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The objectivity of moral norms is a top-down cultural construct

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Abstract: Encultured individuals see the behavioral rules of cultural systems of moral norms as objective. In addition to prescriptive regulation of behavior, moral norms provide templates, scripts, and scenarios regulating the expression of feelings and triggered emotions arising from perceptions of norm violation. These allow regulated defensive responses that may arise as moral idea systems co-opt emotionally associated biological survival instincts.

Regarding the evolutionary advantage of objectifying of systems of moral norms, Stanford says: "The creation of a novel conceptual category of norms or standards of behavior to which I hold both others and myself responsible simultaneously thus established a mechanism for safely *extending* prosocial, altruistic, and cooperative behavior in new ways and into new contexts" (sect. 5, para. 8, emphasis in target article). But he does not say *how* the creation of this novel conceptual category comes about and admits ignorance as to how exteriorization arises in individuals. Is it an individual trait, or is it something that is culturally induced? If seen as an

individual trait, a number of problems arise. In particular, how could it have ever arisen in a group of non-externalizers, and how could a group come to all externalize the same norms? In arguing the advantage of norm exteriorization, Stanford begs the question of why different individuals exteriorize the same norms.

It is important to note that a fundamental cognitive shift has taken place in humans from evolution at the individual level to evolution at the organizational level (Lane et al. 2009; Read et al. 2009). Conceiving a category of norms or standards of behavior required crossing a cognitive threshold—individuals must be able to consciously conceptualize themselves as members of a reified group. With this capacity, cultural idea systems (Leaf & Read 2012) become possible as complexes of beliefs and/or organizational rules that operate in a top-down manner so that individuals gain functionality only by adherence to these rules and/or constraints.

Cultural idea systems are internalized by individuals through enculturation and are taken by culture bearers as having objective reality (Spradley & Mann 1975), thereby providing shared meaning for the events of social life. In this way, human culture creates a "virtual" world, including moral norms that are experienced as universals, applicable to anybody who is considered as "one of us" (Bar-Tal 2000; Hardin & Higgins 1996). In the Upper Paleolithic, we see the beginning of cultural idea systems in the form of kinship systems (Bergendorff 2016; Read 2012), and moral norms are incorporated as part of kin expectation and obligation (Fortes 1969). These patterns of expectations and obligations provide the structures for coordinated cooperation within a group when all members share a kinship relation. Acting in accordance with the behavior expected of kin is important because survival depends on being integrated with one's kin.

If our ancestors' moral norms are part of the cultural idea system acting in a top-down manner within social systems organized through kinship relations, then kinship itself provides the objectivity and coherence of norm exteriorization. In hunter-gatherer bands, where kinship is the basis of all social relations, the obligation to cooperate with others sharing a kinship relation becomes part of the identity of group members. Those who act improperly as kinsmen are sanctioned by the group.

In much work on the evolution of cooperation, punishment is seen as an important factor for maintaining cooperative groups against free-riders. Stanford claims that norm exteriorization removes the need for punishment because individuals will protect themselves from exploitation by simply shunning those recognized as norm violators. This is not sufficient to establish the stability of a system of norms, especially in small hunter-gatherer groups where it may not be possible to avoid contact with or reliance on untrustworthy partners. Punishment-based arguments, however, must deal with the second-order free-rider problem – punishment requires that group members agree to bear the cost of punishing a transgression at some undefined future time; yet, if punishing becomes necessary, some group members may renege on their commitment.

We argue that the second-order free-rider problem, and also Stanford's question of "how moral norms acquire their characteristic status in the course of individual ontogeny" (sect. 5, para. 15), is solved through the linkage of culturally laden feelings and biological emotions within a cultural setting. Emotions are physiological responses to stimuli related to biological survival and are controlled by genetically established neural circuits. The feeling of an emotion is the mental experience accompanying the physiological sensations of the emotion (e.g., Damasio 2012; LeDoux 2012). Through association of feelings and behavior, culture provides functional vehicles for the social expression of emotional responses. Likewise, feelings triggered by culturally salient cues can evoke associated emotions (Damasio 2012; De Leersnyder et al. 2013; Kim & Sasaki 2012).

A cultural system of moral norms is not just a set of rules for behavior; it directs feelings associated with moral behavior or misbehavior that have been interjected by group members and arise automatically when cued. Misbehavior by a group member may lead to feelings of guilt or shame, while perception of a norm violation by another may evoke feelings of anger and indignation (Dubreuil 2010). These feelings may trigger emotional responses, and because the emotions are grounded in biological survival instincts, the perceived norm violation may be responded to defensively as if it threatened biological survival (Ellemers 2012; Ellemers et al. 2002; Voorhees et al. 2018). Culturally determined defensive responses can range from shunning (as posited by Stanford and others), to an impulse to punish, eliminate, or otherwise correct a violation of what is seen as objectively "right and proper."

In sum, cultural ideas, acquired through enculturation, are internalized by culture bearers and seen by them as objective reality. Among hunter-gatherers, behavioral norms are coded as patterns of expectations and obligations that are part of a kinship system. These provide the structure that facilitates coordination and cooperation of group activities. Rather than simply being collections of objectified behavioral rules, moral norm systems provide templates, scripts, or scenarios regulating the expression of feelings and emotions arising through the experience of violating a norm, or seeing another violate a norm. Only humans appear to have the psychological and neurological basis for both norm-following and sanctioning of violators (Dubreuil 2010; Read 2012), and we attribute this to the fact that only humans have the cognitive capacity to grasp the abstract concepts involved in cultural idea systems.

- Beebe, J. R. (2014) How different kinds of disagreement impact folk metaethical judgments. In: Advances in experimental moral psychology, ed. H. Sarkissian & J. Wright, pp. 167–87. Bloomsbury. [SS, rPKS]
- Beebe, J. R. (2015) The empirical study of folk metaethics. Etyka 50/2015. (Online article). Available at: http://etyka.uw.edu.pl/en/archive/empirical-study-folk-metaethics/ [SS]
- Beebe, J. R. & Sackris, D. (2016) Moral objectivism across the lifespan. Philosophical Psychology 29(6):912–29. [TD, SS]
- Bekoff, M. (2001) Social play behaviour: Cooperation, fairness, trust, and the evolution of morality. *Journal of Consciousness Studies* 8(2):81–90. Available at: https://doi.org/10.2307/1309460. [SA]
- Bergendorff, S. (2016) Kinship and human evolution: Making culture, becoming human. Lexington Books. [BV]
- Bicchieri, C. (2016) Norms in the wild: How to diagnose, measure, and change social norms. Oxford University Press. [J]]
- Blair, R. (1995) A cognitive developmental approach to morality: Investigating the psychopath. Cognition 57:1–29. [aPKS]
- Boehm, C. (2012) Moral origins: The evolution of virtue, altruism, and shame. Basic Books. [J-WvP]
- Boesch, C. (2005) Joint cooperative hunting among wild chimpanzees: Taking natural observations seriously. Behavioral and Brain Sciences 28(5):692–93.
 [aPKS]
- Böhm, R., Rusch, H. & Gürerk, Ö. (2016) What makes people go to war? Defensive intentions motivate retaliatory and preemptive intergroup aggression. *Evolution* and Human Behavior 37:29–34. [RB]
- Boyd, R. & Richerson, P. J. (2005) The origin and evolution of cultures. Oxford University Press. [aPKS, TD]
- Brewer, M. B. (1999) The psychology of prejudice: Ingroup love or outgroup hate? Journal of Social Issues 55:429–44. [RB]
- Brown, S. L., Nesse, R. M., Vinokur, A. D. & Smith, D. M. (2003) Providing social support may be more beneficial than receiving it: Results from a prospective study of mortality. *Psychological Science* 14:320–27. [MJP]
- Buckley, C. (2007) Man is rescued by stranger on subway tracks. The New York Times, January 3, 2007, p. A1. Available at: http://www.nytimes.com/2007/01/ 03/nyregion/03life.html. [T]]
- Buhl, T. (1999) Positive-negative asymmetry in social discrimination: Meta-analytical evidence. Group Processes & Intergroup Relations 2:51–58. [RB]
- Bullinger, A. F., Melis, A. P. & Tomasello, M. (2011) Chimpanzees, Pan troglodytes, prefer individual over collaborative strategies towards goals. Animal Behaviour 82:1135–41. [aPKS]
- Burkhardt, J. M., Allon, O., Amici, F., Fichtel, C., Finkenwirth, A., Heschl, A., Huber, J., Isler, K., Kosonen, Z. K., Martins, E., Meulman, E. J., Richiger, R., Rueth, K., Spilmann, B., Wiesendanger, S. & van Schaik, C. P. (2014) The evolutionary origin of human hyper-cooperation. *Nature Communications* 5: article no. 4747. doi: 10.1038/ncomms5747. [aPKS]
- Callaghan, T., Moll, H., Rakoczy, H., Warneken, F., Liskowski, U., Behne, T. & Tomasello, M. (2011) Early social cognition in three cultural contexts. Monographs of the Society for Research in Child Development 76:vii–viii, 1–142. [aPKS]
- Caprara, G. V. & Steca, P. (2005) Self-efficacy beliefs as determinants of prosocial behavior conducive to life satisfaction across ages. *Journal of Social and Clinical Psychology* 24:191–217. [M]P]
- Chapman, H. A., Kim, D. A., Susskind, J. M. & Anderson, A. K. (2009) In bad taste: Evidence for the oral origins of moral disgust. Science 323(5918):1222–26. [IW]
- Cheney, D. L. (2011) Extent and limits of cooperation in animals. Proceedings of the National Academy of Sciences USA 108(Suppl. 2):10902–909. [aPKS]
- Choi, J.-K. & Bowles, S. (2007) The coevolution of parochial altruism and war. Science 318:636–40. [RB]
- Chudek, M. & Henrich, J. (2011) Culture–gene coevolution, norm-psychology and the emergence of human prosociality. Trends in Cognitive Sciences 15(5):218– 26. [TD]
- Cialdini, R. B. & Kenrick, D. T. (1976) Altruism as hedonism: A social development perspective on the relationship of negative mood state and helping. *Journal of Personality and Social Psychology* 34:907–14. [MIP]
- Cialdini, R. B., Reno, R. R. & Kallgren, C. A. (1990) A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology* 58:1015–26. [MJP]
- Clark, H. (1973) The language-as-fixed-effect fallacy: A critique of language statistics in psychological research. *Journal of Verbal Learning and Verbal Behavior* 12:335–59. Available at: http://dx.doi.org/10.1016/s0022-5371(73)80014-3. [JT]
- Cohen, E. (2012) The evolution of tag-based cooperation in humans: The case for accent. Current Anthropology 53(5):588–616. Available at: https://doi.org/10. 1086/667654. [TH]
- Cooper, R., DeJong, D. V., Forsythe, R. & Ross, T. W. (1996) Cooperation without reputation: Experimental evidence from Prisoner's Dilemma games. Games and Economic Behavior 12(2):187–218. [MJP]
- Damasio, A. (2012) Self comes to mind: Constructing the conscious brain. Vintage Books. [BV]

References

[The BBS paper source for each reference is indicated by the author's name initials given in square brackets after the reference. The letters "a" and "r" before author's initials in square brackets stand for target article and response references, respectively]

- Aharoni, E., Sinott-Armstrong, W. & Kiehl, K. A. (2012) Can psychopathic offenders discern moral wrongs? A new look at the moral/conventional distinction. *Journal of Abnormal Psychology* 121:484–97. [aPKS]
- Allen, C. & Bekoff, M. (2005) Animal play and the evolution of morality: An etho
 - logical approach. Topoi 24(2):125–35. Available at: https://doi.org/10.1007/s11245-005-5050-8. [SA]
- Apicella, C. L., Marlowe, F. W., Fowler, J. H. & Christakis, N. A. (2012) Social networks and cooperation in hunter-gatherers. *Nature* 481(7382):497–501. [J]
- Baayen, R. H., Davidson, D. J. & Bates, D. M. (2008) Mixed-effects modeling with crossed random effects for subjects and items. *Journal of Memory and Language* 59:390–412. Available at: http://dx.doi.org/10.1016/j.jml.2007.12.005.
 [TT]
- Balliet, D., Mulder, L. B. & Van Lange, P. A. (2011) Reward, punishment, and cooperation: A meta-analysis. Psychological Bulletin 137:594–615. [SP, rPKS]
- Barkoczi, D. & Galesic, M. (2016) Social learning strategies modify the effect of network structure on group performance. *Nature Communications* 7: article no. 13109. doi:10.1038/ncomms13109. [JJ]
- Bar-Tal, D. (2000) Shared beliefs in a society. Sage. [BV]
- Batson, C. D., Thompson, E. R., Seuferling, G., Whitney, H. & Strongman, J. A. (1999) Moral hypocrisy: Appearing moral to oneself without being so. *Journal of Personality and Social Psychology* 77:525–37. [J-WvP]
- Baumard, N., André, J.-B. & Sperber, D. (2013) A mutualistic approach to morality: The evolution of fairness by partner choice. *Behavioral and Brain Sciences* 36:59–122. [arPKS]

- Darwall, S. (2006) The second-person standpoint: Morality, respect, and accountability. Harvard University Press. [CI-M, rPKS]
- Darwin, C. (1871) The descent of man, and selection in relation to sex. John Murray. [aPKS]
- Decety, J. (2010) The neurodevelopment of empathy in humans. Developmental Neuroscience 32(4):257–67. [AK]
- De Leersnyder, J., Boiger, M. & Mesquita, B. (2013) Cultural regulation of emotion: Individual, relational, and structural sources. *Frontiers in Psychology* 4, Article 55:1–11. (Online article). [BV]
- Dennett, D. (1995) Darwin's dangerous idea. Simon and Schuster. [aPKS]
- Derex, M. & Boyd, R. (2016) Partial connectivity increases cultural accumulation within groups. *Proceedings of the National Academy of Sciences USA* 113:2982–87. [II]
- DeScioli, P. & Kurzban, R. (2009) Mysteries of morality. Cognition 112:281–99.
 [aPKS, J-WvP]
- DeScioli, P. & Kurzban, R. (2013) A solution to the mysteries of morality. Psychological Bulletin 139:477–96. [aPKS]
- De Waal, F. (1996) Good natured: The origins of right and wrong in humans and other animals. Harvard University Press. [aPKS, [Z]]
- De Waal, F. (2006) Primates and philosophers: How morality evolved, ed. J. Ober & S. Macedo. (Includes commentaries by R. Wright, C. Korsgaard, P. Kitcher, & P. Singer.) Princeton University Press. [aPKS]
- Dondi, M., Simion, F. & Caltran, G. (1999) Can newborns discriminate between their own cry and the cry of another newborn infant? *Developmental Psychology* 35(2):418–26. [AK]
- Dubreuil, B. (2010) Punitive emotions and norm violations. Philosophical Explorations 13(1):35–50. [BV]
- Dunbar, R. I. M. (1996) Grooming, gossip and the evolution of language. Harvard University Press. [aPKS]
- Dunbar, R. I. M. (2004) Gossip in evolutionary perspective. Journal of General Psychology 8:100–10. [aPKS]
- Dunn, E., Aknin, L. & Norton, M. (2014) Prosocial spending and happiness: Using money to benefit others pays off. Current Directions in Psychological Science 23:41–47. [M[P]
- Edgerton, R. (1992). Sick societies. Free Press. [DR, rPKS]
- Ellemers, N. (2012) The group self. Science 336:848-52. [BV]
- Ellemers, N., Spears, R. & Doosje, B. (2002) Self and social identity. Annual Review of Psychology 53:161–86. [BV]
- Emler, N. (1990) A social psychology of reputation. European Journal of Social Psychology 1:171–93. [aPKS]
- Emler, N. (1994) Gossip, reputation, and social adaptation. In: *Good gossip*, ed. R. F. Goodman & A. Ben-Ze'ev, pp. 117–38. Kansas University Press. [aPKS]
- Emler, N. (2001) Gossiping. In: The new handbook of language and social psychology, ed. W. P. Robinson & H. Giles, pp. 317–38. John Wiley. [aPKS]
- Engel, C. (2011) Dictator games: A meta study. Experimental Economics 14:583–610. [T]]
- Enquist, M. & Leimar, O. (1993) The evolution of cooperation in mobile organisms. Animal Behaviour 45:747–57. [aPKS]
- Epley, N. & Dunning, D. (2000) Feeling "holier than thou": Are self-serving assessments produced by errors in self- or social prediction. *Journal of Per*sonality and Social Psychology 79:861–75. [aPKS]
- Fehl, K., van der Post, D. J. & Semmann, D. (2011) Co-evolution of behaviour and social network structure promotes human cooperation. *Ecology Letters* 14 (6):546–51. [JJ]
- Fehr, E. & Fischbacher, U. (2003) The nature of human altruism. Nature 425:785–91. [aPKS]
- Fletcher, G., Warneken, F. & Tomasello, M. (2012) Differences in cognitive processes underlying the collaborative activities of children and chimpanzees.

 *Cognitive Development 27:136–53. [aPKS]
- Foot, P. (1972) Morality as a system of hypothetical imperatives. The Philosophical Review 81:305–16. [SP]
- Fortes, M. (1969) Kinship and the social order: The legacy of Lewis Henry Morgan. Aldine. [BV]
- Frank, R. H. (1988) Passions within reason: The strategic role of the emotions. W. W. Norton. [aPKS, CJB]
- Gabennesch, H. (1990) The perception of social conventionality by children and adults. Child Development 61:2047–59. [aPKS]
- Gardner, A. & West, S. A. (2010) Greenbeards. Evolution 64(1):25–38. Available at: https://doi.org/10.1111/j.1558-5646.2009.00842.x. [TH]
- Giner-Sorolla, R. & Chapman, H. A. (2017) Beyond purity: Moral disgust toward bad character. Psychological Science 28(1):80–91. Available at: https://doi.org/ 10.1177/0956797616673193. [IW]
- Ginsborg, H. (2014) Kant's aesthetics and teleology. In: The Stanford encyclopedia of philosophy, Fall 2014 Online edition, ed. E. N. Zalta. Metaphysics Research Lab, Center for the Study of Language and Information, Stanford University. Available at: https://plato.stanford.edu/entries/kant-aesthetics/. [CI-M]

- Gintis, H., Smith, E. & Bowles, S. (2001) Costly signaling and cooperation. *Journal of Theoretical Biology* 213(1):103–19. Available at: https://doi.org/10.1006/jtbi. 2001.2406. [TH]
- Goodwin, G. P. & Darley, J. M. (2008) The psychology of meta-ethics: Exploring objectivism. Cognition 106:1339–66. Available at: http://dx.doi.org/10.1016/j. cognition.2007.06.007. [arPKS, TD, SP, AWS, SS, JT]
- Goodwin, G. P. & Darley, J. M. (2010) The perceived objectivity of ethical beliefs: Psychological findings and implications for public policy. *Review of Philosophy and Psychology* 1:161–88. Available at: http://dx.doi.org/10.1007/s13164-009-0013-4. []T]
- Goodwin, G. P. & Darley, J. M. (2012) Why are some moral beliefs perceived to be more objective than others? *Journal of Experimental Social Psychology* 48 (1):250–56. Available at: http://dx.doi.org/10.1016/j.jesp.2011.08.006. [arPKS, TD. GPG, IT]
- Gould, S. J. & Lewontin, R. C. (1979) The spandrels of San Marco and the Panglossian paradigm: A critique of the adaptationist programme. Proceedings of the Royal Society of London B: Biological Sciences 205(1161):581–98. Available at: http://doi.org/10.1098/rspb.1979.0086. [CI-M]
- Graham, J., Haidt, J. & Nosek, B. A. (2009) Liberals and conservatives rely on different sets of moral foundations. *Journal of Personality and Social Psychology* 96:1029–46. [J-WvP]
- Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S. & Ditto, P. H. (2011) Mapping the moral domain. *Journal of Personality and Social Psychology* 101 (2):366–85. Available at: http://dx.doi.org/10.1037/a0021847. [JT]
- Gray, K. & Schein, C. (2016) No absolutism here: Harm predicts moral judgment 30× better than disgust – Commentary on Scott, Inbar, & Rozin (2016). Perspectives on Psychological Science 11:325–29. [MJP]
- Gray, K., Schein, C. & Ward, A. F. (2014) The myth of harmless wrongs in moral cognition: Automatic dyadic completion from sin to suffering. *Journal of Experimental Psychology: General* 143:1600–15. [MJP]
- Gray, K., Young, L. & Waytz, A. (2012) Mind perception is the essence of morality. Psychological Inquiry 23:101–24. [RB]
- Greene, J. (2013) Moral tribes: Emotion, reason, and the gap between us and them. Penguin. [JZ]
- Guala, F. (2012) Reciprocity: Strong or weak? What punishment experiments do (and do not) demonstrate. Behavioral and Brain Sciences 35(1):1–15. [aPKS]
- Haidt, J. (2001) The emotional dog and its rational tail. Psychological Review $108.814-34.~[\mathrm{JZ}]$
- Haidt, J. (2007) The new synthesis in moral psychology. Science 316:998–1002. [JZ]
 Haidt, J. & Joseph, C. (2004) Intuitive ethics: How innately prepared intuitions generate culturally variable virtues. Daedalus 133(4):55–66. [SA]
- Haid, J. & Joseph, C. (2007) The moral mind: How five sets of innate intuitions guide the development of many culture-specific virtues, and perhaps even modules. *The Innate Mind* 3:367–91. Available at: https://doi.org/10.1093/ acprof:oso/9780195332834.003.0019. [SA]
- Haidt, J., Koller, S. H. & Dias, M. G. (1993) Affect, culture, and morality, or is it wrong to eat your dog? *Journal of Personality and Social Psychology* 65:613–28. [aPKS, MIP]
- Halevy, N., Bornstein, G. & Sagiv, L. (2008) "In-group love" and "out-group hate" as motives for individual participation in intergroup conflict: A new game paradigm. *Psychological Science* 19:405–11. [RB]
- Haley, K. J. & Fessler, D. M. T. (2005) Nobody's watching? Subtle cues affect generosity in an anonymous economic game. Evolution and Human Behavior 26(3):245–56. Available at: https://doi.org/10.1016/j.evolhumbehav.2005.01. 002. [TH, J-WvP]
- Halperin, E., Russell, A. G., Dweck, C. S. & Gross, J. J. (2011) Anger, hatred, and the quest for peace: Anger can be constructive in the absence of hatred. *Journal of Conflict Resolution* 55:274–91. [RB]
- Hamann, K., Warneken, F., Greenberg, J. R. & Tomasello, M. (2011) Collaboration encourages equal sharing in children but not in chimpanzees. *Nature* 476:328– 31. [aPKS]
- Hamilton, W. D. (1964a) The genetical evolution of social behaviour. I. Journal of Theoretical Biology 7:1–16. [T]
- Hamilton, W. D. (1964b) The genetical evolution of social behaviour. II. Journal of Theoretical Biology 7:17–52. [TJ]
- Hamlin, J. K., Mahajan, N., Liberman, Z. & Wynn, K. (2013) Not like me=bad: Infants prefer those who harm dissimilar others. *Psychological Science* 24:589–94. [aPKS]
- Hamlin, J. K., Wynn, K. & Bloom, P. (2007) Social evaluation by preverbal infants. Nature 450:557–59. [aPKS]
- Haney, C., Banks, C. & Zimbardo, P. (1972) Interpersonal dynamics in a simulated prison. *International Journal of Criminology and Penology* 1:69–97. [TH]
- Hardin, C. D. & Higgins, E. T. (1996) Shared reality: How social verification manes the subjective objective. In: *Handbook of motivation and cognition*, vol. 3, ed. R. M. Sorrentino & E. T. Higgins, pp. 28–84. Guilford Press. [BV]
- Hare, B. (2017) Survival of the friendliest: Homo sapiens evolved via selection for prosociality. Annual Review of Psychology 68:155–86. [JJ]

- Hare, B. & Tomasello, M. (2004) Chimpanzees are more skillful in competitive than in cooperative cognitive tasks. Animal Behaviour 68:571–81. [aPKS]
- Haslam, N. (2006) Dehumanization: An integrative review. Personality and Social Psychology Review 10:252–64. [RB]
- Haviland, J. B. (1977) Gossip as competition in Zinacantan. Journal of Communication 27:186–91. [aPKS]
- Henrich, J. (2004) Demography and cultural evolution: How adaptive cultural processes can produce maladaptive losses-the Tasmanian case. American Antiquity 69:197–214. [J]
- Henrich, J. (2009) The evolution of costly displays, cooperation and religion: Credibility enhancing displays and their implications for cultural evolution. *Evolution and Human Behavior* 30(4):244–60. Available at: https://doi.org/10.1016/j.evolhumbehav.2009.03.005. [SA]
- Henrich, J. (2016) The secret of our success: How culture is driving human evolution, domesticating our species, and making us smarter. Princeton University Press. [JJ]
- Henrich, J., Heine, S. J. & Norenzayan, A. (2010) The weirdest people in the world? Behavioral and Brain Sciences 33(2):61–135. [aPKS]
- Hill, K. R., Walker, R. S., Božičević, M., Eder, J., Headland, T., Hewlett, B., Hurtado, A. M., Marlowe, F., Wiessner, P. & Wood, B. (2011) Co-residence patterns in hunter-gatherer societies show unique human social structure. Science 331(6022):1286–89. [J]]
- Hoffman, D. D. (2009) The interface theory of perception: Natural selection drives true perception to swift extinction. In: Object categorization: Computer and human vision perspectives, ed. S. Dickinson, M. Tarr, A. Leonardis & B. Schiele, pp. 148–65. Cambridge University Press. [AK]
- Hofmann, W., Wisneski, D. C., Brandt, M. J. & Skitka, L. J. (2014) Morality in everyday life. Science 345(6202):1340–43. Available at: https://doi.org/10.1126/ science.1251560. [SA]
- Hooker, C. (2013) On the import of constraints in complex dynamical systems. Foundations of Science 18(4):757–80. [JJ]
- Horner, V., Carter, J. D., Suchak, F. & de Waal, F. B. M. (2011) Spontaneous prosocial choice in chimpanzees. Proceedings of the National Academy of Sciences USA 108:13847–51. [aPKS]
- Hrdy, S. (2009) Mothers and others: The evolutionary origins of mutual understanding. Harvard University Press. [J]]
- Hume, D. (1738/1975) A treatise of human nature, ed. L. A. Selby-Bigge, rev. P. H. Nidditch, Clarendon Press. [SP, [Z]
- Isler, K. & Van Schaik, C. P. (2012) How our ancestors broke through the gray ceiling: Comparative evidence for cooperative breeding in early *Homo. Current Anthropology* 53(Suppl. 6):S453–65. []]]
- Iyer, R., Koleva, S., Graham, J., Ditto, P. & Haidt, J. (2012) Understanding libertarian morality: The psychological dispositions of self-identified libertarians. PLoS ONE 7(8):e42366. Available at: http://dx.doi.org/10.1371/journal.pone. 0042366. [JT]
- Jansen, V. A. A. & van Baalen, M. (2006) Altruism through beard chromodynamics. Nature 440(7084):663–66. Available at: https://doi.org/10.1038/nature04387.
- Jebari, J. (in preparation) Empirical moral rationalism and the social constitution of normativity. [[]]
- Jensen, K., Hare, B., Call, J. & Tomasello, T. (2006) What's in it for me? Self-regard precludes altruism and spite in chimpanzees. Proceedings of the Royal Society of London, Series B 273:1013–21. [aPKS]
- Johnson, T. & Smirnov, O. (2012) An alternative mechanism through which economic inequality facilitates collective action: Wealth disparities as a sign of cooperativeness. *Journal of Theoretical Politics* 24:461–84. [TJ]
- Johnson, T. & Smirnov, O. (2013) Cooperate with equals: A simple heuristic for social exchange. In: Simple heuristics in a social world, ed. R. Herwig, U. Hoffrage & the ABC Research Group, pp. 135–70. Oxford University Press.
 [T]
- Jordan, J. J., Hoffman, M., Bloom, P. & Rand, D. G. (2016) Third-party punishment as a costly signal of trustworthiness. *Nature* 530(7591):473–76. Available at: https://doi.org/10.1038/nature16981. [TH]
- Jordan, J. J., Sommers, R., Bloom, P. & Rand, D. G. (2017) Why do we hate hypocrites? Evidence for a theory of false signaling. *Psychological Sciences* 28:356–68. [aPKS]
- Joyce, R. (2006) The evolution of morality. MIT Press. [arPKS, AK, JZ] $\,$
- Judd, C. M., Westfall, J. & Kenny, D. A. (2012) Treating stimuli as a random factor in social psychology: A new and comprehensive solution to a pervasive but largely ignored problem. *Journal of Personality and Social Psychology* 103:54–69. Available at: http://dx.doi.org/10.1037/a0028347. [JT]
- Kahneman, D. (2011) Thinking, fast and slow. Farrar, Straus and Giroux. [JZ]
 Kant, I. (1790/1987) Kritique der Urtailskraft [Critique of judgment], ed. W. Pluhar.
 Hackett. (Original work published in 1790; Hackett English edition in 1987).
- Kaznatcheev, A. (2010) Robustness of ethnocentrism to changes in interpersonal interactions. In: Papers from the AAAI Fall Symposium (FS-10-03): Complex Adaptive Systems – Resilience, Robustness, and Evolvability, pp. 71–75.

- Association for the Advancement of Artificial Intelligence. Available as pdf file at: https://www.aaai.org/ocs/index.php/FSS/FSS10/paper/download/2314/2630 [AK]
- Kaznatcheev, A., Montrey, M. & Shultz, T. R. (2014) Evolving useful delusions: Subjectively rational selfishness leads to objectively irrational cooperation. Proceedings of the 36th Annual Meeting of the Cognitive Science Society 36:731–36. (Online article published in April 2014; available at: arXiv:1405.0041v1 [q-bio.PE]). [AK]
- Kelly, D. (2011) Yuck! The nature and moral significance of disgust. MIT Press. [IW, rPKS]
- Kelly, D. & Stich, S. (2007) Two theories of the cognitive architecture underlying morality. In: The innate mind, vol. 3: Foundations and future horizons, ed. P. Carruthers, S. Laurence & S. Stich, pp. 348–66. Oxford University Press. [TD]
- Kelly, D., Stich, S., Haley, K. J., Eng, S. J. & Fessler, D. M. T. (2007) Harm, affect, and the moral/conventional distinction. *Mind and Language* 22:117–31. Available at: http://dx.doi.org/10.1093/acprof:oso/9780199733477.003.0013. [aPKS, SP, SS, JT]
- Kim, H. S. & Sasaki, J. Y. (2012) Emotional regulation: The interplay of culture and genes. Social and Personality Psychology Compass 6(12):865–77. [BV]
- Kinzler, K. D., Dupoux, E. & Spelke, E. S. (2007) The native language of social cognition. Proceedings of the National Academy of Sciences USA 104:12577–80. [aPKS]
- Kline, M. A. (2015) How to learn about teaching: An evolutionary framework for the study of teaching behavior in humans and other animals. *Behavioral and Brain Sciences* 38(1):1–71. [aPKS]
- Klucharev, V., Hytönen, K., Rijpkema, M., Smidts, A. & Fernández, G. (2009) Reinforcement learning signal predicts social conformity. Neuron 61:140–51. [J]
- Klucharev, V., Munneke, M., Smidts, A. & Fernández, G. (2011) Downregulation of the posterior medial frontal cortex prevents social conformity. *Journal of Neu*roscience 31:11934–40. [J]]
- Kumar, V. (2015) Moral judgment as a natural kind. Philosophical Studies 172:2887–910. doi: 10.1007/s11098-015-0448-7. [SS]
- Lane, D. R. M, Maxfield, D., Read, D. & van der Leeuw, S. (2009) From population to organization thinking. In: Complexity perspectives in innovation and social change, ed. D. Lane, D. Pumain, S. E. van der Leeuw & G. West, pp. 11–42. Springer. [BV]
- Leaf, M. & Read, D. (2012) Human thought and social organization: Anthropology on a new plane. Lexington Press. [BV]
- LeDoux, J. (2012) Rethinking the emotional brain. Neuron 73(4):653-76. [BV]
- Leidner, B. & Castano, E. (2012) Morality shifting in the context of intergroup violence. European Journal of Social Psychology 42:82–91. [RB]
- Machery, E. (2012) Delineating the moral domain. Baltic International Yearbook of Cognition, Logic and Communication 7:1–14. Available at: http://dx.doi.org/ 10.4148/biyelc.v7i0.1777. [SP]
- Machery, E. (2018) Morality: A historical invention. In: Atlas of moral psychology, ed. K. Gray & J. Graham, pp. 259–65. Guilford Press. [SP]
- Machery, E. & Mallon, R. (2010) Evolution of morality. In: The moral psychology handbook, ed. J. M. Doris & the Moral Psychology Research Group, pp. 3–46. Oxford University Press. [SP]
- MacIntyre, A. (1957) What morality is not. Philosophy 32:325-35. [SS]
- Mahajan, N. & Wynn, K. (2012) Origins of "us" versus "them": Prelinguistic infants prefer similar others. Cognition 124:227–33. [aPKS]
- Marsh, A. A., Stoycos, S. A., Brethel-Haurwitz, K. M., Robinson, P., VanMeter, J. W. & Cardinale, E. M. (2014) Neural and cognitive characteristics of extraordinary altruists. Proceedings of the National Academy of Sciences USA 111(42):15036–41. Available at: https://doi.org/10.1073/pnas.1408440111. [SA]
- Maynard Smith, J. (1982) Evolution and the theory of games. Cambridge University Press. [JPB]
- McElreath, R., Boyd, R. & Richerson, P. J. (2003) Shared norms and the evolution of ethnic markers. Current Anthropology 44(1):122–30. Available at: https://doi. org/10.1086/345689. [IW]
- Melis, A. P., Altricher, K. & Tomasello, M. (2013) Allocation of resources to collaborators and free-riders in 3-year-olds. *Journal of Experimental Child Psychology* 114:364–70. [aPKS]
- Melis, A. P., Schneider, A.-C. & Tomasello, M. (2011a) Chimpanzees, Pan troglodytes, share food in the same way after collaborative and individual food acquisition. Animal Behaviour 82:485–93. [aPKS]
- Melis, A. P. & Semmann, D. (2010) How is human cooperation different? Philosophical Transactions of the Royal Society of London, B: Biological Sciences 365:2663–74. [aPKS]
- Melis, A. P., Warneken, F., Jensen, K., Schneider, A., Call, J. & Tomasello, M. (2011b) Chimpanzees help conspecifics to obtain food and non-food items. *Philosophical Transactions of the Royal Society of London, Series B* 278:1405–13. [aPKS]
- Milgram, S. & Sabini, J. (1978) On maintaining urban norms: A field experiment in the subway. Advances in Environmental Psychology 1:31–40. [JJ]
 Millikan, R. (2002) Varieties of meaning. MIT Press. [AWS]

- Moll, H. & Tomasello, M. (2007) Cooperation and human cognition: The Vygotskian intelligence hypothesis. *Philosophical Transactions of the Royal Society B* 362:639–48. [aPKS]
- Montague, R. (2006) Why choose this book? Dutton Press. [JJ]
- Muthukrishna, M., Shulman, B. W., Vasilescu, V. & Henrich, J. (2014) Sociality influences cultural complexity. Proceedings of the Royal Society of London B: Biological Sciences 281(1774):e20132511. doi: 10.1098/rspb.2013.2511. [JJ]
- Nado, J., Kelly, D. & Stich, S. (2009) Moral judgment. In: The Routledge companion to the philosophy of psychology, ed. J. Symons & P. Calvo, pp. 621–33. Routledge. [TD]
- Nelissen, R. M. A. & Meijers, M. H. C. (2011) Social benefits of luxury brands as costly signals of wealth and status. *Evolution and Human Behavior* 32:343–55.
 [T]]
- Nichols, S. (2004) Sentimental rules: On the natural foundations of moral judgment. Oxford University Press. [aPKS, JZ]
- Nichols, S. (2014) Process debunking and ethics. $\it Ethics$ 124:727–49. [IW]
- Nichols, S. & Folds-Bennett, T. (2003) Are children moral objectivists? Children's judgments about moral and response-dependent properties. Cognition 90(2): B23–32. Available at: http://dx.doi.org/10.1016/s0010-0277(03)00160-4. [aPKS, AK, EO, SP, JT]
- Nisan, M. (1987) Moral norms and social conventions: A cross-cultural comparison. Developmental Psychology 23:719–25. [aPKS]
- Nisbett, R. E. & Wilson, T. D. (1977) Telling more than we can know. *Psychological Review* 84:231–59. [JZ]
- Nowak, M. A. (2006) Five rules for the evolution of cooperation. Science 314:1560–63. [MJP]
- Nucci, L. P. (1986) Children's conceptions of morality, social convention, and religious prescription. In: Moral dilemmas: Philosophical and psychological reconsiderations of the development of moral reasoning, ed. C. Harding, pp. 137–74. Precedent Press. [aPKS]
- Ohtsubo, Y. & Watanabe, E. (2009). Do sincere apologies need to be costly? Test of a costly signaling model of apology. Evolution and Human Behavior 30(2):114–23. Available at: https://doi.org/10.1016/j.evolhumbehav.2008.09.004. [TH]
- Ohtsuki, H., Hauert, C., Lieberman, E. & Nowak, M. A. (2006) A simple rule for the evolution of cooperation on graphs. *Nature* 441(7092):502–505. [JJ]
- O'Neill, E. & Machery, E. (forthcoming) What is the normative sense? Cross cultural evidence. In: *Routledge handbook of moral epistemology*, ed. A. Zimmerman, K. Jones & M. Timmons. Routledge. [SP]
- Parker, M. T. & Janoff-Bulman, R. (2013) Lessons from morality-based social identity: The power of outgroup "hate," not just ingroup "love." Social Justice Research 26:81–96. [RB]
- Poulin, M. J. (2014) Volunteering predicts health among those who value others: Two national studies. *Health Psychology* 33:120–29. [MJP]
- Poulin, M. J., Brown, S. L., Dillard, A. J. & Smith, D. M. (2013) Giving to others and the association between stress and mortality. American Journal of Public Health 103:1649–55. [M]P]
- Poulin, M. J. & Holman, E. A. (2013) Helping hands, healthy body? Oxytocin receptor gene and prosocial behavior interact to buffer the association between stress and physical health. Hormones and Behavior 63:510–17. [MJP]
- Povinelli, D. J. (2000) Folk physics for apes: The chimpanzee's theory of how the world works. Oxford University Press. [aPKS]
- Prinz, J. (2007) The emotional construction of morals. Oxford University Press. [JZ] Quintelier, K., De Smet, D. & Fessler, D. (2014) Agent versus appraiser moral relativism: An exploratory study. In: Advances in experimental moral psychology, ed. H. Sarkissian & J. Wright, pp. 209–30. Bloomsbury. [SS]
- Rakoczy, H. (2007) Play, games, and the development of collective intentionality. New Directions for Child and Adolescent Development 2007(115):53–67. Available at: https://doi.org/10.1002/cad. [SA]
- Rakoczy, H. & Tomasello, M. (2007) The ontogeny of social ontology: Steps to shared intentionality and status functions. In: *Intentional acts and institutional* facts, ed. S. L. Tsohatzidis, pp. 113–37. Springer. [SA]
- Rand, D. G. (2016) Cooperation, fast and slow: Meta-analytic evidence for a theory of social heuristics and self-interested deliberation. *Psychological Science* 27:1192–206. [MIP]
- Rand, D. G., Arbesman, S. & Christakis, N. A. (2011) Dynamic social networks promote cooperation in experiments with humans. Proceedings of the National Academy of Sciences USA 108(48):19193–98. [JJ]
- Rand, D. G., Peysakhovich, A., Kraft-Todd, G. T., Newman, G. E., Wurzbacher, O., Nowak, M. A. & Greene, J. D. (2014) Social heuristics shape intuitive cooperation. *Nature Communications* 5: article 3677. doi:10.1038/ncomms4677. [T]
- Read, D. (2012) How culture makes us human. Left Coast Press. [BV]
- Read, D., Lane, D. & van der Leeuw, S. (2009) The innovation innovation. In: Complexity perspectives in innovation and social change, ed. D. Lane, D. Pumain, S. E. van der Leeuw & G. West, pp. 43–84. Springer. [BV]
- Reber, R. & Norenzayan, A. (in press) Shared fluency theory of social cohesiveness:

 How the metacognitive feeling of processing fluency contributes to group
 processes. In: *Metacognitive diversity*, ed. J. Proust & M. Fortier. Oxford
 University Press. []]]

- Reia, S. M., Herrmann, S. & Fontanari, J. F. (2017) Impact of centrality on cooperative processes. *Physical Review E* 95(2):022305. (Online article). Available at: https://doi.org/10.1103/PhysRevE.95.022305 [II]
- Rossano, M. J. (2012) The essential role of ritual in the transmission and reinforcement of social norms. *Psychological Bulletin* 138(3):529–49. Available at: https://doi.org/10.1037/a0027038. [SA]
- Roth-Hanania, R., Davidov, M. & Zahn-Waxler, C. (2011) Empathy development from 8 to 16 months: Early signs of concern for others. *Infant Behavior and Development* 34(3):447–58. [AK]
- Rozin, P. & Fallon, A. E. (1987) A perspective on disgust. Psychological Review 94 (1):23–41. [IW]
- Rozin, P. & Haidt, J. (2013) The domains of disgust and their origins: Contrasting biological and cultural evolutionary accounts. *Trends in Cognitive Sciences* 17(8):367–68. Available at: https://doi.org/10.1016/j.tics. 2013.06.001. [IW]
- Sarkissian, H. (2016) Aspects of folk morality: Objectivism and relativism. In: A companion to experimental philosophy, ed. J. Sytsma & W. Buckwalter, pp. 212–24. Wiley Blackwell. [SS]
- Sarkissian, H., Park, J., Tien, D., Wright, J. C. & Knobe, J. (2011) Folk moral relativism. Mind and Language 26:482–505. [arPKS, SP, SS]
- Schein, C., Ritter, R. S. & Gray, K. (2016) Harm mediates the disgust-immorality link. *Emotion* 16:862–76. [MJP]
- Schmidt, M. F., Gonzalez-Cabrera, I. & Tomasello, M. (2017) Children's developing metaethical judgments. *Journal of Experimental Child Psychology* 164:163–77. [AK]
- Schulz, A. (2011) The adaptive importance of cognitive efficiency: An alternative theory of why we have beliefs and desires. *Biology and Philosophy* 26(1):31–50.
 [AWS]
- Schulz, A. (2013) The benefits of rule following: A new account of the evolution of desires. Studies in History and Philosophy of Science, Part C: Studies in History and Philosophy of Biological and Biomedical Sciences 44(4, Part A):595–603.
- Schulz, A. (2018) Efficient cognition: The evolution of representational decision making. MIT Press. [AWS]
- Schurz, M., Radua, J., Aichhorn, M., Richlan, F. & Perner, J. (2014) Fractionating theory of mind: A meta-analysis of functional brain imaging studies. *Neuroscience and Biobehavioral Reviews* 42:9–34. Available at: http://dx.doi.org/ 10.1016/j.neubiorev.2014.01.009. [JT]
- Silk, J. B., Brosnan, S. F., Vonk, J., Henrich, J., Povinelli, D. J., Richardson, A. S., Lambeth, S. P., Mascaro, J. & Schapiro, S. J. (2005) Chimpanzees are indifferent to the welfare of unrelated group members. *Nature* 437:1357–59. [aPKS]
- Silk, J. B. & House, B. R. (2011) Evolutionary foundations of prosocial sentiments.

 *Proceedings of the National Academy of Sciences USA 108(Suppl. 2):10910–17.

 [apKS]
- Skitka, L. J., Bauman, C. W. & Sargis, E. G. (2005) Moral conviction: Another contributor to attitude strength or something more? *Journal of Personality and Social Psychology* 8:895–917. [arPKS, SP]
- Skyrms, B. (1996) Evolution of the social contract. Cambridge University Press. [aPKS, AWS]
- Skyrms, B. (2004) The Stag Hunt and the evolution of social structure. Cambridge University Press. [AWS]
- Smetana, J. (2006) Social-cognitive domain theory: Consistencies and variations in children's moral and social judgments. In: *Handbook of moral development*, ed. M. Killen & J. Smetana, pp. 119–53. Erlbaum. [aPKS, JT]
- Sober, E. & Wilson, D. S. (1998) Unto others: The evolution and psychology of unselfish behavior. Harvard University Press. [AWS]
- Southwood, N. (2011) The moral/conventional distinction. Mind 120(479):761–802. [EO]
- Sperber, D. & Baumard, N. (2012). Moral reputation: An evolutionary and cognitive perspective. Mind and Language 27(5):495–518. Available at: https://doi.org/ 10.1111/mila.12000. [TH]
- Spradley, J. P. & Mann, B. J. (1975) The cocktail waitress: The woman's work in a man's world. Wiley. [BV]
- Sripada, C. & Stich, S. (2007) A framework for the psychology of norms. In: The innate mind: Culture and cognition, ed. P. Carruthers, S. Laurence & S. Stich, pp. 280–301. Oxford University Press. [TD]
- Stanford, P. K. (2017) Bending towards justice. Philosophy of Science 84:369–78.
 [aPKS]
- Sterelny, K. (2003) Thought in a hostile world: The evolution of human cognition. Wiley-Blackwell. [AWS]
- Sterelny, K. (2012) The evolved apprentice: How evolution made humans unique. MIT Press. [aPKS, [j]]
- Stich, S. (forthcoming) The quest for the boundaries of morality. In: The Routledge handbook of moral epistemology, ed. K. Jones, M. Timmons & A. Zimmerman. Routledge. [SS]
- Struch, N. & Schwartz, S. H. (1989) Intergroup aggression: Its predictors and distinctness from in-group bias. *Journal of Personality and Social Psychology* 56:364–73. [RB]

- Suchak, M., Eppley, T. M., Campbell, M. W. & de Waal, F. B. M. (2014) Ape duos and trios: Spontaneous cooperation with free partner choice in chimpanzees. *PeerJ* 2:e417. (Online journal). Available at: http://dx.doi.org/10.7717/peerj.417. [aPKS]
- Suchak, M., Eppley, T. M., Campbell, M. W., Feldman, R. A., Quarles, L. F. & de Waal, F. B. M. (2016) How chimpanzees cooperate in a competitive world. Proceedings of the National Academy of Sciences USA 113:10215–20. [aPKS]
- Theriault, J., Waytz, A., Heiphetz, L. & Young, L. (2017) Examining overlap in behavioral and neural representations of morals, facts, and preferences. *Journal of Experimental Psychology: General* 146(3):305–17. Available at: http://dx.doi.org/10.1037/xge0000350. [JT]
- Theriault, J., Waytz, A., Heiphetz, L. & Young, L. (under review) Theory of mind network activity is associated with metaethical judgment: An item analysis. PsyArXiv, Available at: http://dx.doi.org/10.17605/OSF.IO/GB5AM. [JT]
- Thielmann, I. & Böhm, R. (2016) Who does (not) participate in intergroup conflict? Social Psychological and Personality Science 7:778–87. [RB]
- Thompson, C., Barresi, J. & Moore, C. (1997) The development of future-oriented prudence and altruism in preschoolers. *Cognitive Development* 12:199–212. [APKS]
- Tisak, M. S. & Turiel, E. (1988) Variation in seriousness of transgressions and children's moral and conventional concepts. *Developmental Psychology* 24:352– 57. Available at: http://dx.doi.org/10.1037/0012-1649.24.3.3521. [JT]
- Tomasello, M. (2009) Why we cooperate. MIT Press. [aPKS, JJ]
- Tomasello, M. (2016) A natural history of human morality. Harvard University Press. [aPKS, EO]
- Tomasello, M., Hare, B., Lehman, H. & Call, J. (2007) Reliance on head versus eyes in the gaze following of great apes and human infants: The cooperative eye hypothesis. *Journal of Human Evolution* 52:314–20. [aPKS]
- Traulsen, A. & Nowak, M. A. (2007) Chromodynamics of cooperation in finite populations. PLoS ONE 2(3):e270. Available at: https://doi.org/10.1371/journal. pone.0000270. [TH]
- Turiel, E. (1983) The development of social knowledge: Morality and convention. Cambridge University Press. [aPKS, SP, [T]
- Turiel, E., Killen, M. & Helwig, C. (1987) Morality: Its structure, functions, and vagaries. In: The emergence of morality in young children, ed. J. Kagan & S. Lamb, pp. 155–243. University of Chicago Press. [aPKS]
- Uhlmann, E. L., Pizarro, D. A. & Diermeier, D. (2015) A person-centered approach to moral judgment. Perspectives on Psychological Science 10(1):72–81. Available at: https://doi.org/10.1177/1745691614556679. [SA]
- Van Bavel, J. J., Packer, D. J., Haas, I. J. & Cunningham, W. A. (2012) The importance of moral construal: Moral versus non-moral construal elicits faster, more extreme, universal evaluations of the same actions. *PLoS ONE* 7(11):e48693. Available at: https://doi.org/10.1371/journal.pone.0048693. [SA]
- Van Cleve, J. & Akçay, E. (2014) Pathways to social evolution: Reciprocity, relatedness, and synergy. Evolution 68:2245–58. [TJ]
- Van Overwalle, F. (2009) Social cognition and the brain: A meta-analysis.

 *Human Brain Mapping 30:829–58. Available at: http://dx.doi.org/10.1002/hbm.20547. [[T]]
- Voorhees, B., Read, D. & Gabora, L. (2018) Identity, kinship, and the evolution or cooperation. (Preprint, research project paper). Available at:

- $\label{lem:https://www.researchgate.net/project/Identity-Kinship-and-Evolution-of-Cooperation~[BV]$
- Wainryb, C., Shaw, L. S., Langley, M., Cottam, K. & Lewis, R. (2004) Children's thinking about diversity of belief in the early school years: Judgments of relativism, tolerance, and disagreeing persons. *Child Development* 75:687–703. Available at: http://dx.doi.org/10.1111/j.1467-8624.2004.00701.x. [JT]
- Warneken, F., Lohse, K., Melis, A. & Tomasello, M. (2011) Young children share the spoils after collaboration. Psychological Science 22:267–73. [aPKS]
- Warneken, F. & Tomasello, M. (2006) Altruistic helping in human infants and young chimpanzees. Science 311:1301–303. [aPKS]
- Warneken, F. & Tomasello, M. (2007) Helping and cooperation at 14 months of age. Infancy 11:271–94. [aPKS]
- Watanabe, J. M. & Smuts, B. B. (1999) Explaining religion without explaining it away: Trust, truth, and the evolution of cooperation in Roy A. Rappaport's "The Obvious Aspects of Ritual." American Anthropologist 101(1):98–112. Available at: https://doi.org/10.1525/aa.1999.101.1.98. [SA]
- Waytz, A., Young, L. L. & Ginges, J. (2014) Motive attribution asymmetry for love vs. hate drives intractable conflict. Proceedings of the National Academy of Sciences USA 111:15687–92. [RB]
- Weisel, O. & Böhm, R. (2015) "Ingroup love" and "outgroup hate" in intergroup conflict between natural groups. *Journal of Experimental Social Psychology* 60:110–20. [RB, rPKS]
- Wellman, H., Cross, D. & Watson, J. (2001) Meta-analysis of theory-of-mind development: The truth about false-belief. Child Development 72:655–84. [AK]
- Westfall, J., Kenny, D. A. & Judd, C. M. (2014) Statistical power and optimal design in experiments in which samples of participant respond to samples of stimuli. *Journal of Experimental Psychology: General* 143:2020–45. Available at: http://dx.doi.org/10.1037/xge0000014. [[T]
- Wierzbicka, A. (2007) Moral sense. Journal of Social, Evolutionary, and Cultural Psychology 1:66–85. [SP]
- Wilkins, A. S., Wrangham, R. W. & Fitch, W. T. (2014) The "domestication syndrome" in mammals: A unified explanation based on neural crest cell behavior and genetics. *Genetics* 197(3):795–808. [JJ]
- Wittgenstein, L. (1983) Remarks on the foundations of mathematics. MIT Press. [TD]
- Wrangham, R. (2009) Catching fire: How cooking made us human. Basic Books. [JJ] Wright, J. C., Grandjean, P. T. & McWhite, C. B. (2013) The meta-ethical grounding of our moral beliefs: Evidence for meta-ethical pluralism. Philosophical Psychology 26:336–61. [aPKS, TD]
- Wright, J. C., McWhite, C. B. & Grandjean, P. T. (2014) The cognitive mechanisms of intolerance: Do our meta-ethical commitments matter? In: Oxford studies in experimental philosophy, vol. 1, ed. T. Lombrozo, S. Nichols & J. Knobe, pp. 28–61. Oxford University Press. [aPKS, TD]
- Young, L. & Durwin, A. J. (2013) Moral realism as moral motivation: The impact of meta-ethics on everyday decision-making. *Journal of Experimental Social Psy*chology 49:302–306. [aPKS]
- Zangwill, N. (2014) Aesthetic judgment. In: The Stanford encyclopedia of philosophy, Fall 2014 Online edition, ed. E. N. Zalta. Metaphysics Research Lab, Center for the Study of Language and Information, Stanford University. Available at: https://plato.stanford.edu/entries/aesthetic-judgment/. [CI-M]