

DAWEI BAI

dawei.bai@hotmail.com

www.daweibai.com

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ACADEMIC POSITIONS

Postdoc, Yale University, New Haven, CT, USA. 2023–Present
Sponsors: Brian Scholl and Samuel McDougle

EDUCATION

PhD, École Normale Supérieure, Institut Jean Nicod, Paris, France. 2019–2023
Supervisor: Brent Strickland

M.Sc., Cognitive Science (“Cogmaster”), École Normale Supérieure, École des Hautes Études en Sciences Sociales and Paris Descartes University, Paris, France. 2017–2019

M.A., Linguistics, University of Lille, Lille, France. 2016–2017

B.S., Psychology, University of Lille and University of Poitiers, Lille, France. 2014–2017

B.A., French Literature, University of Poitiers, Poitiers, France. 2013–2016

Engineering study, University of Technology of Compiègne, Compiègne, France. 2011–2013

PUBLICATIONS

Bai, D., Hafri, A., Izard, V., Firestone, C., & Strickland, B. (2025). “Core perception”: Re-imagining precocious reasoning as sophisticated perceiving [target article]. *Behavioral and Brain Sciences*. <https://doi.org/10.1017/S0140525X25102756>

Bai, D., & Strickland, B. (2025). The “Double Ring Illusion”: The physical constraint of solidity shapes visual processing. *Journal of Experimental Psychology: General*, *154*(12), 3417–3427. <https://doi.org/10.1037/xge0001839>

Bai, D., & Strickland, B. (2023). The Pulfrich solidity illusion: A surprising demonstration of the visual system’s tolerance of solidity violations. *Psychonomic Bulletin & Review*, *30*(5), 1782–1787. <https://doi.org/10.3758/s13423-023-02271-9>

PAPERS UNDER REVIEW

Bai, D., & Scholl, B. J. (under revision). The tiger moving through the tall grass: Spontaneous perception and tracking of change-defined objects from second-order motion.

Bai, D., Weisman, K., Schille-Hudson, E., Ihm, E., Taves, A., Luhrmann, T. M., & Scholl, B. J. (under revision). Chasing the supernatural: The perception of animacy from motion is related to spiritual experiences.

WORKING PAPERS

Bai, D., Ongchoco, J. D. K., Weisman, K., Schille-Hudson, E., Ihm, E., Taves, A., Luhrmann, T. M., & Scholl, B. J. (in preparation). From grids to gods?: Perceiving visual structure via ‘scaffolded attention’ is related to spiritual experiences.

Bai, D., & McDougle, S., (in preparation). Reaching under (visually) inferred wind forces.

Bai, D., Dhar, P., Wong, K., & Scholl, B., (in preparation). Do visual objects lose their individuality due to the perception of collective goals?: Evidence from numerical underestimation in the Wolfpack effect.

Bai, D., & Scholl, B. J., & Strickland, B. (in preparation). Isolating event categories in space and time: Evidence of dynamic “on the fly” representations in perception.

Jones, H., **Bai, D.**, Scholl, B. J., & Awh, E. (in preparation). Electroencephalogram decoding of the attentional selection and tracking of featureless objects.

O’Madagain, C., **Bai, D.**, Benmarrakchi, F., Tetteh, G., Peperkamp, S., Strickland, B. (in preparation). It is easier to learn a new grammar for core concepts.

Sun, Z., **Bai, D.**, Scholl, B. J., & McDougle, S. (in preparation). Visuomotor adaptation via featureless objects.

INVITED TALKS

2026 Chasing the supernatural: The perception of animacy from motion is related to spiritual experiences. Melissa Võ lab, Ludwig Maximilian University of Munich.

2026 “Core perception”: Re-imagining precocious reasoning as sophisticated perceiving. Collège de France Mind & Language online seminar.

2026 “Core perception”: Re-imagining precocious reasoning as sophisticated perceiving. Harvard Research Seminar Series, Harvard University.

2025 “Core perception”: Re-imagining precocious reasoning as sophisticated perceiving. Chaz Firestone lab, Johns Hopkins University.

- 2025 The tiger moving through tall grass: Spontaneous perception and tracking of featureless objects. Martin Rolfs lab, Humboldt-Universität zu Berlin.
- 2023 Intuitive physics in visual perception. Hans Op de Beeck lab, KU Leuven.
- 2023 From object perception to object cognition: Philosophical and empirical perspectives. *Memory and Mental Files* workshop, Grenoble, France.
- 2021 The solidity principle in visual perception. *Language, Thought, and Perception* Workshop, Nantes, France.

SELECTED CONFERENCE PRESENTATIONS

- Bai, D.,** Ongchoco, J. D. K., Weisman, K., Schille-Hudson, E., Ihm, E., Taves, A., Luhrmann, T. M., & Scholl, B. J. (2026). From grids to gods?: Perceiving visual structure via ‘scaffolded attention’ is related to spiritual experiences. Poster presented at the *Vision Sciences Society Annual Meeting*, St. Pete Beach, Florida, USA.
- Bai, D.,** & McDougale, S., (2026). Reaching under (visually) inferred wind forces. Poster presented at the *Neural Control of Movement Annual Meeting*, Kobe, Japan.
- Bai, D.,** Hafri, A., Izard, V., Firestone, C., & Strickland, B. (2026). “Core perception”: Re-imagining precocious reasoning as sophisticated perceiving. Talk given at the *Budapest CEU Conference on Cognitive Development*, Budapest, Hungary.
- Bai, D.,** Weisman, K., Schille-Hudson, E., Ihm, E., Taves, A., Luhrmann, T. M., & Scholl, B. (2025). Chasing the supernatural: The perception of animacy from motion is related to spiritual experiences. Poster presented at the *Vision Sciences Society Annual Meeting*, St. Pete Beach, Florida, USA.
- Bai, D.,** & Scholl, B., (2024). Object tracking without objects: Perceiving persistence defined by pure change. Poster presented at the *European Conference on Visual Perception*, Aberdeen, Scotland.
- Bai, D.,** & Scholl, B., (2024). Do visual objects lose their individuality due to the perception of collective goals?: Evidence from numerical underestimation in the Wolfpack effect. Poster presented at the *Vision Sciences Society Annual Meeting*, St. Pete Beach, Florida, USA.
- Bai, D.,** & Strickland, B. (2023). Object solidity disambiguates ambiguous motion. Talk given at the *Vision Sciences Society Annual Meeting*, St. Pete Beach, Florida, USA.
- Bai, D.,** & Strickland, B. (2022). The double ring illusion: Object solidity is used to disambiguate ambiguous motion. Talk and demo night presentation given at the *European Conference on Visual Perception*, Nijmegen, the Netherlands.
- Bai, D.,** & Strickland, B. (2022). The double ring illusion: Object solidity is used to disambiguate ambiguous motion. Poster presented and demo night presentation at the *Vision Sciences Society Annual Meeting*, St. Pete Beach, Florida, USA.

Bai, D., Falck, A., & Strickland, B. (2021). The adult visual system resists learning continuity violations. Poster presented at the *Virtual Vision Science Society Meeting*. Online.

Bai, D., O'Madagain, C., Peperkamp, S., & Strickland, B. (2019). Core Cognition and Learnability: A Possible Explanation for Cross-linguistic Similarities. Talk given at the *Conference of the European Society for Cognitive Psychology*, Tenerife, Spain.

AWARDS

“Best Illusion of the Year” 2021 (Neural Correlate Society): Third place with the “Double Ring Illusion”.
View the illusion at <https://youtu.be/bVbPmFpspXc>.