

## CURRICULUM VITAE

### ROBERT BOYD

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#### **Education:**

1970 B.A. in Physics with high honors, University of California at San Diego.

1975 Ph.D. in Ecology, University of California at Davis

#### **Employment:**

August 2012–present, Professor, School of Human Evolution and Social Change, Arizona State University, Phoenix

June 2011–June 2014 Cowan Professor, Santa Fe Institute

July 2009–July 2012, Distinguished Professor, Department of Anthropology, University of California, Los Angeles.

July 1989–July 2009, Professor, Department of Anthropology, University of California, Los Angeles.

July 1988–June 1989, Associate Professor, Department of Anthropology, University of California, Los Angeles.

July 1986–June 1988, Assistant Professor, Department of Anthropology, University of California, Los Angeles.

September 1984–July 1986: Assistant Professor, Department of Anthropology, Emory University.

September 1980–August 1984: Assistant Professor, School of Forestry and Environmental Studies, Duke University (on leave 1981-1982).

June 1981–June 1982: National Science Foundation postdoctoral fellow, Department of Biology, University of Chicago.

September 1978–August 1980: Assistant Research Ecologist, Institute of Ecology, University of California, Davis.

September 1976– September 1978: Special Consultant, California State Energy Commission

December 1975–August 1976: Senior Consultant, California Assembly Committee on Resources, Land Use, and Energy.

**Professional Activities:**

November 2015–present: Scientific Council, Institute for Advanced Study, Toulouse.

March 2015–present: Scientific Advisory Board, Canadian Institute for Advanced Research, Program on Institutions, Organizations & Growth

November 2013–present: Scientific Advisory Board, Max Planck Institute for Evolutionary Anthropology, Leipzig

January 2013–Present: Scientific Advisory Board, Ernst Strungmann Forum

January 2008–Jan 2011: *Board Member, Proceedings of the Royal Society, Series B*

March 1997–2008: Co-director, MacArthur Foundation Preferences Project.

**Awards and Honors:**

2016            Tanner Lectures, Princeton University

2009–present External Faculty, Santa Fe Institute

2005–06        Leverhulme Visiting Professor, University of Cambridge

- 2001–02      Invited fellow at the Wissenschaftskolleg zu Berlin
- 1991–92      Invited fellow at the Zentrum für interdisziplinäre Forschung, University of Bielefeld
- 1988–89      John Simon Guggenheim Fellowship
- 1989          J. I. Staley Prize for *Culture and the Evolutionary Process*.
- 1981-82      NSF Postdoctoral Fellowship, University of Chicago

**Publications:**

***Books***

- R. Boyd, 2018. *A Different Kind of Animal*, Princeton University Press, Princeton NJ
- R. McElreath and R. Boyd, 2007. *Mathematical Models of Social Evolution: A guide for the perplexed*, University of Chicago Press, Chicago.
- P. J. Richerson and R. Boyd, 2005, *Not by Genes Alone: How culture transformed human evolution*, University of Chicago Press, Chicago, IL. (Translated into Korean and Italian)
- R. Boyd, and P. J. Richerson, 2005. *The Origin and Evolution of Cultures*, Oxford University Press, New York
- J. Henrich, R. Boyd, S. Bowles, C. Camerer, E. Fehr, & H. Gintis. 2004. *The Foundations of Human Sociality: Economic experiments and ethnographic evidence from fifteen small-scale societies*, Oxford University Press, New York
- H. Gintis, S. Bowles, E. Fehr, & R. Boyd 2004. *Moral Sentiments and Material Interests: The foundations of cooperation in economic life*, MIT Press Cambridge
- R. Boyd and J. B. Silk, 1997, *How Humans Evolved*, W. W. Norton, Co. NY. (A substantially revised 8th edition was published in October 2017)
- R. Boyd, and P. J. Richerson, 1985, *Culture and the Evolutionary Process*, University of Chicago Press, Chicago, IL.

## **Journal Articles**

- M. Kline, M. Gervais, C. Moya, and R. Boyd, Irrelevant-action imitation is short-term and contextual: Evidence from two under-studied populations, *Developmental Science*, DOI: 10.1111/desc.12903, 2019.
- M. Derex and R. Boyd, Causal understanding is not necessary for the improvement of culturally evolving technology, *Nature Human Behaviour*, [doi.org/10.1038/s41562-019-0567-9](https://doi.org/10.1038/s41562-019-0567-9), 2019.
- M. Derex and R. Boyd, Social information can potentiate understanding despite inhibiting cognitive effort, *Scientific Reports*, DOI:10.1038/s41598-018-28306-z, 2018.
- M. Derex, C. Perreault, and R. Boyd, Divide and conquer: intermediate levels of population fragmentation maximize cultural accumulation, *Philosophical Transactions of the Royal Society (B)*, 373, DOI: 10.1098/rstb.2017.0062, 2018
- M. Derex and R. Boyd, Partial connectivity increases cultural accumulation within groups, *Proceedings of the National Academy of Sciences (USA)*, 113, 2982-2987, 2016.
- R.H. Schonmann and R. Boyd, A simple rule for the evolution of contingent cooperation in large groups, *Philosophical Transactions of the Royal Society (B)*, 317, DOI: 10.1098/rstb.2015.0099, 2016
- C. Moya and R. Boyd, The evolution and development of inferential reasoning about ethnic markers: Comparisons between urban United States and rural highland Peru, *Current Anthropology*, 37, S135-S151, 2016.
- J. Henrich, M. Chudek and R. Boyd, The Big Man Mechanism: how prestige fosters cooperation and creates prosocial leaders, *Philosophical Transactions of the Royal Society (B)*, DOI: 10.1098/rstb.2015.0013, 2015.
- C. Moya and R. Boyd, Different selection pressures give rise to distinct ethnic phenomena: A functionalist framework with illustrations from the Peruvian Altiplano. *Human Nature*, 26(1). doi:10.1007/s12110-015-9224-9, 2015.
- C. Moya, R. Boyd, and J. Henrich. Reasoning about cultural and genetic transmission: Developmental and cross-cultural evidence from Peru, Fiji, and the United States on how people make inferences about trait transmission, *Topics in Cognitive Science*, 7, 1-16, 2015.
- R. Boyd and S. Mathew. Third-party monitoring and sanctions aid the evolution of language, *Evolution and Human Behavior*, 36, 475-479, 2015.

- R. Boyd, R. H. Schonmann and R. Vicente, Hunter–Gatherer population structure and the evolution of contingent cooperation, *Evolution and Human Behavior*, 35, 219–227, 2014.
- K. Hill, B. M. Wood, J. Baggio, A. M. Hurtado, R. Boyd, Hunter-Gatherer Inter-Band Interaction Rates: Implications for Cumulative Culture, *PLoS One*, 9, 1-9, 2014.
- S. Mathew and R. Boyd, The cost of cowardice. *Evolution and Human Behavior*, 35, 58–64. 2014
- R. Boyd, P. J. Richerson and J. Henrich, The cultural evolution of technology, facts and theories, *Cultural Evolution, Society, Technology, Science and Religion*, M. Christiansen and P.J. Richerson, eds., MIT Press, 119–142, 2013
- M. Kline, R. Boyd, and J. Henrich, Teaching and the life history of cultural transmission in Fijian villages, *Human Nature*, 24, 351–374, 2013.
- C. Perrault, C. Moya, and R. Boyd, A Bayesian approach to the evolution of social learning, *Evolution and Human Behavior*, 33:449–459, 2013.
- J. Henrich, R. Boyd, and P. J. Richerson, The puzzle of monogamous marriage, *Philosophical Transactions of the Royal Society (B)*, 367: 657–669, 2012.
- R. Boyd, P. J. Richerson, and J. Henrich. The cultural niche: Why social learning is essential for human adaptation, *Proceedings of the National Academy of Sciences (USA)* 108: 10918–10925, 2011
- Mathew, S. and R. Boyd. Punishment sustains large-scale cooperation in prestate warfare. *Proceedings of the National Academy of Sciences (USA)* 108: 11375–11380, 2011.
- Boyd, R., P. J. Richerson, and J. Henrich. Rapid cultural adaptation can facilitate the evolution of large-scale cooperation, *Behavioral Ecology and Sociobiology*, 65, 431–444, 2011.
- Boyd, R. and P. J. Richerson, Transmission coupling mechanisms: cultural group selection. *Philosophical Transactions of the Royal Society (B)*, 365, 3787-3795, 2010.
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- R. Boyd and P. J. Richerson, Culture and the evolution of human cooperation, *Philosophical Transactions of the Royal Society (B)*, 364:3281-3288, 2009.
- Richerson, P. J., R. Boyd, and R.L. Bettinger, Cultural Innovations and Demographic Change, *Human Biology*, 81, 211–235, 2009.
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- J. Henrich, R. Boyd, and P. J. Richerson. Five Misunderstandings about Cultural Evolution. *Human Nature*, 19: 119–137, 2008.
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- J. Henrich, R. Boyd, S. Bowles, C. Camerer, E. Fehr, H. Gintis, R. McElreath, M. Alvard, A. Barr, J. Ensminger, K. Hill, F. Gil-White, M. Gurven, F. Marlowe, J. Q. Patton, N. Smith, and D. Tracer, 'Economic Man' in Cross-cultural Perspective: Behavioral Experiments in 15 Small-scale Societies, *Behavioral and Brain Sciences*, 28: 795–855, 2005
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- P. J. Richerson and R. Boyd. Built for Speed, Not for Comfort, Darwinian Theory and Human Culture, *History and Philosophy of the Life Sciences*, 23: 425–465, 2001.
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- Richerson, Peter J. and Robert Boyd. Fets per la Velocitat, No Per al Confort: la Teoria Darwiniana i la Cultura Humana. In *Poblacions, Societats i Entorn*, Taula de Disseny, Jordi Perera Garcia, and Josep Pujol Mas (eds). Estudios Insitut D'Humanitats, Club de Barcelona, Barcanova, Barcelona, Spain, pp. 58-101, 1991.
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- P.J. Richerson and R. Boyd, The Natural Selection of Culture. *BioScience*, 34: 430-434, 1984.
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- J.B. Silk and R. Boyd, Female Cooperation, Competition, and Mate choice in Matrilineal Macaque Groups. In: *Female Reproductive Strategies*, S. Wasser (ed.), Academic Press, pp. 315-347, 1983.
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- R. Boyd, and R. Thompson, The Effects of Uncertainty on the Relative Economics of Electrical Generation Technologies with Differing Lead Times. *Energy Systems and Policy* 4: 9-124, 1980.

- R. T. Laird, J. B. Perkins, D. A. Bainbridge, J. B. Baker, R. T. Boyd, D. Huntsman, P. E. Staub, and M. Zucker, Quantitative Land Capability Analysis--A Method of Applying Earth Science Information to Planning and Decision Making. United States Geological Survey Professional Paper No. 945, contributing author.
- P. J. Richerson, and R. Boyd, A Dual Inheritance Model of the Human Evolutionary Process. *Journal of Social and Biological Structures* 1: 127-154, 1978.
- P. J. Richerson, and R. Boyd, A Simple Dual Inheritance Model of the Conflict Between Social and Biological Evolution. *Zygon* 11: 254-262, 1976.
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### **Book Chapters**

- Mathew, S., R. Boyd, and M. van Veelen. Human cooperation among kin and close associates may require enforcement of norms by third parties. In: *Cultural Evolution*, ed. P. J. Richerson and M. Christiansen. Strüngmann Forum Report 12, series editor J. Lupp, Cambridge, MA: MIT Press, pp 45-60, 2013
- R. Boyd, P. J. Richerson, and J. Henrich The cultural evolution of technology: Facts and theories. In: *Cultural Evolution*, ed. P. J. Richerson and M. Christiansen. Strüngmann Forum Report 12, series editor J. Lupp, Cambridge, MA: MIT Press, pp 119-142, 2013
- A. Mesoudi, K. N. Laland, R. Boyd, B. Buchanan, E. Flynn, R. N. McCauley, J. Renn, V. Reyes-García, S. Shennan, D. Stout, and C. Tennie, The Cultural evolution of technology and science, In: *Cultural Evolution*, ed. P. J. Richerson and M. Christiansen. Strüngmann Forum Report 12, series editor J. Lupp, Cambridge, MA: MIT Press, pp. 193-216, 2013
- P. Hammerstein and R. Boyd, Learning, Cognitive Limitations and the Modeling of Social Behavior, *Evolution and the Mechanisms of Decision Making*, P. Hammerstein and J. Stevens, eds. MIT Press, Cambridge MA, 2012.
- T. Bugnyar, R. Boyd, B. Bossan, S. Gächter, T. Griffiths, P. Hammerstein, K. Jensen, T. Mussweiler, R. Nagel, and F. Warneken, Evolutionary Perspectives on Social Cognition, *Evolution and the Mechanisms of Decision Making*, P. Hamemerstein and J. Stevens, eds. MIT Press, Cambridge MA, 2012.
- P. J. Richerson and R. Boyd, Cultural Evolution, Accomplishments and Prospects, In: *Explaining Culture Scientifically*, Melissa Brown, ed., University of Washington Press, Seattle, 2008.
- P. J. Richerson and R. Boyd, The Evolution of Free Enterprise values. In *Moral Markets: The Critical Role of Values in the Economy*, edited by Paul Zak. Princeton University Press. Pp. 107-141. 2008.

- R. McElreath, R. Boyd, G. Gigerenzer, A. Glockner, P. Hammerstein, R. Kurzban, S. Magen, P. J. Richerson, A. Robson, and J. R. Stevens. Individual Decision Making and the Evolutionary Roots of Institutions, In: *Better than Conscious? Decision Making, the Human Mind, and Implications for Institutions*. C. Engel and W. Singer eds, MIT Press, Cambridge. Pp 305-324, 2008.
- R. Boyd and P. J. Richerson. Gene-Culture Coevolution and the Evolution of Social Institutions, In: *Better than Conscious? Decision Making, the Human Mind, and Implications for Institutions*. C. Engel and W. Singer eds, MIT Press, Cambridge. Pp 305-324, 2008.
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- L. Newson, P. J. Richerson and R. Boyd. Cultural evolution and the shaping of cultural diversity. *Handbook of Culture Psychology*, Dov Cohen and Shinobu Kitayama, editors, New York, Guilford Press. 2007. pp 454-476.
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- P. J. Richerson and R. Boyd. The Pleistocene and the Origins of Human Culture: Built for Speed. *Perspectives in Ethology. Volume 13*. Nicholas S. Thompson and Francois Tonneau, eds. Kluwer Academic/Plenum Publishers, New York. 2000, pp. 1–45.
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## **Reviews and Comments**

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R. Boyd, Does an evolutionary perspective help understand environmental degradation? *Trends in Ecology and Evolution*, 24: 72, 2009

P. J. Richerson and R. Boyd, Migration: An Engine for Social Improvement, *Nature*, 456: 18, 2008

R. Boyd and S. Mathew. A Narrow Road to Cooperation, *Science*, 316: 1858-1859, 2007.

R. Boyd. The puzzle of human sociality, *Science*, 314: 1553, 2006.

R. Boyd. Reciprocity: You have to think different. *Journal of Evolutionary Biology*, 19: 1380–1382, 2006.

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R. Boyd, Optimal Foraging Theory, A review of *Foraging Theory*, by D. Stephens and J. Krebs, *American Journal of Primatology*, 18:109–111, 1989.

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R. Boyd, A review of *The Genetics of Altruism*, by S. Boorman and P. Levitt, *Journal of Social and Biological Structures*. 7: 81–92, 1984.

- P.J. Richerson, and R. Boyd, Evolutionary Models of Culture and the "Meaning" Sense of Information, Who Is Confused About What? (Comment on paper by A. J. Fedanzo) *Journal of Social and Biological Structures* 6: 139-141, 1983.
- P.J. Richerson and R. Boyd, The Search for an Alternative to Sociobiological Hypotheses of Human Evolution (comment). *Brain and Behavioral Sciences*, 4: 248-249.
- R. Boyd, A review of Programmed to Learn, by H.R. Pulliam and C. Dunford, *Human Ecology* 9: 388-390, 1981.
- P.J. Richerson and R. Boyd, A review of *Cultural Transmission and Evolution*, by L.L. Cavalli-Sforza and M.W. Feldman. *BioScience* 31: 164, 1981.
- P.J. Richerson and R. Boyd, The Evolutionary Ecology of Humans: Two Approaches. *American Psychological Association, Division of Community Psychology Newsletter*, 13: 17-18, 1980.
- P.J. Richerson and R. Boyd, A review of *Cultural Materialism*, by M. Harris. *Human Ecology* 8: 171-175, 1980.
- P.J. Richerson and R. Boyd, A review of *Evolutionary Biology and Human Social Behavior*, N. Chagnon and W. Irons (eds.). *Human Ecology* 8: 68-73, 1980.

### ***Invited Presentations (2014-2019)***

Relatedness and the evolution of social institutions, Capitalism, Conflict, and Cooperation: A Celebration of the Work of Bowles and Gintis, Columbia University, October 2019

Cultural evolution and the evolution of cooperation, Gruter Institute Symposium, Does Hamilton Still Rule? His Continuing Influence in Science and Society 50 Years Back and Beyond, University of Oxford, September 2019, with Peter J. Richerson.

The first great divergence, Economic Research on Identities, Norms, and Narratives, London School of Economics, London UK, June 2019

Large Scale Cooperation in Small Scale Societies, Social Norms, a DySoC/NIMBioS Investigative Workshop, Knoxville, 2019

Arbitration supports reciprocity when there are frequent perception errors, IMBS Conference on Cultural Evolution and Social Norms, Irvine, CA, March 2019

Third party monitoring and the evolution of reciprocity, Invited lecture at Department of Human Evolutionary Biology, Harvard University, September 2018

The first great divergence: How culture transformed our species, Public evening lecture at the London School of Economics, May 2018

Social Learners: What do they know? And, when do they know it? Invited lecture presented at Cultural Transmission and the Economics of Cultural Change: Theory, Empirics and Experiments” held at the Paris School of Economics, Paris, France on March 2018

Beyond kith and kin: Culture, Norms and human cooperation, Invited colloquium, Department of Anthropology, University of Missouri, Sept 2017

Not by brains alone, Culture and human adaptation. Invited plenary lecture, ITB symposium the future of theoretical biology, Institute for Theoretical Biology, Humbolt University, Berlin, July 2017

Norms and Small Scale Cooperation, IAST 5<sup>th</sup> Anniversary Sympoium, IAST Toulous, France, June 2017

Culture Matters: How culture made humans outliers in the natural world. Two Tanner Lectures at Princeton University, April 2016.

How humans became outliers in the natural world, Political Economy Workshop, NYU, February 2016

The evolution of human uniqueness, Invited lecture at Advanced International Seminar on Cognition and Culture in Evolutionary Context at Facultad de Psicología, Universidad Complutense de Madrid, Sept 2015.

The first great divergence, Invited lecture, Canadian Institute for Advanced Research Program on Institutions, Organizations and Growth, March 2015.

The puzzles of human cooperation, Invited lecture, Department of Evolutionary Anthropology, Duke University, Feb 2015

Does reciprocity explain human cooperation? Invited lecture at NimBios, University of Tennessee, Nov 2014

Is causal understanding necessary for cultural adaptation? Economic History Colloquium, Harvard University, Department of Economics, Nov 2014

Reciprocity, Third-Party Punishment and the evolution of Human Language, Invited Plenary lecture, Collective Intentionality, Sept 2014

Reciprocity, Third-Party Punishment and the evolution of Human Language, Invited Plenary lecture, EVOLANG, Vienna, April 2014