivă și multisenzorială
 - memorie (ecoică, de lucru, de termen lung, autobiografică)
 - predicție
 - creativitate
 - învățare / neuroplasticitate / reorganizare corticală
 - abilități auditiv-motorii
 - cognitia socială
 - contagierea emoțională
 - acțiune comună (joint action)
 - ..
- → un instrument util – dar și mai mult?



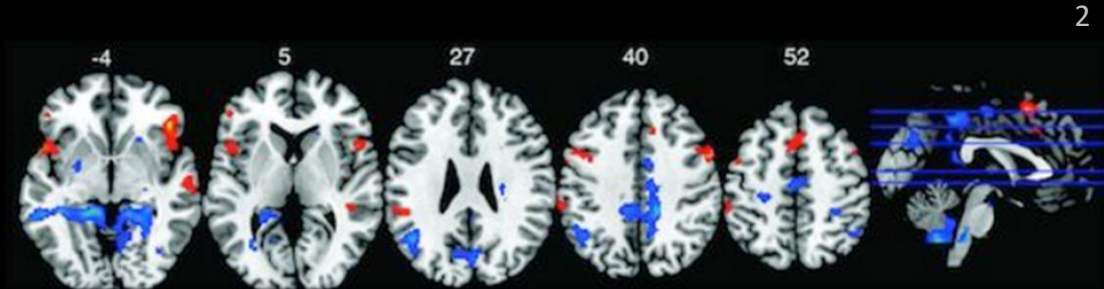
* e.g., Popescu et al. 2022, *Annals New York Academy of Sciences*

"Ingineria inversă" a creierului muzical

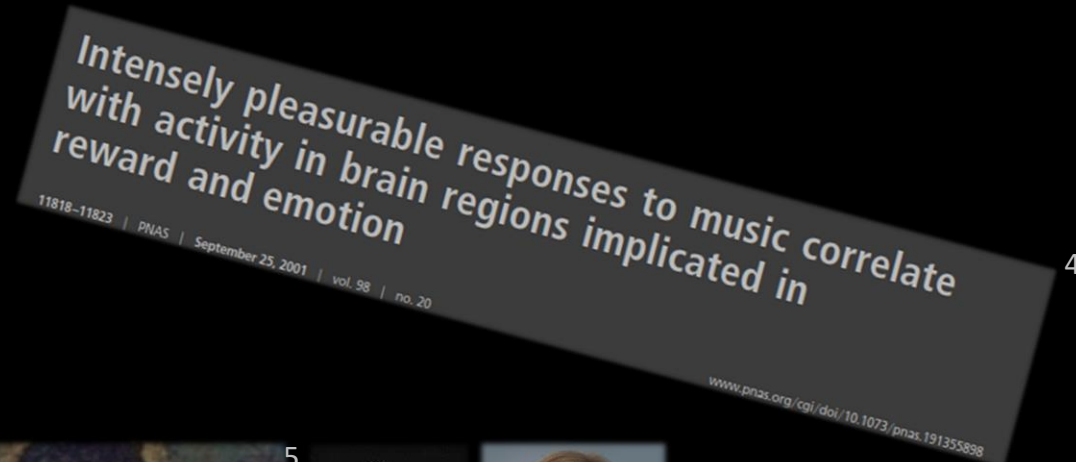
O cutie neagra cognitiva



Muzică veselă > Muzică tristă



Muzicieni > Nonmuzicieni



Interdisciplinaritate!

Music cognition in theory and practice:
Prediction, creativity, and cultural evolution
Wed 23 - Fri 25 Feb 2022



¹ Brattico et al. 2016, *Frontiers Human Neurosci*
² Bermudez et al. 2009, *Cerebral Cortex*
³ Weinstein et al. 2016, *Evolution and Human Behavior*

⁴ Blood & Zatorre 2001, *PNAS*
⁵ sites.google.com/view/escopmusicognition/

Examinarea "cutiei negre"

- Principalele dimensiuni muzicale, și formalismele asociate

- Structura frazei muzicale¹



- Ritmul²



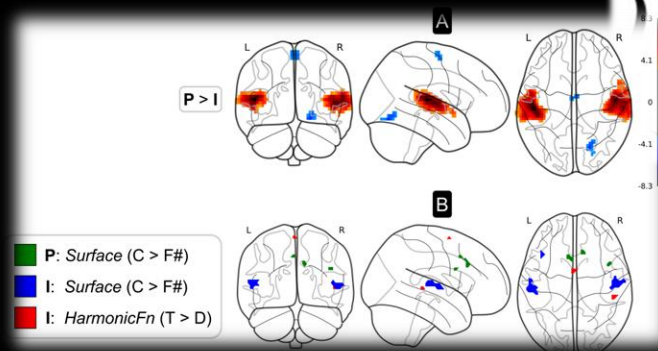
- Expectativa melodică³

- Armonia (**verticală**): consonanță/disonanță⁴

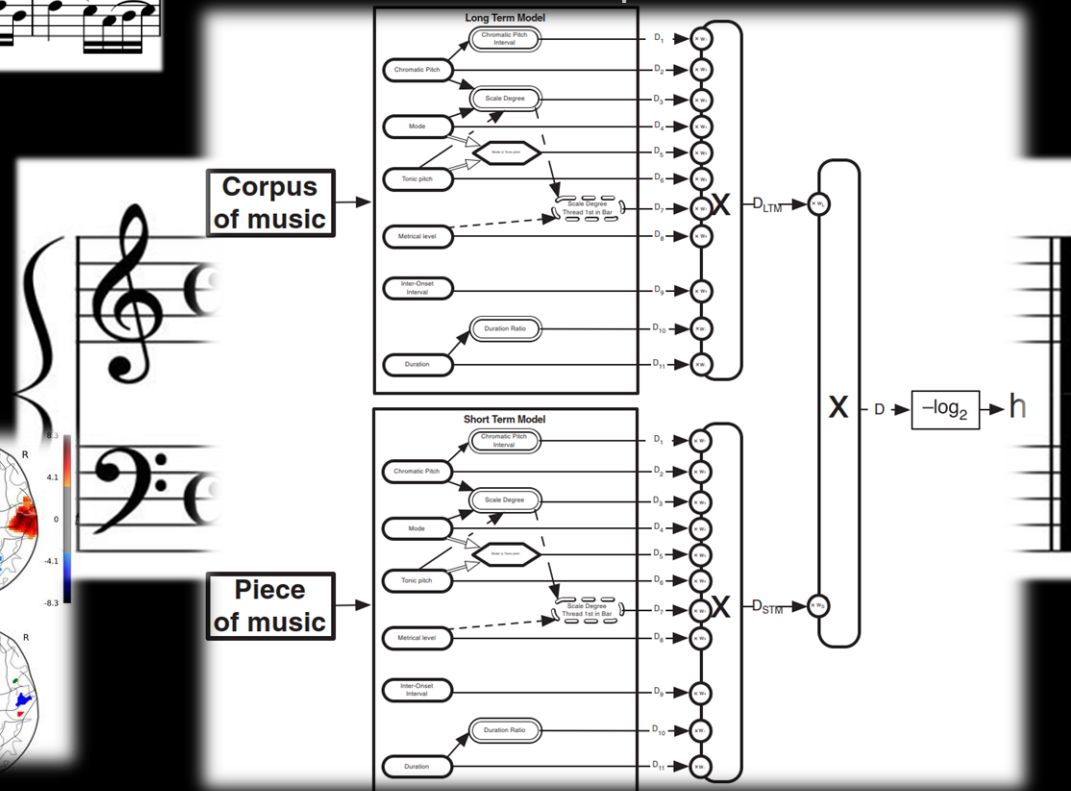
- Armonie (**orizontală**): progresii de acorduri⁵

- Tensiunea tonala

- Expectative armonice:
chiar și în
muzica imaginată⁶



IDYOM: modelare probabilistica³



1. Popescu et al. (2021) *Sci Rep*; Nan et al. (2006) *Brain Research*

2. Witek, Popescu, et al. (2016). *Exper. Brain Research*;
Large & Jones (1999) *Psychological Review*

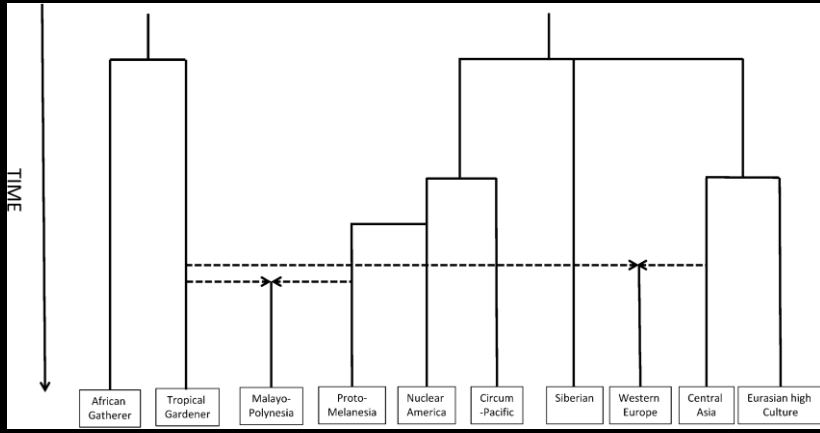
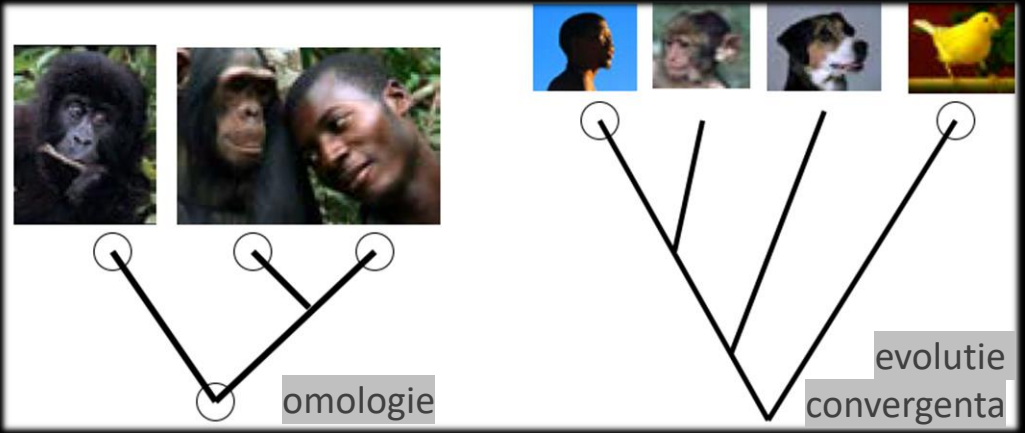
3. Pearce, & Wiggins. (2012). *Topics in Cognitive Science*

4. Popescu, Neuser, et al. (2019). *Scientific Reports*;
Parncutt & Hair (2012). *J of interdisc music studies*

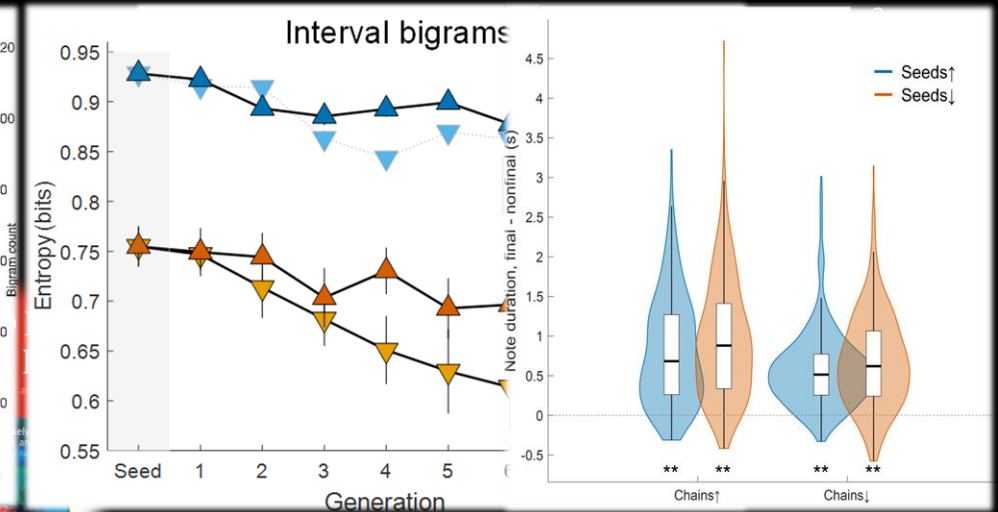
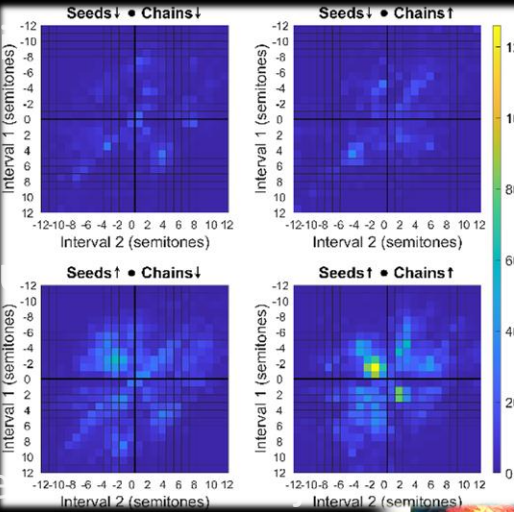
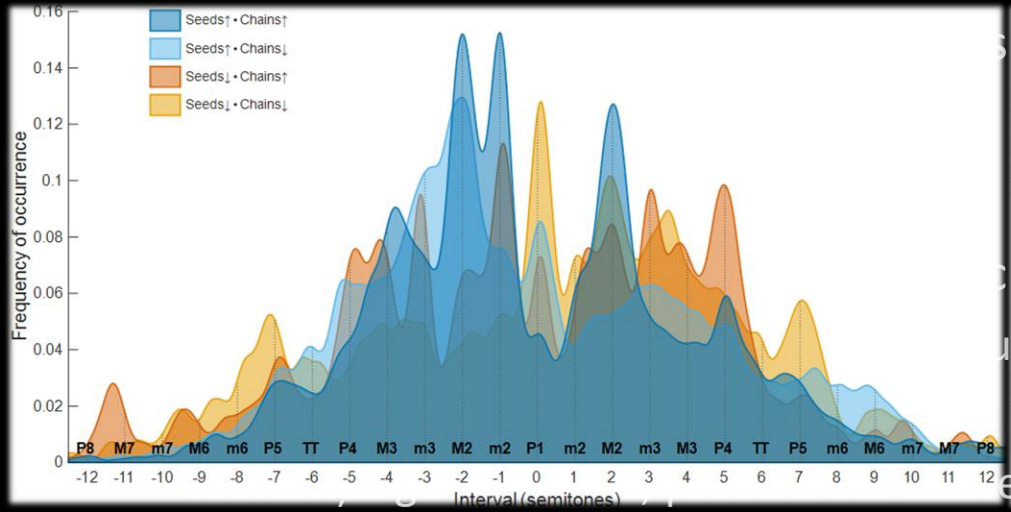
5. Rohrmeier & Koelsch (2013). *PNAS*

6. Popescu, Farrugia, et al. (2023), *Scientific Reports*
(under review)

Originile evolutive ale muzicii



2



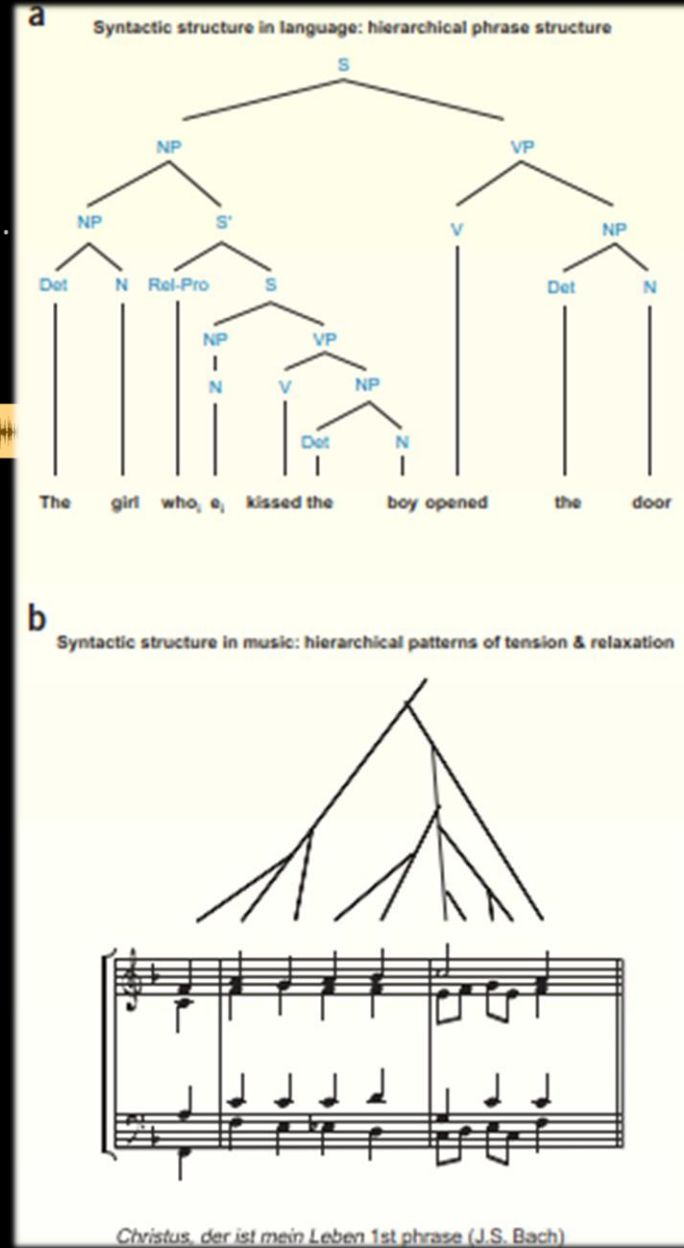
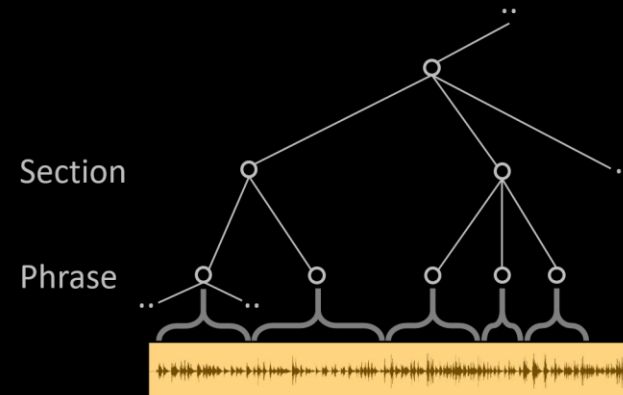
• Caracteristici fundamentale (design features) ← transmisie⁹



¹ Fitch & Popescu 2019, *Science*
² Savage 2019, *Palgrave Communications*
³ Savage 2015, *PNAS*
⁴ Popescu et al. 2021, *Behavioral and Brain Sciences*
⁵ Deacon 1998, *MIT Press*
⁹ Popescu et al., *eLife* (under review)

Muzica si limbajul (M&L): o „relație specială”

- M&L: capacități cognitive distinctive
- Afinități profunde
 - Evolutive
 - M: „evoluat pentru a ferma sexul opus”
 - L: „derivata din abilitati muzicale in-prealabil dezvoltate”¹
 - *Muzilimba*²
 - Structurale
 - Elemente constitutive dispuse ierarhic³
 - Sintaxa M&L: unele resurse neuronale partajate^{4,5}



¹ Darwin 1871

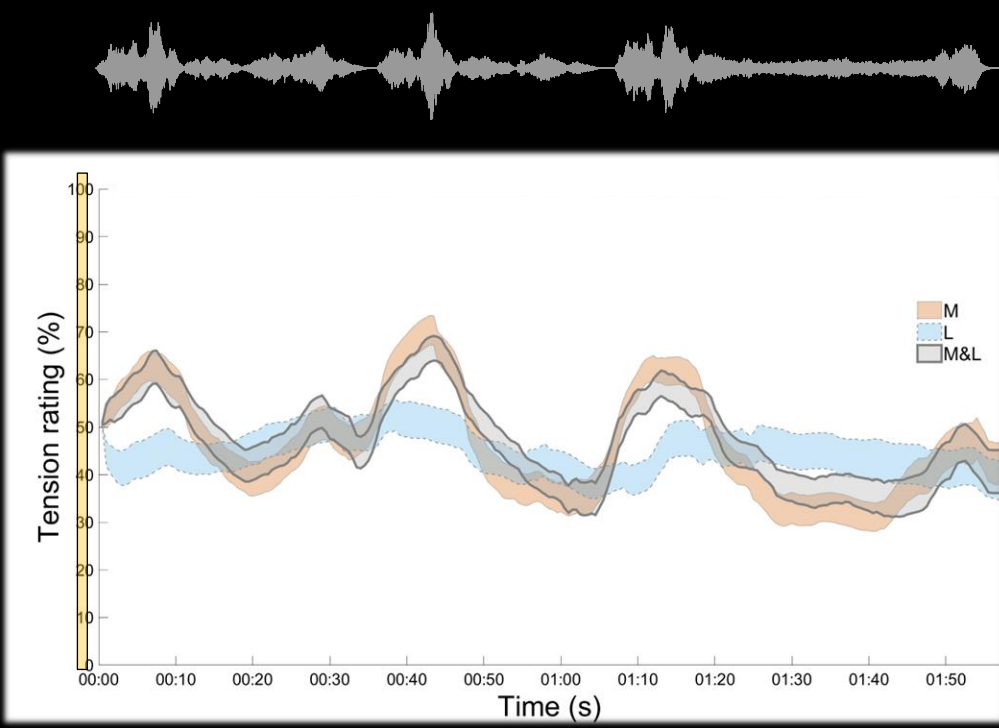
² Brown 2000, MIT Press

³ Lerdahl & Jackendoff 1983, MIT Press

⁴ Koelsch et al. 2005, *J of Cognitive Neuroscience*; Kunert et al. 2015, *PLoS ONE*

⁵ Popescu & Fitch 2020, *Brain & Beh Sci*

Emotia in muzica corala drept M-tensiune x L-tensiune



3. O süßer Mai!

L. Achim v. Arnim

(111) 7

Etwas gehalten

Sopran
O sü-ßer Mai, der Strom ist frei, ich steh ver-schlossen, mein Aug ver-dros-sen;

Alt
O sü-ßer Mai, der Strom ist frei, ich steh ver-schlossen, mein Aug, mein Aug ver-dros-sen;

Tenor
O sü-ßer Mai, der Strom ist frei, ich steh ver-schlossen, mein Aug, mein Aug ver-dros-sen;

Baß
O sü-ßer Mai, der Strom ist frei, ich steh ver-schlossen, mein Aug, mein Aug ver-dros-sen;

espr. mf
ich seh nicht deine grüne Tracht, nicht deine buntgeblünte Pracht, nicht dein Him-melblau,

12
espr. mf
ich seh nicht deine grü-ne Tracht, nicht deine bunt-geblünte Pracht, nicht dein Him-mel-blau,

espr. mf
ich seh nicht deine grü-ne Tracht, nicht deine bunt-geblünte Pracht, nicht dein Him-mel-blau,

espr. mf

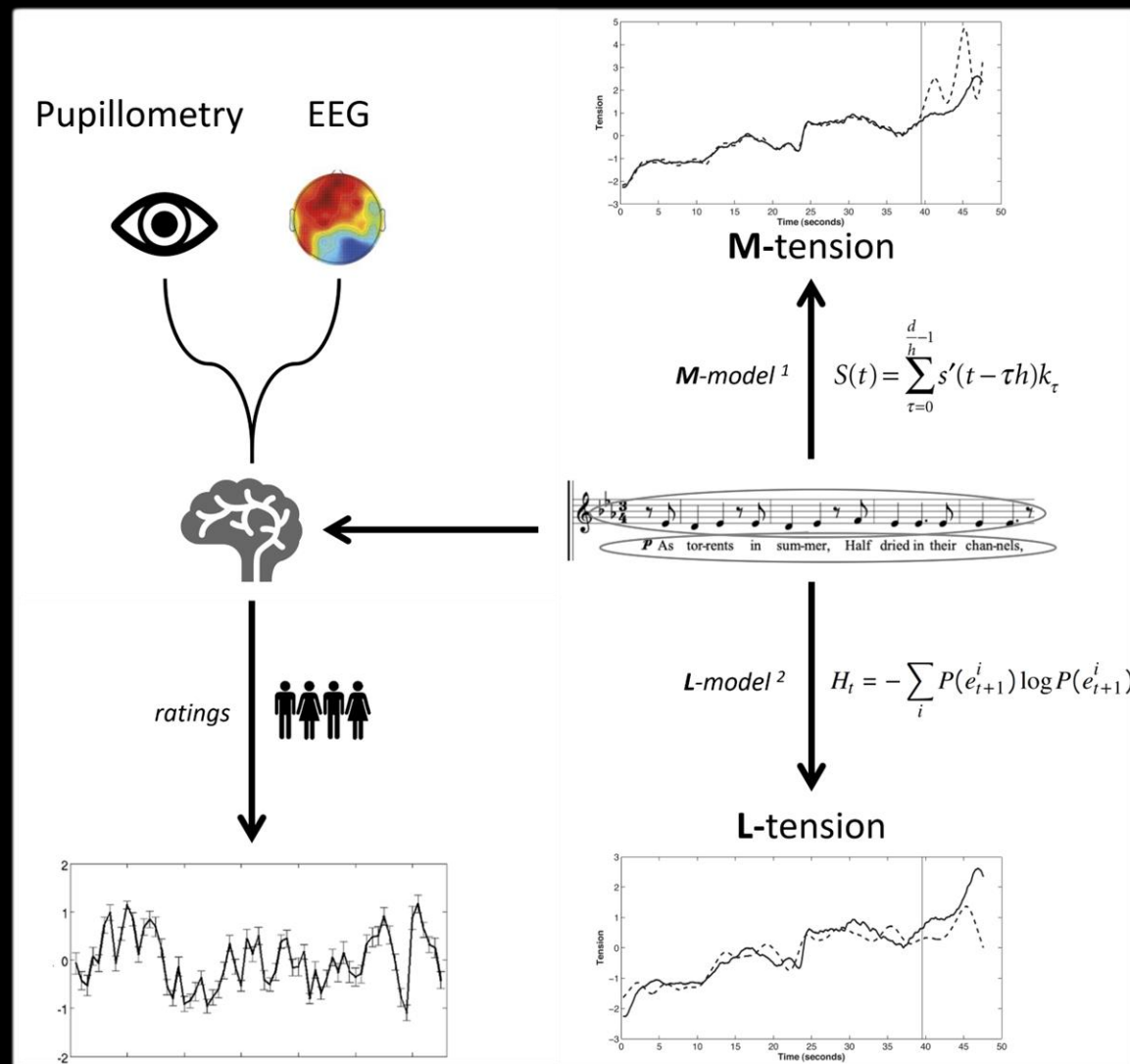
zur Erd ich schau. O sü-ßer Mai, mich las-se frei, wie den Ge-

19
zur Erd, zur Erd ich schau. O sü-ßer Mai, mich las-se frei, wie den Ge-sang

zur Erd, zur Erd ich schau. O sü-ßer Mai, mich las-se frei, wie den Ge-sang,

O sü-ßer Mai, mich las-se frei, wie den Ge-sang, wie

concept de nivel (prea) înalt maschează interacțiunile de granulație fină → necesar nivelul neuronal



Stimuli de control (M^0L^1 , M^1L^0)

Model computational pentru
texte narative & scenarii de film²

¹ Ruiz-Marcos et al. 2020, *Joint Conference on AI Music Creativity*

² Wilmot & Keller 2020, *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics*

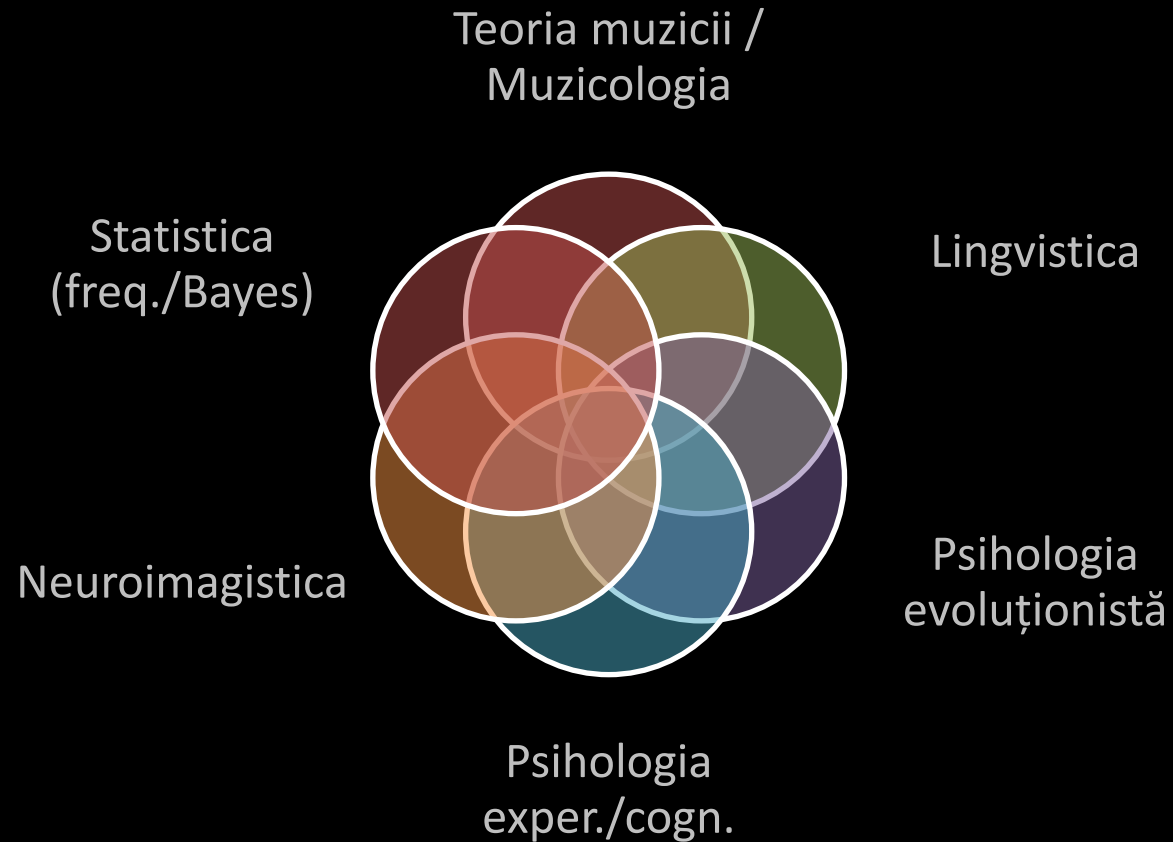
CE: Domeniul psihologiei muzicii

CUM

- Inter-/multi-disciplinaritate
- "Early" career
- Meta-research
- 

Inter-/multi-disciplinaritate

"Music as a bio - psycho - socio - cultural phenomenon" (David Huron)



Inter-/multi-disciplinaritate

Coordonarea unei astfel de echipe

Neural representations of harmonic function in musical imagery

Tudor Popescu^{1,2*}, Nicolas Farrugia³, Hannes Ruge⁴, Oren Boneh⁵, Fernando Bravo^{6,7},
Xing Tian⁸⁻¹⁰, Martin Rohrmeier¹¹

¹ Department of General Psychology, University of Padova, 35131, Padova, Italy

² Vienna Cognitive Science Hub, University of Vienna, 1090 Vienna, Austria

³ IMT Atlantique, Research Laboratory in Information and Communication Science and Technology (Lab-STICC), UMR CNRS 6285, Brest, France

⁴ Department of Psychology, TU Dresden, 01159 Dresden, Germany

⁵ Department of Music, University of California Berkeley, CA 94720 Berkeley, US

⁶ Department of Clinical Neuroscience, University of Cambridge, CB2 3EB Cambridge, UK

⁷ Music Technology and Computational Neuroscience, Cognition and Consciousness Imaging Group, University of CB2 3EB Cambridge, UK

⁸ Division of Arts and Sciences, New York University Shanghai, 200122 Shanghai, China

⁹ Shanghai Key Laboratory of Brain Functional Genomics (Ministry of Education), School of Psychology and Cognitive Science, East China Normal University, 200050 Shanghai, China

¹⁰ NYU-ECNU Institute of Brain and Cognitive Science at NYU Shanghai, 200122 Shanghai, China

¹¹ Digital and Cognitive Musicology Lab, Digital Humanities Institute, École Polytechnique Fédérale de Lausanne (EPFL), 1015 Lausanne, Switzerland

DOI: 10.1111/nyas.14848

ANNALS OF THE NEW YORK ACADEMY OF SCIENCES

REVIEW

Melodic Intonation Therapy for aphasia: A multi-level meta-analysis of randomized controlled trials and individual participant data

Tudor Popescu^{1,2,3} | Benjamin Stahl^{4,5,6,7} | Brenton M. Wiernik⁸ | Felix Haiduk¹ | Michaela Zemanek¹ | Hannah Helm⁴ | Theresa Matzinger^{1,9,10} | Roland Beisteiner² | W. Tecumseh Fitch¹

¹ Department of Behavioural and Cognitive Biology, University of Vienna, Vienna, Austria

² Department of Neurology, Medical University of Vienna, Vienna, Austria

³ Centre for Mind and Brain Sciences, University of Trento, Rovereto, Italy

⁴ Faculty of Science, Medical School Berlin, Berlin, Germany

⁵ Department of Neurology, Charité Universitätsmedizin, Berlin, Germany

⁶ Department of Neurophysics, Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany

⁷ Department of Neurology, Universitätsmedizin Greifswald, Greifswald, Germany

⁸ Department of Psychology, University of South Florida, Tampa, Florida, USA

⁹ Department of English, University of Vienna, Vienna, Austria

¹⁰ Centre of Language Evolution Studies, Nicolaus Copernicus University Toruń, Toruń, Poland

Jack of all trades, master of (n)one

Common Academic Experiences
No One Talks About: Repeated Rejection,
Impostor Syndrome, and Burnout

aps

ASSOCIATION FOR
PSYCHOLOGICAL SCIENCE

Perspectives on Psychological Science
1–25
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DOI: 10.1177/1745691619898848
www.psychologicalscience.org/PPS

SAGE

Fricile si sperantele unui "early career" researcher

- Presiuni aflate intr-un "arms race against [our] time"

- Publish (or perish)
 - The citation game
 - articol > capitol
 - open-access > paywall
 - short report > articol standard

- Didactica
- Finantare (third-party funding)
- "Translatare"



- Resursa finita a timpului / atentiei

- Continut (CE) vs meta (CUM) – *si mai* jack of all trades!
- FOMO ← *nu* accepti cereri de peer-review
 - revista non-OA → SciHub → castigator: Elsevier & co.

SPRINGER NATURE

The Source | Getting Published | Open Research | Communicating Research | Life in Research | For Editors | For Peer Reviewers | Research

Share

The Importance of Recognizing Reviewers

The Source
By: Penny Freedman, Thu Sep 24 2020

Peer review is an important part of the publishing process. Journals would not be able to publish the research that they do without the dedication of peer reviewers. Serving as the checkpoint to academic credibility, reviewers provide crucial feedback for authors and editors that influences the future of a paper's publication status. With the world facing an unprecedented time of crisis, the work of reviewers is more essential than ever.

We asked researchers about their experience as peer reviewers. We hope their stories provide a sounding board for others, and offer insight into a process that almost all researchers will take part in during their career.

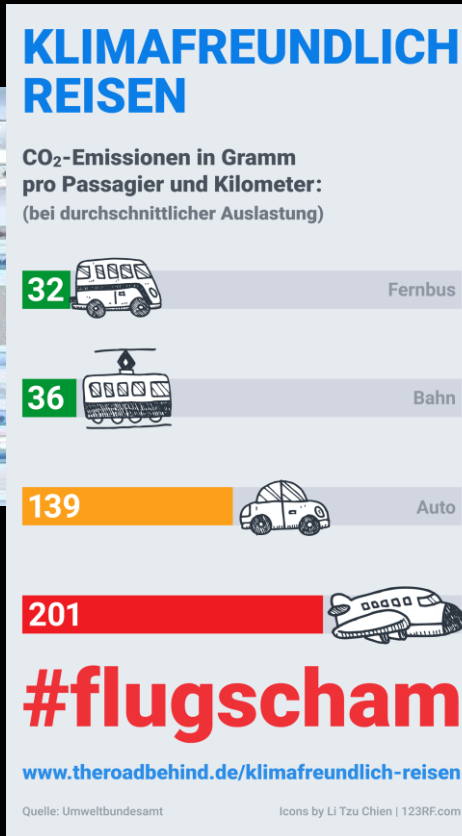
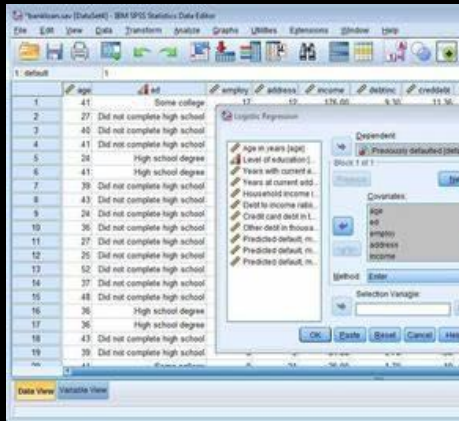
We spoke to Tudor Popescu, who is convinced about the need for more transparency in the work of reviewers. As a postdoc based at the University of Vienna, he has been reviewing for approximately five years, most frequently reviewing in experimental psychology and cognitive neuroscience journals, at a rate of 5-10 papers per year.

Why do you review?



Cum publicam & ce "dezvaluim"

- Zeitgeist: desfacerea cutiei negre / open-source



- opt-out, in loc de opt-in
 - donarea organelor (cf AT vs DE)
 - badge of pride  / shame
 - #flugscham
 - no raw data on OSF
 - exceptii rezonabile: jena de a publica cod putin-elegant sau putin-concis
 - timpul nostru vs timpul cititorului (Abstract)

Intoarcerea?

- Empirical evidence vs untestable theories

- plural of "anecdote" $\neq$ "data"
- correlation $\neq$ causation
- ...



Vs.

Google Scholar search results for "evidence for efficacy of hydroxychloroquine".

Articles About 51,200 results (0.08 sec)

Any time
Since 2023
Since 2022
Since 2019
Custom range...

Sort by relevance
Sort by date

Any type
Review articles

☐ include patents
☒ include citations

☐ Create alert

Efficacy of hydroxychloroquine in patients with COVID-19: results of a randomized clinical trial [PDF] medrxiv.org
Z Chen, J Hu, Z Zhang, S Jiang, S Han, D Yan... - medrxiv, 2020 - medrxiv.org
... However, **evidence** regarding its effects in patients is limited. This study aims to evaluate the **efficacy** of **hydroxychloroquine** (HCQ) in the treatment of patients with COVID-19. ...
☆ Save Cite Cited by 924 Related articles All 24 versions

No **evidence** of clinical **efficacy** of **hydroxychloroquine** in patients hospitalised for COVID-19 infection and requiring oxygen: results of a study using routinely collected ... [PDF] medrxiv.org
M Mahévas, VT Tran, M Roumier, A Chabrol, R Paule... - medrxiv, 2020 - medrxiv.org
... Because an in vitro study documented potential activity by **hydroxychloroquine** (HCQ) on ... had further **efficacy**. However, another uncontrolled French study found no **evidence** of antiviral ...
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The **efficacy** of **hydroxychloroquine** in altering pregnancy outcome in women with antiphospholipid antibodies [PDF] thieme-connect.com
S Sciascia, DW Branch, RA Levy... - Thrombosis and ..., 2016 - thieme-connect.com
... **Hydroxychloroquine** (HCQ) is widely used in patients with ... **Evidence** from in vitro and animal models suggests a potential ... systematically review the available **evidence** and to assess the ...
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- nevoia de o auzi "in direct" (muzica, si limbajul)
 - "what you see is all there is" (Kahneman)

Intoarcerea?



- admin "printre randuri", referinte culturale, ..
- *blue skies research* in Romania?
- L1 vs (L2, L3, ..)

*" Solang ich mein Erlebnis in Worten zusammenfassen kann,
gewiß keine Musik hierüber machen würde. "*

– Gustav Mahler , 1909



Multume!c!

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Finanțatori



DRESDEN
concept
Exzellenz aus
Wissenschaft
und Kultur



Colaboratori

Adrian Kempf



Felix Haiduk



Fernando Bravo



Jonathan Walther



Marco Tettamanti



Martin Rohrmeier



Patrick Boenke

