James Richard Winters

Assistant Professor │ Cognitive Scientist
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Academic appointments

CURRENT

School of Collective Intelligence (SCI), University Mohammed VI Polytechnic (Ben Guerir, Morocco)

Assistant Professor   2020-present

PREVIOUS

The Mint Research Group, Max Planck Institute for the Science of Human History (Jena, Germany)

Postdoctoral Researcher   2016-2020

Education

University of Edinburgh, Ph.D. Linguistics   2012-2017

Cardiff University, M.A. Language and Communication   2010-2011

University of Edinburgh, M.Sc Evolution of Language and Cognition   2008-2009

Glamorgan University, B.A. Journalism   2004-2007

Publications

JOURNAL ARTICLES

1. **Winters, J.**. (in press). Graphic codes, language, and the computational niche: A commentary on "The Puzzle of Ideography" By Olivier Morin. *Behavioral and Brain Sciences*.
2. Müller, T.F., **Winters, J.**, Brinkmann, L., & Pescetelli, N. (in press). Machine Impostors Avoid Human Detection by Interrupting the Formation of Stable Conventions: A Minimal Turing Test. *Cognitive Science*. Preprint available at doi: 10.31234/osf.io/x2yf7.
3. Charbonneau, M., Strachan J.W.A., & **Winters, J** (2023). The problem with solutions: A commentary of "Blind alleys and fruitful pathways in the comparative study of cultural cognition" By Andrew Whiten. *Physics of Life Reviews*, 44: 61-63. doi: 10.1016/j.plrev.2022.11.012.
4. Han, S.J., Kelly, P., **Winters, J.**, & Kemp, C. (2022). Simplification is not dominant in the evolution of Chinese characters. *Open Mind*, 6: 264-279.
5. Morin, O., Müller, T.F., Morisseau, T., & **Winters, J** (2022). Cultural evolution of precise and consensual semantic conventions in a multiplayer gaming app. *Cognitive Science*, 46 (2): e13113. doi: 10.1111/cogs.13113.
6. Pavlek, B., **Winters, J.**, & Morin, O. (2022). Standards and quantification of coin iconography: possibilities and challenges. *DSH: Digital Scholarship in the Humanities*, 37 (1): 202-217. doi: 10.1093/llc/fqab030.
7. Kelly, P., **Winters, J.**, Miton, H., & Morin, O. (2021). Evolution of items and evolution of systems. *Current Anthropology*, 62 (6): 687-691. doi: 10.31235/osf.io/eg489.
8. Kelly, P., **Winters, J.**, Miton, H., & Morin, O. (2021). The predictable evolution of letter shapes: An emergent script of West Africa recapitulates historical change in writing systems. *Current Anthropology*, 62 (6): 669-691. doi: 10.31235/osf.io/eg489.

9. Müller, T.F., **Winters, J.**, Morisseau, T., Noveck, I., & Morin, O. (2021). Color terms: Natural language semantic structure and artificial language structure formation in a large-scale online smartphone application. *Journal of Cognitive Psychology*, 33 (4): 357-378. doi: 10.1080/20445911.2021.1900199.

10. **Winters, J.** (2020). Is the cultural evolution of technology cumulative or combinatorial? *SocArXiv*. doi: 10.31235/osf.io/aypnx.

11. Henschel, M., **Winters, J.**, Müller, T.F., & Bräuer, J. (2020). Effect of shared information and owner behaviour on showing in Dogs (Canis familiaris). *Animal Cognition*, 23 (5): 1019-1034. doi: 10.1007/s10071-020-01409-9.

12. Pavlek, B., **Winters, J.**, & Morin, O. (2020). Reverse engineering cash: Coin designs mark out high value differentials and coin sizes track values logarithmically. *Cognition*, 198: 104182. doi: 10.1016/j.cognition.2020.104182.

13. Morin, O., **Winters, J.**, & Kelly, P. (2020). Writing, graphic codes, and asynchronous communication. *topiCS*, 12 (2): 727-743. doi: 10.1111/tops.12386.

14. **Winters, J.** (2019). Escaping optimization traps: The role of cultural adaptation and cultural exaptation in facilitating open-ended cumulative culture. *Palgrave Communications*, 5 (1): 1-13. doi: 10.1057/s41599-019-0361-3.

15. Pavlek, B., **Winters, J.**, & Morin, O. (2019). Ancient coin designs encoded increasing amounts of economic information over centuries. *Journal of Anthropological Archaeology*, 56: 101103. doi: 10.1016/j.jaa.2019.101103.

16. Müller, T.F., **Winters, J.**, & Morin, O. (2019). The influence of shared visual context on the successful emergence of conventions in a referential communication task. *Cognitive Science*, 43(9): e12783. doi: 10.1111/cogs.12783.

17. **Winters, J.**, & Morin, O. (2019). From context to code: Information transfer constrains the emergence of graphic codes. *Cognitive Science*. 43(3): e12722. doi: 10.1111/cogs.12722.

18. Müller, T.F., & **Winters, J.** (2018). Compression in cultural evolution: Homogeneity and structure in the emergence and evolution of a large-scale online collaborative art project. *PLoS One*, 13(9): e0202019. doi: 10.1371/journal.pone.0202019.

19. Morin, O., **Winters, J.**, Müller, T.F., Morisseau, T., Etter, C., & Greenhill, S. (2018). The Color Game: What smartphone apps may contribute to language evolution research. *Journal of Language Evolution*, 3(2): 91–93. doi: 10.1093/jole/lzy005).

20. **Winters, J.**, Kirby, S., & Smith, K. (2018). Contextual predictability shapes signal autonomy. *Cognition*, 176: 15-30. doi: 10.1016/j.cognition.2018.03.002.

21. Hartmann, S, Pleyer, M., **Winters, J.**, & Zlatev, J. (2017). Interaction and iconicity in the evolution of language: Introduction to the special issue. *Interaction Studies*, 18(3): 303-313. doi: 10.1075/is.18.3.

22. Roberts, S.G., **Winters, J.**, & Chen, K. (2015). Future tense and economic decisions: Controlling for cultural evolution. *PLoS One*, 10(7): e0132145. doi: 10.1371/journal.pone.0132145.

23. Pleyer, M., & **Winters, J** (2015). Integrating cognitive linguistics and language evolution research. *Theoria Et Historia Scientiarium*, 11: 19-44. doi: 10.12775/ths-2014-002.

24. **Winters, J.**, Kirby, S., & Smith, K. (2015). Languages adapt to their contextual niche. *Language and Cognition*, 7 (3): 415-449. 10.1017/langcog.2014.35.

25. Littauer, R., Roberts, S.G., **Winters, J.**, Bailes, R., Pleyer, M., & Little, H. (2014). From the Savannah to the Cloud: Blogging Evolutionary Linguistics Research. In: *The Past, Present and Future of Language Evolution Research*, Eds., L. McCrohon, B. Thompson, T. Verhoef, H. Yamauchi. Pages: 121-133. Online link.

26. Roberts, S. G., & **Winters, J** (2013). Linguistic diversity and traffic accidents: Lessons from statistical studies of cultural traits. *PLoS One*, 8(8): e70902. doi: 10.1371/jour-

nal.pone.0070902.

27. Roberts, S. G., & **Winters, J.**. (2012). Social structure and language structure: The new nomothetic approach. *Psychology of Language and Communication*, 16: 89-112. doi: 10.2478/v10057-012-0008-6).

Conference abstracts, workshops and proceedings

1. **Winters, J.** (2022). Escaping optimization traps: Why open-ended cumulative culture requires populations that are biased to explore and exploit increasingly difficult problems. Invited speaker for workshop: *From Cultural Evolution to Computational Humanities: Building a Bridge*.

2. **Winters, J.**. (2021). Why is open-ended cumulative cultural evolution rare? Invited Speaker ALIFE 2021 for The Fifth International Workshop of Social Learning and Cultural Evolution (SLACE).

3. **Winters, J.**, Kelly, P., Miton, H., & Morin, O. (2018). Compression effects in the cultural evolution of the Vai script of West Africa. Cultural Evolution Society Conference 2018

4. Morin, O., Pavlek, B., & **Winters, J.** (2018). The evolution of money: How information grew on ancient coins (Greece 650-30 BCE). Cultural Evolution Society Conference 2018.

5. Morin, O., **Winters, J.**, Müller, T., Morisseau, T., & Greenhill, S. (2018). The Color Game: Cultural evolution research with a gaming app. Cultural Evolution Society Conference 2018

6. **Winters, J.** & Müller, T. (2018). The emergence and evolution of structured patterns in a large-scale online collaborative art project. Cultural Evolution Society Conference 2018.

7. Müller, T., & **Winters, J.** (2018). Homogeneity and structure in the emergence and evolution of visual art: The cultural evolution of compressed, interdependent artworks in Reddit Place. Applications in Cultural Evolution (Tartu).

8. **Winters, J.**, Kelly, P., Miton, H., & Morin, O. (2018). Compression effects in the cultural evolution of the Vai script of West Africa. Applications in Cultural Evolution (Tartu).

9. **Winters, J.**, & Morin, O. (2018). From context to code: Shared information constrains the evolution of optimal codes. In: C. Cuskley, M. Flaherty, H. Little, Luke McCrohon, A. Ravignani and T. Verhoef (eds.) *The Evolution of Language: Proceedings of the 12th International Conference (EVOLANGXII)*.

10. Müller, T., Morisseau, T., **Winters, J.**, & Morin, O. (2018). The influence of shared visual context on performance with novel codes in a referential communication game. In: C. Cuskley, M. Flaherty, H. Little, Luke McCrohon, A. Ravignani and T. Verhoef (eds.) *The Evolution of Language: Proceedings of the 12th International Conference (EVOLANGXII)*.

11. Müller, T.F., & **Winters, J.** (2017). Cumulative culture and systematicity in *Place*: Compression, variation, and stability in a large-scale online pixel art collaboration. *Cultural Evolution Society 2017*.

12. **Winters, J.**, & Morin, O. (2017). Information transfer constrains the cultural evolution of graphic codes. *Cultural Evolution Society 2017*.

13. **Winters, J.**, & Morin, O. (2017). Emergence of optimal codes is contingent on the mode and function of communication. *European Human Behaviour and Evolution Conference 2017*.

14. Müller, T., Morisseau, T., **Winters, J.**, & Morin, O. (2017). The Influence of Common Perceptual Context on the Evolution of Graphic Codes. *European Human Behaviour and Evolution Conference 2017*.

15. **Winters, J.**, Kirby S., & Smith K. (2016). Signal Autonomy Is Shaped By Contextual Predictability. In: S.G. Roberts, C. Cuskley, L. McCrohon, L. Barceló-Coblijn, O. Fehér & T. Verhoef (eds.) *The Evolution of Language: Proceedings of the 11th International Conference (EVOLANG11)*.

16. **Winters, J.**, Kirby, S., & Smith, K. (2014). Experimentally investigating the role of context in the structuring of linguistic systems over cultural evolution. In: E. A. Cartmill, S. Roberts, H. Lyn, & H. Cornish (Eds). *The Evolution of Language: Proceedings of the 10th International Conference (EVOLANG 10)*. Singapore: World Scientific.

17. Littauer, R., **Winters, J.**, Roberts, S.G., Little, H., Pleyer, M., & Benzon, B (2012). Academic research in the blogosphere: Adapting to new risks and opportunities on the Internet. In: Jan Christoph Meister (Ed.): *Digital Humanities 2012. Conference Abstracts. University of Hamburg, July 16-22.* Hamburg: Hamburg University Press, 268-269.

18. Roberts, S. & **Winters, J.** (2012). Constructing Knowledge: Nomothetic approaches to language evolution. In: L. McCrohon, T et al, *Five Approaches to Language Evolution: Proceedings of the Workshops of the 9th International Conference on the Evolution of Language*. EvoLang9 Organizing Committee.

Pedagogical

SUPERVISION

Younes Jeddi: Co-PhD supervisor	2023-present
Niek Kerssies: Lead PhD supervisor	2022-present
Abdoul Kafid Toko: MA supervisor	2021-2022
Fatima Ahandi: MA co-supervisor	2021-2022
Gafari Lukumon: Co-PhD supervisor	2020-present
Barbara Pavlek: Co-PhD supervisor	2018-2020
Thomas Müller: Co-PhD supervisor	2016-2020
Sarah Selzer: M.Sc co-supervisor	2014

TEACHING

Courses

SCI, module leader – Computational Methods in Collective Intelligence 3	2021-present
SCI, module leader – Cognitive Science 2	2020-present
SCI, module leader – Experimental Methods and Statistics 1	2020-2021

Guest lecturing

FGSES, guest lecturer – *Introduction to Agent-based models*	February 2023
SCI Executive Master, guest lecturer – *Transmission chain experiments*	September 2021
Friedrich-Schiller-Universität Jena, guest lecturer – *Communication systems in animals*	2019
Universität Hamburg, guest lecturer – *Language evolution in the laboratory*	2016

Tutoring

University of Edinburgh, tutor – Research Methods and Statistics	2015-2016

University of Edinburgh, senior tutor – Origins and Evolution of Language	2015-2016
University of Edinburgh, tutor – Linguistics and English Language 1	2014-2016

Organisation

PhD coordinator at SCI	2021-present
Organiser SCI speaker series	2020-present
Master programme committee	2020-present
SCI ethics committee	2020-present

Grants and awards

OCP Foundation startup fund (2022): 200,000€ investment for developing an Africa-focused online experiment platform as part of the *What Africa Thinks* team.

APRA 2020 Grant *Projets Recherche Appliquée* (2021): 5,000,000 MAD (£390,769) for investigating innovation in Morocco as part of the *Eureka project* team.

AHRC Grant (2012-2015): Received a fully-funded, 3-year AHRC grant covering tuition fees and an annual stipend (~£13,500) for a PhD in Linguistics and English Language.

Reviewing

Journals: Scientific Reports, Philosophical Transactions of the Royal Society B, Topics in Cognitive Science, Language Dynamics and Change, Cognitive Science, Evolution and Human Behavior, Palgrave Communications, Evolutionary Human Sciences, Royal Society Interface, Journal of Language Evolution, and Open Mind: Discoveries in Cognitive Science.

Conferences: Cultural Evolution Society, EvoLang, CogSci, ProtoLang, ALife, and Cognitive Linguistics.

Programming

Python, R, Julia, Mathematica, LaTeX, Markdown, HTML, Javascript, CSS.

Selected media coverage

My work has been mentioned in *Vice* ("Why Are Letters Shaped the Way They Are?"), *Slate* ("Did You Hear the One About Sex, Traffic Accidents, and Acacia Trees?"), *Le Monde* ("Le chocolat engendre-t-il des tueurs en série?"), *Gawker* ("What Does Extramarital Sex Have to Do with Acacia Trees? Everything."), *Arstechnica* ("Louder vowels won't get you laid, and other tales of spurious correlation"), *New Scientist* ("Reddit's megapixel masterpiece illustrates how culture evolves"), *Der Spiegel* ("Kollaborative Kunst: Wenn eine Million Menschen gemeinsam ein Bild malen"), *Phys.org* ("One million artists can't be wrong about cultural evolution"), and *ORF* ("Eine Million Kulturentwickler").

References

Available upon request.