

HONORS 2030.02: "Evolution and Biology of Morality"

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This is an introductory course in the current research into the biological underpinnings and evolutionary origins of morality. The course is interdisciplinary, combining psychology, biology, neuroscience, and philosophy. The course should be both an introduction to cutting-edge research and a chance to revisit perennial questions.

Now we won't discuss any specific moral issues, that is, arguments for and against any issue. Rather, we'll discuss how humans evolved the capacity to form moral judgments and to be motivated about moral issues.

Another way to put it is that the course is not moral philosophy (the analysis of arguments for and against positions in moral issues), but moral psychology (the psychological mechanisms at work in any sort of moral argument).

We take an anthropological, psychological, and biological viewpoint: objectively (philosophically and scientifically) looking at what humans do in discussing moral issues, rather than discussing the issues themselves.

BASIC VIEWPOINT

The basic viewpoint is that humans are bio-cultural: we have evolved to be open to our cultural imprinting, or in other words, our nature is to have our nurture become second nature. Obviously, cultures vary widely in content; but I think basic child development practices converge across cultures so that the default setting is that people are pro-social.

Pro-social means that most people are not just coerced into following rules, or rationally convinced that following rules pays off in the long run, but are (also) emotionally invested in the patterns of their society: they are happy when the patterns are followed and angry or sad when they are broken. So, pro-social does not mean "nice," since it also involves the willingness of people to punish those who break social rules. The preliminary definition of "prosocial" we'll use is "complex cooperative altruistic behavior that reinforces intra- and inter-generational social patterns, produced by a mix of internal and external motivations, and including punishment of non-conformity."

Now this gets complicated in at least two ways: 1) why do some people buy into systems that hurt them so that they act against what would otherwise be seen as their self-interest? And 2) what about people who aren't emotionally involved in

their cultures? So, at the end of the course, we'll have to talk about "ideology," the classic way to explain interest-discordant behavior (forecast: I don't completely buy either the notion of "interest-discordant behavior" if that "interest" is defined purely economically, nor the usual overly-cognitive notion of "ideology"), and we'll have to talk about psychopaths, who may learn to follow rules, but aren't emotionally attuned to social rules.

We'll also talk about the relationship between intuition and reason. In some clear-cut cases, you can see right away when someone follows or breaks a social rule. But in other cases, you need to discuss it with people: "is that a good or bad thing to do?" We'll talk about how experience shapes those intuitions and the arguments we find convincing. There's always the chance that we find an argument convincing because it accords with the intuitions that have been shaped by our experience. But then there's also the chance that people can have their intuitions changed by argument, or by having new experiences, meeting new people, moving to a new place, etc.

GETTING STARTED

If you need a quick tour of basic biological concepts, start here:

http://www.protevi.com/john/Morality/Intro_lecture_1.pdf

and

http://www.protevi.com/john/Morality/Intro_lecture_2.pdf

Once you have that under your belt, here are some nice pieces to get us going:

Gould, Stephen J. 1988. Kropotkin was no crackpot. *Natural History* 97.7.

<https://www.marxists.org/subject/science/essays/kropotkin.htm>

Cooperation as well as competition in natural selection.

Fuentes, Agustín. 2009. A New Synthesis. *Anthropology Today* 25.3: 12-17.

The takeaway concepts here are epigenetics (outside-in modulation of gene expression), plasticity (outside-in neural and behavioral constitution), and niche construction (inside-out AND outside-in relations between organism and environment, especially as the built environment modifies the learning of succeeding generations and in the long run, the selection pressures).

MacKinnon, Katherine and Fuentes, Agustín. 2011. Primates, Niche Construction, and Social Complexity: The Roles of Social Cooperation and Altruism.

https://www.academia.edu/859594/Primates_niche_construction_and_social_complexity_The_roles_of_social_cooperation_and_altruism

Introduction to the issues of altruism in evolutionary perspective.

Definitions we'll use in the evolution of altruism / prosociality discussion.

1. Fitness = descendants living to reproductive age.

2. Altruism = helping behavior with a fitness cost (direct risk to life and limb, but also just time spent away from mate selection, child raising, resource provision, etc.). Self-sacrifice is a dramatic example, but it can be less than that. Further, prosocial and 3rd party punishment [punishing X for violating a norm affecting non-kin person Y] carries risks: you could start a feud; you eliminate a potential ally, ...
3. Kin selection, reciprocal altruism, mutualism, and indirect altruism are ways of explaining helping behavior that appears to be altruistic, but has hidden benefits that balance out (or outweigh) the fitness costs.
 - a. Kin selection: costly helping behavior that helps genes in kin to survive ("I would sacrifice myself for two brothers or for 8 cousins.")
 - b. Reciprocal altruism: aid given back to donor by recipient with time delay ("I'll scratch your back if you scratch mine.")
 - c. Mutualism: working together so that immediate benefits (at end of successfully completed task) accrue to all parties compensating for any costs. ("Hey, let's all go hunting this woolly mammoth.")
 - d. Indirect altruism: aid given to donor by a third party (due to reputation gained by altruistic acts) ("Scratch an 'altruist,' watch a hypocrite bleed.")
 - e. Sexual selection (qua mate preference vs male arms race): altruism as predictor of genetic quality. "Costly signaling": "think how much energy I have if I can waste it like this."
 - f. Social selection: reforming or getting rid of free-riders and bullies, up to and including capital punishment.
4. Prosocial: "complex cooperative altruistic behavior that reinforces intra- and inter-generational social patterns, produced by a mix of internal and external motivations, and including punishment of non-conformity."

EVOLUTIONARY PSYCHOLOGY

Barker, Gillian. 2015. *Beyond Biofatalism: Human Nature for an Evolving World*. Columbia University Press. 978-0231171885

Karmiloff-Smith, Annette. 2012. From Constructivism to Neuroconstructivism: The Activity-Dependent Structuring of the Human Brain. In E. Martí & C. Rodríguez (eds), *After Piaget*. New Jersey: Transaction Publishers.

Evolutionary Psychology (EP) has been an important, and highly controversial, trend in thinking about humans for 40 years or more. Among the key claims is that contemporary humans experience a mismatch between our space-age world and our "stone-age minds." We will get into the details when we read Barker and Karmiloff-Smith, but that slogan more-or-less means that EP claims we have inherited a human nature composed of a set of dispositions to develop gender-distinct behavior patterns in mate choice, aggression, competition, and other areas, such that these dispositions both conflict with some of the political ideals of the contemporary world, and set limits to what can be done to achieve those ideals. Against this idea of a relatively fixed nature conflicting with the contemporary

world, Barker will emphasize that behavior emerges from “complex organism-environment interactions” by means of plasticity and niche-construction.

Supplementary reading:

My notes on McKinnon’s polemic against EP:

<http://www.protevi.com/john/Morality/McKinnon.pdf>

On the specific notion of neuroplasticity (in addition to Karmiloff-Smith):

Buller and Hardcastle 2000:

http://www.niu.edu/phil/~buller/publications/_pdf/epmdn.pdf

Bruce Wexler, *Brain and Culture* (MIT, 2006): Notes at

<http://www.protevi.com/john/Morality/Wexler.pdf>

1. Our sociality and our brain structure / function have co-evolved, such that humans have evolved for a long period (though young adulthood) of intense socially mediated neuroplasticity (Wexler 16; 142). In fact, the most socially sensitive plastic parts of the human brain are precisely the ones whose proportions relative to other brain structures distinguish humans compared to other primates (e.g., frontal and parietal lobes, involved in decision making, impulse control, etc.). (31; 105).
2. However, this neuroplasticity is relatively reduced in adulthood. In a formula, children need sensorimotor and social stimulation to form neuropsychological structures, while adults look to shape their world and / or at least to select input that reinforces previously generated structures, since they operate on a consonance = pleasure / dissonance = pain principle.
3. This difference in neuroplasticity sheds light on generational conflict, bereavement and immigrant experience, and social conflict

WAR AND PEACE

Was war a selection pressure for altruism / prosociality?

Introductory reading: Protevi 2013: <http://www.protevi.com/john/APSA2013.pdf>

1. Was warfare enough of presence in pre-history for it to be a selection pressure for inherited tendencies toward prosocial behaviors in humans?
2. Or is it instead restricted to certain post-State societies (hence tied in with the appearance of agriculture, urban settlements, and hierarchical societies with specialized military forces?)
3. The next few segments follow up on sub-questions on war and peace.

CHIMPANZEE RAIDING

Does the phenomenon of chimpanzee raids (5 or 6 males will ambush lone chimps from another group at border zones between territories) provide “deep roots” to human warfare?

Wrangham, Richard. 1999. Evolution of Coalitionary Killing. *Yearbook of Physical Anthropology* 42:1–30

Roscoe, Paul. 2007. Intelligence, Coalitional Killing, and the Antecedents of War. *American Anthropologist* 109.3: 485–495, DOI: 10.1525/AA.2007.109.3.485.

Debate in *Scientific American* on adaptation vs human impact as explanations of chimpanzee raiding: <https://blogs.scientificamerican.com/cross-check/anthropologist-finds-flaw-in-claim-that-chimp-raids-are-8220-adaptive-8221/>

HUMAN SELF-DOMESTICATION

Within groups the majority of humans are really quite remarkably easy-going in the vast majority of public personal-level interactions. (The violent ones stand out in our mind, but just ask yourself when was the last time someone caught some hands while walking in the quad? However, note that the lack of conflict in most daily public personal-level interaction doesn’t take into account domestic violence or structural violence.) How did this sort of peaceable behavior evolve, considering chimps, with whom we share an ancestor, are quite ready to fight within groups? And what does that have to do with bonobos, with whom we also share an ancestor?

Hare, Brian. 2017. Survival of the Friendliest: Homo Sapiens Evolved via Selection for Prosociality. *Annual Review of Psychology* 68:24.1–24.32

Boehm, Christopher. 2012. Ancestral Hierarchy and Conflict. *Science*. 336 (6083): 844-847.

Gonzalez-Cabrera, Ivan. Forthcoming. On social tolerance and the evolution of human normative guidance. *The British Journal for the Philosophy of Science*.

ORIGINS OF HUMAN WARFARE

What is the significance of the difference between personalized violence (“you killed my father, prepare to die”) and anonymous group violence?

Kelly, Raymond. 2005. The Evolution of Lethal Intergroup Violence. *Proceedings of the National Academy of Science* 102.43: 15294–15298, doi: 10.1073/pnas.0505955102

Sterelny, Kim. 2014. Cooperation, Culture, and Conflict. *British Journal for the Philosophy of Science* 67.1: 1-28.

FROM TRIBE TO STATE

The most common form of human social organization was the egalitarian nomadic forager band. How did we get from there to hierarchically organized states?

Norenzayan, A., Shariff, A., Gervais, W., Willard, A., McNamara, R., Slingerland, E., & Henrich, J. (2016). The cultural evolution of prosocial religions. *Behavioral and Brain Sciences*, 39. doi:10.1017/S0140525X14001356

Gaus, Gerald. 2015. The Egalitarian Species. *Social Philosophy and Policy* 31.2:1-27.

EVOLVED MORAL SENTIMENTS: FAIRNESS AND PUNISHMENT; SYMPATHY AND EMPATHY

Fehr, Fischbacher & Gechter (2002). Strong reciprocity, human cooperation and the enforcement of social norms. *Human Nature*, 13(1): 1-25

Ostrom, Elinor. 2005. Policies that Crowd out Reciprocity and Collective Action. In Herbert Gintis, Samuel Bowles, Robert Boyd, and Ernst Fehr, *Moral Sentiments and Material Interests: The Foundations of Cooperation in Economic Life*. Cambridge MA: MIT Press, 2005: 253-275.

Van der Weele, Cor. 2011. Empathy's purity, sympathy's complexities; De Waal, Darwin and Adam Smith. *Biology & Philosophy*, 26.4 583–593.
<http://doi.org/10.1007/s10539-011-9248-4>

It might surprise you to see I include empathy under "biology of morality," but from our bio-cultural perspective that makes sense.

Supplementary reading:

- Maia Szalavitz and Bruce Perry, *Born for Love: How Empathy is Essential and Endangered*. Notes here: <http://www.protevi.com/john/Morality/Born4Love.pdf>
- van Anders for some nuance about oxytocin, which doesn't simply make people feel good about helping others, but actually intensifies social emotions – so it might lead to increased punishment of rule / pattern violators.

[https://www.academia.edu/3668801/Beyond Oxytocin Good Neural complexities and the flipside of social bonds](https://www.academia.edu/3668801/Beyond_Oxytocin_Good_Neural_complexities_and_the_flipside_of_social_bonds)

- Heyes on the associative (experience-based) theory of mirror neurons.
<http://www.all-souls.ox.ac.uk/users/heyesc/Celia's%20pdfs/1%202010%20Heyes%20NBR.pdf>

1. Empathy is the ability to care about other people, for the sake of those people.
 - a. We will distinguish empathy from two other sorts of feeling:
 - i. Emotional contagion (the way emotions can spread among people, especially infants);
 - ii. Sympathy (feeling something that someone else does).
 - b. We'll also distinguish helping motivated by empathy (helping them for their sake, because they need help) from helping motivated by stress relief (helping someone to alleviate the bad feeling you have from their distress via emotional contagion or sympathy).

THE BIG PICTURE

Tomasello, Michael. 2016. *A Natural History of Human Morality*. Harvard UP. 978-0674088641. Hardcover, \$34.98.

CONCLUSION

We'll conclude with some short pieces to tie up loose ends.

- On "ideology" <http://www.protevi.com/john/SEP16Aug.pdf>
- Hirstein and Sifferd on psychopaths:
https://www.academia.edu/4031593/The_Significance_of_Psychopaths_for_Ethical_and_Legal_Reasoning