

# The Risky Adventure of *Homo Caritas*: The Evolutionary Story of Adaptive Cooperation and Love

Christian Early

## Introduction

This paper addresses an issue that eventually faces any ethic. Given its emphasis on enemy love, this is particularly an issue that an Anabaptist ethics faces in the current academic and cultural discourse: namely, the relationship of the ethic to available conceptions of what it means *biologically* to be human. Alasdair MacIntyre, in his *Dependent Rational Animals*, argues that no ethic is adequate if it does not at some point also make contact with philosophical anthropology and biology.<sup>1</sup> A lack of contact between ethics and anthropology constitutes an inadequacy, because the ethic will not be able to explain how humans, embodied as we are, can become the kind of persons envisaged by the ethic. It will consequently lack an intelligible developmental account of the transition between who-we-are and who-we-ought-to-become. The ethic proposed may simply be an idealistic fantasy, perhaps relatively harmless on its own, but it will always be vulnerable to being manipulated politically and used as a form of social control or sedation.<sup>2</sup> Much is at stake for those committed to the claim that the Kingdom of God is a this-world human reality—that the real overcoming of divisions of enmity which happens *now* in gathered Jesus-following community is a sign of what the whole world will be *then*.

Many current images of what it means to be human are problematic from this ethical position, but one popular scientific image is especially so: it proposes that the story of biological life as such is governed by a competitive logic—a self-centered, rational (cost/benefit) calculation—with

---

<sup>1</sup> Alasdair MacIntyre, *Dependent Rational Animals: Why Human Beings Need the Virtues* (Peru, IL: Open Court, 1999). We should add psychology here.

<sup>2</sup> This is stated in the extreme. There is an argument for the inherent value of projecting ideals such as love or peace, even if unattainable, in that ideals function to make the world less cruel. As good as this sounds, the ideal would still be vulnerable to manipulation.

the aim of reproductive success, or survival.<sup>3</sup> This particular philosophical biology/anthropology creates a problem for an ethic of love, because love does not follow the rules of a self-centered calculation. Love is dyadic. Love is not motivated by calculation; it is motivated by connection. Love is a relational dynamic, in which the other is seen and valued, from which behavior flows. It de-centers the subject as a standpoint from which to perform ethical reasoning. It is often embodied in action that is sacrificial. From the perspective of the competitive story of biological life, however, love is irrational unless it can be made indirectly to conform to a selfish logic. Contesting this conclusion, I wish to explore a conception of love as part of the adaptive and cooperative logic of life and thereby reclaim for it evolutionary intelligibility.<sup>4</sup>

It is possible to meet the claims of the competitive philosophical biology/anthropology philosophically and theologically,<sup>5</sup> but in this paper I want to meet the claims on their own turf by interrogating two doctrines that most often support it: the reductionist metaphysics of gene-centrism, and the behavioral logic of competition. In the case of gene-centrism, I will provide reasons to conclude that organisms play a far more active role in evolution than previously imagined, and that it is the organisms and their phenotypically enabled way of life—preserved and passed on through capacities encoded in their genetic makeup—which ultimately face the pressures of natural selection. As the metaphors of the gene and organism relationship become less reductionist and more causally bi-directional and behaviorally improvisational, so also the underlying theme of the story of evolution becomes less dominated by a deterministic drive to reproduction on the part of genes, and more characterized by adaptive adventure on the part of organisms and their struggle to continue their way of life in creative,

---

<sup>3</sup> Most scientists recognize a complex co-existence of competitive and cooperative strategies running throughout life. It may therefore be objected that I am engaging a straw man. I disagree. First, not long ago (forty years or so), cooperation was thought to be of limited importance (social insects, birds, primates, and humans) and not general to life itself. This assumption has only very recently been recognized. Second, significant intellectual work continues to attempt to explain cooperative behavior in terms of competition.

<sup>4</sup> I am not saying love always makes sense; I am saying it makes evolutionary sense.

<sup>5</sup> See Mary Midgley, *The Solitary Self: Darwin and the Selfish Gene* (New York: Routledge, 2014).

co-evolutionary conversation with their niche.

In the case of competition, I look at what has been called “the problem of altruism.” I will suggest that we have been in the grips of a figure-ground perceptual grouping that has misled us in our “just so” account of the story of life. From the competitive point of view, altruism is irrational because it is associated behaviorally with all costs and no benefits. Intense intellectual effort has been devoted to folding altruism into a logic conforming to the sociobiological story of life—thus “kin,” “reciprocal,” and “competitive” altruism, and so on—since Edward O. Wilson defined altruism as the core problem for sociobiology forty years ago.<sup>6</sup>

Acknowledging that there is both competition and cooperation at the behavioral level, what if we do not fold cooperation into a competitive framework? What if, instead, we understand life as adaptively cooperative? Exact phrasing is difficult here, but what if we say that life “instinctively” risks reaching out to explore and to connect in order to stay alive? Would it not make more sense of what we actually see—male frogs carrying tadpoles on their backs, birds building nests together, chimpanzees reconciling after a fight, and humans helping strangers?

Such a philosophical biology would allow us to construct an account of human bodied existence that can, without too much stretching, make contact with a Jesus-oriented ethics of enemy love while retaining a prophetic edge against the equally human tendency to project and enforce in-group/out-group distinctions (an ethics of the tribe). It would allow us to talk about human beings as “finite, erotic creatures,”<sup>7</sup> or as I suggest, *Homo caritas*. It would help us to see that being human together does not necessarily entail a quest for reproductive, territorial expansion, but rather—truer to being bodied human—involves setting out on a risky adventure together, crossing the walls that divide us (rich/poor, male/female, Jew/Greek) and taking up love as a way of life: that is, following in the way of Jesus and inviting the kingdom of God to come on earth as it is in heaven.

What is at stake here are two alternative ethics, each with its own philosophical biology/anthropology: an ethics of the (genetic) tribe, with its

---

<sup>6</sup> See E.O. Wilson, *Sociobiology: The New Synthesis* (Cambridge, MA: Belknap Press, 1975).

<sup>7</sup> Jonathan Lear, *Radical Hope: Ethics in the Face of Cultural Devastation* (Cambridge, MA: Harvard Univ. Press, 2006), 119.

reproductive protection and expansion, and an ethics of love, with its risky, boundary-crossing adventure. One claims to be natural, forcing the other to claim to be “spiritual.” But once we notice that risky, boundary-crossing love is natural too, and that the human being is best understood as *Homo caritas*, we can reject that unhelpful dualism as well as the incoherence that results from affirming both. Love is a risky adventure, and to unhook it from the logic of reproduction is to open up a space for ethical thinking outside the confines of the tribe from which we can acknowledge, for example, gay and lesbian love *as* love (and not as a reproductive strategy mistake or a direct violation of divine ordinance). This seems especially important, given the current conversation concerning sexuality in our churches.

### **Getting Clear About Cooperation**

I take adaptive cooperation to be the central behavioral strategy of life. Without adaptive cooperation, molecules would not “team up” together, and consequently there could not be complex molecular strands, cells, multicellularity, and complex organisms with nervous systems and brains—the “evolutionary transitions in individuality.”<sup>8</sup> Because I am challenging deeply held fundamental assumptions in philosophical biology, I must clarify what I am arguing.

First, I am not questioning natural selection, which is a reality of life on earth. While the earth supports an amazingly diversity of life, to be alive *is* a struggle, resources *are* limited, and living things *do* die—sometimes whole populations with their ways of life go extinct. Natural selection does *not* require competition; however, it requires variation and elimination.

Second, I wish to attend to the subtle sleight-of-hand way in which a competitive survival story moves from “is” to “ought.” We start by calling the fact that some organisms relative to other organisms survive a condition of (indirect) competition. From there, it is a short step to say that the organisms survive *because* of their (direct) competitive behavior.

---

<sup>8</sup> See Richard Michod and Matthew Herron, “Cooperation and Conflict During Evolutionary Transitions in Individuality,” *Journal of Evolutionary Biology* 19 (2006): 1406-09. Competitivists have a problem explaining evolutionary transition from individual parts to a greater organic whole. It requires a suspension of each individual competitive logic long enough to create a new, larger individual which then can sustain a new competitive logic on the part of the greater whole.

Completing the transition, we then say that the best chance any organism has of survival is (normatively) to *be* competitive. The relatively low-to-the-ground description of a situational setting has become an imperative for action (compete or go extinct!)—an ethical Athena springing fully armored and ready for battle from Zeus’s head.

If we go back to the original description, however, it is just as accurate to say that some organisms make it whereas others do not because they are better able to adapt to their environmental conditions. These assertions are not equivalent. In the second telling of the story, adaptation, not competition, is the focus of attention. The facts are the same—not all organisms make it (and there can be many reasons for that)—but the plot-driver is different and, most important, the two tellings imply a different imperative: “adapt or die,” and “compete or die.”<sup>9</sup>

I will further clarify my position by mentioning two possible counterexamples to my broad claim for adaptation and cooperation: predation and parasitism. Two populations are said to be competing when they both rely on the same limited resources (food, water, and territory) for survival. Given this definition, predation is *not* an example of competition since, for example, cheetahs and gazelles do not compete for the same limited resources (one is the food source of the other) except perhaps that they drink from the same water source. There is even a sense in which the predator-prey relationship is “cooperative” as a result of their co-evolution. Similarly, parasites do not compete with their host, even if they are life-threatening to it. Moreover, some parasites have developed a symbiotic relationship with their host—engaging the host in an adaptive cooperative conversation. But even parasites that do not develop cooperative traits are not in competition with the host.<sup>10</sup>

---

<sup>9</sup> Some call this difference “aesthetic.” I prefer the language of “story” because it involves an implied ethic. See Scott Gilbert and David Epel, *Ecological Developmental Biology: The Environmental Regulation of Development, Health, and Evolution*, 2nd ed. (Sunderland, MA: Sinauer Associates, 2015). I thank an anonymous reviewer for this reference.

<sup>10</sup> See Andrew Weeks et al., “From Parasite to Mutualist: Rapid Evolution of *Wolbachia* in natural populations of *Drosophila*,” *PLoS Biol* 5:5 e114 (2007), accessed May 3, 2017. When two populations find themselves in direct competition, often an adaptation will make room for both populations (niche displacement). If a population cannot adapt, it will very likely die out eventually.

### Organisms as Actively Adaptive Agents

Several lines of evidence suggest that the relationships connecting genes, the organism, and its habitat are characterized by bi-directional feedback loops that disturb the causal bottom-up reduction to the gene. One recent line of evidence explores phenotypic plasticity. Briefly put, *same* organisms that develop *different* morphologies and behaviors in response to differing environment are “phenotypically plastic.” Phenotypic plasticity provides for greater adaptiveness in changing environments. It is heritable, which is why it is suggested as a potentially important mechanism facilitating macro-evolution.<sup>11</sup>

Mary Jane West-Eberhard, who studies developmental plasticity and evolution, recommends that we recognize the role of organisms in evolution—specifically, that we see evolution as an instance of adaptation in which organisms take the active lead.<sup>12</sup> Instead of thinking of genes using organisms, she suggests thinking of organisms using their genes to preserve core capacities—what an organism is and what it can do in the world—for perpetuation of their way of life in a particular environment. Organisms, all the way down to gene expression, adapt to environmental changes (“genetic accommodation”) and in turn learn how to shape their environment in ways that favor habitation. In short, they work *with* their environment, adapting to it and shaping it to make it more habitable. Organisms construct a way of life in a niche, and over time a dynamic, extended two-way conversation emerges between organisms and their niche about the conditions of life.

Evolution scientist John Odling-Smee calls this shaping of the environment “niche-construction.” Niche-construction directly impacts the chances of survival for an organism’s offspring (the better an organism is at niche-construction, the better its offspring’s chances).<sup>13</sup> If niche-construction is performed by organisms, not their genes, and the capacity to construct a niche is directly related to survival, then it seems more accurate to say it is

---

<sup>11</sup> See Carl D. Schlichting and Matthew A. Wund, “Phenotypic Plasticity and Epigenetic Marking: An Assessment of Evidence for Genetic Accommodation,” *Evolution* 68, no. 3 (2014): 656-72.

<sup>12</sup> See Mary Jane West-Eberhard, *Developmental Plasticity and Evolution* (Oxford: Oxford Univ. Press, 2003).

<sup>13</sup> See John Odling-Smee, *Niche Construction: The Neglected Process in Evolution* (Princeton, NJ: Princeton Univ. Press, 2003).

the *organism* and its *way of life* that survives through its offspring, not the gene. Ultimately, that is what faces selective pressure.<sup>14</sup>

Biologists Marc Kirschner and John Gerhart point out that if we follow the evolutionary path from the bacterium-like common ancestor to the present display of living biodiversity, we find curiously repeated episodes of great biological innovation.<sup>15</sup> New genes and proteins arise during these brief periods of innovation, and afterwards the components and processes seem to settle into a prolonged period of conservation. This narrative pattern of brief innovation and prolonged conservation is surprising, because it suggests that genetic mutation, which is supposedly constant and random, may not be the sole driver of variation. If it were, there would be a more gradual and consistent production of diversity. It is curious that genetic mutation producing viable biological innovation seems to happen only in brief periods. It would make sense to see the organism as somehow participating actively in the evolutionary process of biological innovation. Kirschner and Gerhart call this “facilitated variation.”<sup>16</sup>

Even if we do not yet know the precise mechanisms of facilitated variation, once we acknowledge that organisms are active in their own biological innovation, then the history of evolution conjures up different metaphors than selection determined by competition for resources. The history of evolution in effect becomes a creative story of the ability of

---

<sup>14</sup> Niche construction has generated an active conversation with some push-back. See, for example, the dialogue between Kevin Laland et al. and Gregory Wray et al. in “Does evolutionary theory need a rethink?” *Nature* 514 (2014): 161-64; T.C. Scott-Phillips et al., “The niche-construction perspective – a critical appraisal,” *Evolution* 68 (2014): 1231-43; E.D. Brodie III, “Caution: niche construction ahead,” *Evolution* 59 (2005): 249-51; Richard Dawkins, “Extended Phenotype – But Not *Too* Extended. A Reply to Laland, Turner and Jablonka,” *Biology and Philosophy* 19 (2004): 377-96.

<sup>15</sup> Marc Kirschner and John Gerhart, *The Plausibility of Life: Resolving Darwin’s Dilemma* (New Haven, CT: Yale Univ. Press, 2005). The theory of evolution includes variation and selection. Darwin could explain selection, but his dilemma, as Kirschner and Gerhart understand it, was explaining innovation and variation. Although genetics provides important clues about inheritance, the question remains: “how can small, random genetic changes be converted into complex useful innovations?” (ix). Solving the problem of innovation then becomes very important for evolutionary theory.

<sup>16</sup> “Facilitated variation” is strikingly similar to theoretical biologist Mary Jane West-Eberhard’s “adaptive evolution,” but Kirschner and Gerhart arrive at their notion by addressing the problem of biological innovation and variation, which they call “Darwin’s dilemma.”

living things to converse with, adapt to, and shape their world, given the constraints of finite resources and changing environments. This story sees organisms as active agents in their world and in their own evolution, not as passive instruments of genes. This goes a long way to explain the rich diverse variation we see.<sup>17</sup>

Philosopher Massimo Pigliucci and biologist Gerd Müller incorporate this story as a central element of what they call the “extended synthesis” of evolutionary theory.<sup>18</sup> In their view, the extended synthesis overcomes three significant restrictions of the “modern synthesis” (an established concept in contemporary biology): *gradualism* (focusing on gradual changes because of the way the population-dynamic formalism was understood and the inability to account for non-gradual change); *externalism* (focusing entirely on natural selection to realize adaptation through differential reproduction, and thus not seeing the role of the organism); and *gene-centrism* (focusing on genes as the sole agent of variation and unit of inheritance, and thus not recognizing *multi-causal* evolutionary factors acting on the properties of organismal systems such as development and environment).

Of all these, overcoming gene-centrism may be the most significant. Pigliucci and Müller summarize the extended synthesis as

[T]he view of “genes as followers” in the evolutionary process, ensuring the routinization of developmental interactions, the faithfulness of their inheritance, and the progressive fixation of phenotypic traits that were initially mobilized through plastic responses of adaptive developmental systems to changing

---

<sup>17</sup> I do not mean to suggest that organisms are conscious agents, but merely that they can solve problems raised in the course of living intelligently. There is a lot of ground in between mechanical stimulus-response and conscious agency.

<sup>18</sup> Massimo Pigliucci and Gerd B. Müller, *Evolution—The Extended Synthesis* (Cambridge, MA: MIT Press, 2010). The term ‘extended synthesis’ is meant to distinguish it from the ‘modern synthesis,’ which brings together ideas from several biological fields and provides an account of evolution widely accepted as the current paradigm, and to signal that concepts such as evolvability or new fields of research such as EvoDevo are not already understood as part of the ‘modern’ synthesis. For corroborating views, see James Shapiro, *Evolution: A View from the 21st Century* (Upper Saddle River, NJ: FT Science Press, 2011), and Sheldon Krimsky and Jeremy Gruber, eds., *Genetic Explanations: Sense and Nonsense* (Cambridge, MA: Harvard Univ. Press, 2013).



environmental conditions. In this way, evolution progresses through the capture of emergent interactions into genetic-epigenetic circuits, which are passed to and elaborated on in subsequent generations.<sup>19</sup>

According to currently available evidence, genes play a supporting role to the organism by accommodating, capturing, and passing on capacities for interactions with the environment to the next generation, thus perpetuating an organism's way of life.

### **Cooperation and Evolution: The Risk of Life**

Gene-centrism is one of two doctrines that most often support the usual story of life. The other doctrine states that life is self-interestedly competitive. There seem to be several reasons for this latter doctrine. One is the theological doctrine of fallen human nature: human beings are selfish from birth, and when resources are sparse they will turn against each other. The idea finds expression in Thomas Robert Malthus, who concludes that population increases geometrically while subsistence increases only arithmetically, thus leading to increased scarcity and competition in the struggle for survival.<sup>20</sup> Adding to this analysis Darwin's understanding of natural selection, the blind process by which species go extinct, Herbert Spencer sloganized Malthus's idea as "the survival of the fittest."<sup>21</sup>

More recently, mathematics has played an important role in understanding evolution and the conditions of life, and is indeed central to the modern synthesis of evolution.<sup>22</sup> In the early 20th century, Godfrey H. Hardy devised a simple equation showing the effect of passing genes down

---

<sup>19</sup> Pigliucci and Müller, *Evolution—The Extended Synthesis*, 14.

<sup>20</sup> Thomas Malthus, *An Essay on the Principle of Population* (London: J. Johnson, 1798).

<sup>21</sup> Herbert Spencer, *Principles of Biology* (London: Williams & Norgate, 1864). In the conclusion to *Origin of Species* Darwin called it a "war of nature" (305-306), but he was much more nuanced than Spencer in his understanding of life and human beings. For example, in his *Descent of Man and Selection in Relation to Sex* (London: John Murray, 1871) Darwin suggested that human conscience was a natural extension of social instincts and affections.

<sup>22</sup> I rely here on Martin Nowak's retelling. See Martin Nowak and Roger Highfield, *SuperCooperators: Altruism, Evolution, and Why We Need Each Other to Succeed* (New York: Free Press, 2011), 15-16.

the generations in his celebrated *A Mathematician's Apology*.<sup>23</sup> His work was generalized by Wilhelm Weinberg to show the incidence of genes in a population. Biology now had a mathematical law of its own comparable to what Newton had provided for physics: the Hardy-Weinberg law. Later Ronald Fisher, J.B.S. Haldane, and Sewal Wright “put the fundamental concepts of evolution, selection, and mutation in a mathematical framework for the first time: they blended Darwin’s emphasis on individual animals competing to sire the next generation with Mendel’s studies of how distinct genetic traits are passed down from parents to offspring.”<sup>24</sup>

However, there was a problem with the laws of biology: human beings do not behave quite as the laws predict they genetically should. The link between genetic traits and behavior is not as tight as previously believed. Specifically, human generosity, cooperation, and self-sacrifice defy the core principles of competition theory. Social psychologist Donald T. Campbell and biologists Richard Alexander and Edward O. Wilson named this puzzle “the problem of altruism.”<sup>25</sup> After almost forty years of intense scrutiny, the problem has not gone away and has only become more acute. As Christopher Boehm says, “a major and growing interdisciplinary academic industry has devoted its efforts to resolving the ‘altruism paradox’—with only partial success.”<sup>26</sup>

The problem with altruism is that there is too much of it, so it seems, especially between human strangers. We may be tempted to think that altruism is a result of cultural norms learned and acquired as humans mature, but this turns out not to be the case. If altruism is a virtue acquired through internalizing social norms or through rewarding desired behavior, then young children should be selfish. However, through a series of studies

---

<sup>23</sup> Godfrey H. Hardy, *A Mathematician's Apology* (Cambridge: Cambridge Univ. Press, 1940).

<sup>24</sup> Nowak and Highfield, *SuperCooperators*, 16.

<sup>25</sup> See Donald T. Campbell, “On the genetics of altruism and the counter-hedonic component of human culture,” *Journal of Social Issues* 28 (1972): 21-37; Donald T. Campbell, “On the conflicts between biological and social evolution and between psychology and moral tradition,” *American Psychologist* 30 (1975):1103-26; Richard D. Alexander, *Darwinism and Human Affairs* (Seattle, WA: Univ. of Washington Press, 1979); Richard D. Alexander, *The Biology of Moral Systems* (New York: Aldine de Gruyter, 1987); E.O. Wilson, *Sociobiology: The New Synthesis*.

<sup>26</sup> Christopher Boehm, *Moral Origins: The Evolution of Virtue, Altruism, and Shame* (New York: Basic Books, 2012).

in which young children and chimpanzees demonstrate spontaneous and unrewarded helpfulness, social scientist Felix Warneken demonstrates that the roots of cooperation, helpfulness, and altruism go deep into our biological heritage (ontogeny and phylogeny) and cannot be accounted for solely with reference to cultural practices.<sup>27</sup>

How far back into our evolutionary heritage does cooperation go? Martin Nowak, director of an evolutionary dynamics research program at Harvard, and Roger Highfield, a chemist and science journalist, argue that it goes all the way back to “pre-life.”<sup>28</sup> Seeing this requires turning the evolutionary selection story on its head. Conventional thinking says that reproduction comes first and selection comes second, but Nowak and Highfield have shown that before life emerged, Earth generated a “complex ecosystem of cooperating molecules” and that natural selection “predates the emergence of reproduction itself.”<sup>29</sup> Within the rich chemistry of “pre-life” there would have been opportunities for cooperation and catalytic activities that would have increased rates of certain reactions. Pairs of cooperating molecules—each increasing the rate at which the other is formed—is a very plausible notion in such an ecosystem. Replication, or life, can even be thought of as pairs of cooperating molecular strands: “One strand of RNA builds a complimentary strand, and so on.”<sup>30</sup>

If this picture of pre-life is granted, then selection and cooperation predate replication. This places cooperation at the center of transition from non-life to life, and this central place continues throughout evolution. On this view, life is an achievement of adaptive cooperation through natural selection. It generates diversity by creating new specializations, niches, and divisions of labor along with multiple lines of connection and causation—in short, complexity. Adaptive cooperation makes evolution creative, open-ended, and risky. In sum, it is the story of life.

This conclusion can be supported by mathematics in game-of-life simulations such as the Prisoner’s Dilemma. Two players decide either to

---

<sup>27</sup> Felix Warneken, “The Development of Altruistic Behavior: Helping in Children and Chimpanzees,” *Social Research* 80, no. 2 (2013): 431-42.

<sup>28</sup> Nowak and Highfield, *SuperCooperators*, 117.

<sup>29</sup> *Ibid.*, 117.

<sup>30</sup> *Ibid.*, 122-23.

cooperate or defect. The game has a payoff matrix such that if both players cooperate, there is a higher payoff than if both defect, and yet there is an incentive to defect. For a little while “always defect” is a successful strategy. Soon “tit-for-tat,” in which a player first cooperates but then mirrors the actions of the other player, is highly successful. Finally, “generous tit-for-tat,” in which a player forgives a defection on the part of the other player, is the most successful strategy of all, even though populations of “always defect” and “tit-for-tat” remain.<sup>31</sup> Even if the initial strategy is selfishly competitive, eventually the search for the best strategy finds its way to cooperation—and even generous cooperation.

Given these considerations, I suggest that the “problem” of altruism is purely theoretical. We have constructed it by the way we have conceptualized the story of life in our philosophical (and theological) biology. Instead of trying to solve the problem of altruism, perhaps a more promising approach would be to *dis*-solve it. We may discover that we have been in the grip of a figure-ground model. If so, then we need a new story of life—perhaps along the lines of what Nowak and Highfield have suggested—that will explain very simply and elegantly why there is so much cooperation and altruism, as well as so much hostility and evil (the latter should be troubling us, not the former).<sup>32</sup>

### **Natural Connection: Birds, Chimpanzees, and Early Humans**

There are signs that a new theory is already emerging. Evolutionary biologist Joan Roughgarden argues for a theory of *social selection* emphasizing relational cooperativeness instead of a theory of *sexual selection* emphasizing competitive self-interestedness.<sup>33</sup> Social selection recognizes that the success of two birds building a nest together is the success of a *relationship* established between both birds: the survival of the offspring depends on the success or

---

<sup>31</sup> See Benjamin M. Zagorsky, Johannes G. Reiter, Krishnendu Chatterjee, and Martin A. Nowak, “Forgiver Triumphs in Alternating Prisoner’s Dilemma,” PLoS ONE 8(12): e80814, accessed May 3, 2017.

<sup>32</sup> See, for example, Simon Baron-Cohen, *The Science of Evil: On Empathy and the Origins of Cruelty* (New York: Basic Books, 2011). Baron-Cohen argues that evil can be explained, though not excused, as committed by persons having a lack of empathy.

<sup>33</sup> Joan Roughgarden, *The Genial Gene: Deconstructing Darwinian Selfishness* (Berkeley, CA: Univ. of California Press, 2010).

failure of the relationship. If the two birds cannot find a way to work together to build a good nest, it directly impacts the survivability of their eggs and young.

Roughgarden suggests that two birds building a nest together is a kind of household in which both birds have a shared interest, and the household is sustained by relational cooperativeness between them. Nest-building can then be seen as the achievement of the household, and this achievement resists being decomposed analytically into individual contributions since the household succeeds or fails as a whole—it is a non-zero sum game. Nest-building is the achievement of the relationship’s emergent level of agency. The old framework of sexual selection struggles to incorporate this insight, because its methodological reductionism gives it no theoretical way to recognize cooperative connections and bonds as having agency. Sexual selection theory has no way to recognize relational bonds and “friendship” between organisms; it recognizes only genetic familiarity, which is the only thing it tracks. The limits of this explanatory framework become especially apparent when it attempts to account for the remarkable phenomenon of homosexual co-parenting and adoption among birds and mammals.<sup>34</sup>

Social selection and its evolutionary story of relational connection also help to explain the otherwise very expensive development of the mammalian and human brain, which is wired to recognize, form, and maintain relational bonds. Primatologist Frans de Waal has undergone a significant shift of perspective while studying the behavior of chimpanzees. Early in his career, he wrote about competition and power politics among chimpanzees at the Arnhem Zoo in the Netherlands.<sup>35</sup> He had set out to tell an essentially Machiavellian story focusing on power and aggression, but in the midst of the unfolding political drama he kept noticing “a great need in the apes to maintain social relationships, make up after fights, and reassure

---

<sup>34</sup> See Bruce Bagemihl, *Biological Exuberance: Animal Homosexuality and Natural Diversity* (New York: St. Martin’s Press, 1999). I could have said ‘revelatory’ here. I don’t think Anabaptists have understood the biological, ethical, and theological significance of homosexuality with respect to love. It is a sign that love (especially the life of love embodied by Jesus) cannot be enclosed within the logic of reproduction and perpetuation of the tribe. Note that it is a ‘sign,’ not a ‘proof.’

<sup>35</sup> Frans de Waal, *Chimpanzee Politics: Power and Sex among Apes* (Baltimore, MD: Johns Hopkins Univ. Press, 1982).

distressed parties.”<sup>36</sup> Apes go to surprising lengths to connect socially and to repair connections.

This behavior did not fit a strictly competitive framework that allows the winner of a struggle no motivation to reconcile with the loser. It struck de Waal that perhaps a different motivational framework was needed to account for the whole political drama, and he started thinking about the role of cooperation and empathy in chimpanzee life. He began painstakingly documenting the remarkable habits of caretaking, reconciliation, and peacemaking in their communities.<sup>37</sup> Finally, he left the competitive framework behind entirely, and argued that primates are wired for social connection and for peacemaking—we are “good natured.”<sup>38</sup>

In a recent volume, de Waal and Pier Francisco Ferrari make this point regarding motivation of behavior:

Approaches to altruism are often presented as a quest for the “true” altruism, that is altruism without any obvious benefits for the actor. From this perspective parental care or aid to kin hardly counts as altruistic, and any chance at reciprocation by the beneficiary also disqualifies altruism as genuine. This is a curious approach, however, because motivationally speaking these distinctions are irrelevant unless we assume that actors know about inclusive fitness or are capable of anticipating future return benefits and perform their behavior with these benefits in mind. The evidence that they do so is non-existent.<sup>39</sup>

De Waal and Ferrari apply a simple rule to the explanation for primate behavior: what motivates behavior is entailed in the situation. When a mother cares for her young or when a friend cares for another friend, the action cannot properly speaking be motivated by altruism, since a fitness

---

<sup>36</sup> Frans de Waal, *The Age of Empathy: Nature's Lessons for a Kinder Society* (New York: Three Rivers Press, 2009).

<sup>37</sup> Frans de Waal, *Peacemaking among Primates* (Cambridge, MA: Harvard Univ. Press, 1989).

<sup>38</sup> Frans de Waal, *Good Natured: The Origins of Right and Wrong in Humans and Other Animals* (Cambridge, MA: Harvard Univ. Press, 1996).

<sup>39</sup> Frans de Waal and Pier Francesco Ferrari, “A Bottom-Up Approach to the Primate Mind,” in *The Primate Mind: Built to Connect with Other Minds*, ed. Frans de Waal and Pier Francesco Ferrari (Cambridge, MA: Harvard Univ. Press, 2012), 7.

calculation is not what motivates it. Rather, empathy motivates it. While care is adaptive and has tremendous survival benefits, this is not why a mother or a friend cares in the moment of the behavior. Survival is a result of caring; caring is not a result of a survival calculation.

In her book *Mothers and Others*, anthropologist Sarah Blaffer Hrdy recognizes that the leading problem of sociobiology is to explain “prosocial” emotions. How is it possible that empathic and generous hunter-gatherers developed and flourished in ancient African landscapes occupied by highly self-centered apes? What was the impetus for the emergence of intersubjectivity, “the capacity to put ourselves cognitively and emotionally in someone else’s shoes, to feel what they feel, to be interested in their fears and motives . . . [which] adds up to a mutual understanding and sometimes even compassion”?<sup>40</sup> Does it make sense, she wonders, to rely on out-group hostility as the best explanation for the emergence of peculiarly prosocial natures? How is it possible for Mother Nature to concoct such a hypersocial ape starting with such an impulsively selfish one? The only conclusion is that Mother Nature did not start from there. Hrdy proposes that, as a result of cooperative breeding where others assist in the care and provisioning of young (“alloparenting”), there emerged a line of apes that began to understand the subjective lives, the inner thoughts and feelings, of others. These intersubjective apes were emotionally modern humans.

Using evidence from comparative primatology, ethnographic studies of childhood in foraging societies, comparative infant development, and behavioral ecology, Hrdy argues that humans survived in the Pleistocene era through cooperation with each other and kindness to strangers, in particular sharing resources and specifically food. Caring and sharing extended towards strangers, or “as-if kin,” was a practical matter of survival. The consistent caring and sharing behavior can be accounted for only by the ability to monitor the mental states and feelings of others, and those mental states and feelings matter to us.

Recent research into mirror neurons further explores this intersubjective capacity in humans.<sup>41</sup> Mirror neurons allow us to track what

---

<sup>40</sup> Sarah Blaffer Hrdy, *Mothers and Others: The Evolutionary Origins of Mutual Understanding* (Cambridge, MA: Belknap Press, 2009), 28.

<sup>41</sup> See Marco Iacoboni, *Mirroring People: The New Science of How We Connect with Others*

others are doing by activating the same states in our own bodies. We imitate each other, and we intuit others' intentions and emotions. We can make sense of behavior using very fine distinctions with respect to intention, such as in "I don't think she meant to hurt you." It allows us to predict behavior, something that is very valuable in social settings, and to connect with others in a deep, meaningful way. We can de-center ourselves and modify our behavior; we can navigate social space with an awareness of how we impact each other. Making contact between people's inner worlds is what it means to be an emotionally modern human, and it made early humans *human*.

### **The Risky Adventure of *Homo caritas***

It may be possible to go one step farther in our philosophical anthropology by asking about the upshot of intersubjectivity for the emotionally modern human: What does it say about who we are that the intersubjective story is so significant for our being and thriving? In his *Triumphs of Experience: The Men of the Harvard Grant Study*, psychoanalyst and research psychiatrist George Vaillant tells the story of a longitudinal study following 268 men and how they fared with respect to flourishing and thriving.<sup>42</sup> He sums up what he learned:

Over those years I've developed convictions, and (I pride myself on this, too) exposed them to empirical scrutiny. Three big ones have stood the test of time, if not perfectly. One was that a warm childhood was a most important predictive factor and that a bad childhood was not. Another was . . . that the most important contributor to joy and success in adult life is love (or, in theoretical terms, *attachment*). My third great conviction was the identification of the involuntary adaptive "mechanisms of defense" as the second greatest contributor.<sup>43</sup>

Love, according to Vaillant, is the most important contributor to human being and thriving. This conclusion represents a dramatic shift of vision for him because, when the study began, love was not studied scientifically—it

---

(New York: Farrar, Straus and Giroux, 2008).

<sup>42</sup> George E. Vaillant, *Triumphs of Experience: The Men of the Harvard Grant Study* (Cambridge, MA: Belknap Press, 2012).

<sup>43</sup> *Ibid.*, 370.



belonged in romantic literature, not in the laboratory, in the clinic, or in a research article. Though coming from very different perspectives, scientists of the day—i.e., behaviorists (Skinner et al.) and psychoanalysts (Freud et al.)—agreed that the interplay between biology and emotion was fully captured by lust, hunger, and power. Love was a hedonistic, self-centered instinct rather than a risky, relational process of reciprocal pair-bonding. The theoretical term “attachment” comes from psychologist and psychoanalyst John Bowlby, who argued that babies “imprint” on their mothers “not because their mothers fill their bellies but because they cuddle them, sing to them, and gaze into their eyes.”<sup>44</sup>

Over the last two decades, Bowlby’s insights have been confirmed by the discovery of the mammalian attachment system and the human empathy circuit, and the consequences if they are damaged.<sup>45</sup> This confirmation has reverberated in disciplines as far away from mother-infant bonding as restorative justice and conflict transformation studies.<sup>46</sup>

What these findings invite us to see is that we are *Homo caritas*—or, in Jonathan Lear’s phrase, “finite erotic creatures.”<sup>47</sup> To say we are finite is to say we are vulnerable in our engagement with others and with the world. To say we are erotic is to say we reach out longingly to others and the world for contact and connection. For Lear, it means that human life is marked by risk: “we may suffer physical and emotional injury, we may make significant mistakes, even the concepts with which we understand ourselves and the world may collapse—and yet as erotic creatures we reach out to the world and try to embrace it . . . we aspire to intimacy . . . we aim toward living (what we take to be) a happy life.”<sup>48</sup> To live a happy life, we need our reaching out to be met by someone reaching back to us—to experience ourselves as not being alone. More than anything else, human beings need love.

---

<sup>44</sup> Ibid., 64. See also John Bowlby, *A Secure Base: Parent-Child Attachment and Healthy Human Development* (New York: Basic Books, 1988).

<sup>45</sup> See Iacoboni, *Mirroring People*, and Baron-Cohen, *The Science of Evil*.

<sup>46</sup> See Christian Early and Annmarie Early, ed., *Integrating the New Science of Love and a Spirituality of Peace: Becoming Human Again* (Eugene, OR: Wipf and Stock, 2013).

<sup>47</sup> Lear, *Radical Hope*, 119.

<sup>48</sup> Ibid., 120.

## Conclusion

It is well-documented that humans—and other animals—behave in ways that are kind and others-centered. We develop bonds of loyalty with friends and loved ones that motivate us to self-sacrificial behavior. More remarkably, we often (often enough, at any rate) treat strangers with kindness and generosity without any expectation of return, as if they too were kin or potential friends. The intriguing questions are how to account for this behavior and how to make evolutionary storied sense of it. Despite intense efforts, it seems that if we start with a self-centered competition theory of life, we cannot arrive at a place from which this kindness can be seen as anything more than a mistake. Theoretically, we should not behave this way—or at least not as often.

I have argued that a currently popular biological story of life and human behavior—that explanations of behavior can be reduced to the individual genetic level, and that the calculation characterizing behavior is a self-centered, competitive cost/benefit analysis with respect to reproductive capacity—can be questioned at several key points. Recent research is uncovering a dynamic two-way conversation among genes, organisms, and habitat in which creative adaptation (or responsiveness) and cooperation are central characteristics of thriving populations. Importantly, organisms themselves are agents in this conversation and participate in their own evolution. Moreover, as creative adaptation and cooperation are the source of newness and complexity, they are drivers of diversity from the very beginning of life, subject of course to the pressures of natural selection. Mother Nature is an experimental pragmatist, and what actually works in the real world, what got life going and keeps it going, is the creativity of adaptive cooperation.<sup>49</sup>

It also turns out that selfish competition is most effective in an environment of cooperators, whereas the reverse is not true: cooperation in an environment of competitors is a short-lived strategy. It is difficult to see, then, how cooperation could ever get going in a competitive world. It is much easier to explain both cooperation and competition in a cooperative world. Moreover, the most successful strategy discovered in mathematical biology so far is “generous tit-for-tat”: meeting the world with cooperation, forgiving instances of defection and competition, but protecting against being taken

---

<sup>49</sup> This should not be surprising, as it is also characteristic of Abba Father, the Creator.

advantage of and becoming a sucker. Given this central behavioral logic, it is not too far a stretch to make sense of kindness towards strangers. Instead of this behavior being an anomaly, it is entirely predictable.

From an adaptively cooperative biology, it is possible to support an anthropology of *Homo caritas*: a conception of the human being that recognizes our felt need to connect intersubjectively, and that acknowledges our desire for intimacy and our longing to experience life with a sense of being-together rather than being-alone. Love, as George Vaillant discovered, is the single most important contributor to human thriving. Finally, it is possible to connect this anthropology to a Jesus-oriented ethic of enemy-love. Love of course is risky, and many things can and do go wrong along the way. Thus a tension remains between who we actually are and who we are called to be. That makes following Jesus of Nazareth an adventure of love—and the cost of this adventure can be high, as it was for Jesus.

*Christian Early is Professor of Philosophy and Theology at Eastern Mennonite University in Harrisonburg, Virginia.*