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10. What Can Christian Ethics Learn from Evolutionary Examinations of Altruism?

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Introduction

My thesis is that evolutionary accounts of altruism can teach us about the elementary cognitive and emotional “building blocks” of the virtue of charity and other human virtues. The term “altruism” is used widely by writers in evolutionary theory. It has a variety of meanings. We can begin with the distinction between moral altruism and biological altruism.

The term “altruism” normally refers to any action that helps another person and is intended primarily to help another person for his or her own sake. It contrasts with “egoism,” action performed by an agent primarily for the agent’s own sake. There is nothing inherently immoral about egoistic acts. Eating lunch, working out, and listening to music are “egoistic” activities in the sense that you do them to help yourself or enjoy an experience. The problem is not with actions that benefit the self, it is the “ism:” the assumption that the

center of value is the self and that everything you do in one way or another is done in the pursuit of self-interest.

“Altruism” is not necessarily always good, either. Fanatics can be willing to risk their own lives to attack innocent people out of a disordered loyalty to their own group. The fact that an act is intended to help others, or a larger group, does not make it right or its agent good.

Most actions we perform come from mixed motives, some other-regarding and some self-regarding. The moral quality of an act we do depends on the appropriateness of our motives (the goods that move us), our intentions (the means we have chosen to employ to attain our goals), and the act itself (what we actually do). When these come together we do something right. When we do so consistently and from a firm character, we are acting virtuously.

The term “virtue” refers to an agent’s steady disposition to do what is right for its own sake. It contrasts with “vice,” a steady disposition to do what is wrong out of a disordered love of what is good. In Augustinian terms, virtue is an ordered love of the good, and vice is a disordered love of the good. The virtue of temperance, for example, loves possessions as instrumental goods and the virtue of justice puts them in the service of other people, either individually or collectively. The vice of greed, in contrast, loves possessions in a disordered way.

We can draw a sharp distinction between human altruism and biological altruism. “Biological altruism” is a term used by evolutionary theorists to refer to behavior of one organism that benefits another organism at its own biological expense. I need calories, and you need calories, but I give you my food. I have given up calories that I could have consumed so that you could eat. Other things (like dietary needs) being equal, my act is costly to me and beneficial to you. Biological altruism always costs something to one organism and benefits another. It is found in vampire bats that regurgitate blood for bats in their colony who need to eat, bees that protect their hive by stinging potential threats, and ground squirrels who warn their group of impending danger by making an alarm call that then draws attention to themselves.

Each of these acts is biologically altruistic to the organism that engages in it – the first gives up food, the second its life, and the third risks being attacked. Each is a classic example of “kin altruism,” sacrificing some good for the benefit of biologically related organisms. Such acts are costly to the particular organism but beneficial to copies of its genes carried by the organism it benefits. The means we have to distinguish two kinds of biological altruism: phenotypical altruism, which is costly to the organism, and genotypical altruism, which is costly to copies of an organism’s genes.

The capacity for biological altruism in organisms is the product of their biological evolution. “Biological evolution” refers to change in species shaped by natural selection. Since the time of Darwin, the term “evolution” is associated with fierce competition between individuals and, therefore, as rewarding selfish behavior. Darwin’s phrase “descent with modification” stressed how adaptive traits were passed down from generation to generation to help organisms survive and reproduce. The “struggle for survival” inclines

most people to think first about their own well-being. “Darwinism” is commonly associated with a view of nature as “red in tooth and claw.” Applied to human beings, the popular image of Darwinism regards us as intelligent animals who are basically selfish, competitive, and aggressive. Many Christians repudiate evolutionary theory because they reject the moral profile sketched by Darwinism. Again, the issue is not Darwin but the reductive bend of those who turn a scientific discovery into an ideology, a metaphysic, and a social theory (“social Darwinism”). Darwin himself resisted such a move.

The twentieth century version of evolutionary theory known as “Neo-Darwinism,” especially in the theories of sociobiology and evolutionary psychology, view human beings as fundamentally selfish. In Richard Dawkins’ most famous line, “We are survival machines – robot vehicles blindly programmed to preserve the selfish molecules known as genes” (48). Sociobiologists held that when we act to help others we do so either because they are related to us genetically or because we are engaged in reciprocal trading of benefits. The first is seen when a parent helps her child, the second when a friend gives his colleague a ride to work. The first is phenotypically altruistic, but genotypically egoistic. Some cases of the second are not altruistic but rather cooperative, a version of “I’ll scratch your back, you scratch mine.”

If one tried to pull a message out of nature, and particularly from the theory of kin altruism, about how we ought to act, it would be: “Do unto others to the degree to which they share your genes” (Hauser: 360). Benefiting kin can be a good evolutionary investment. Geneticist J. S. B. Haldane once joked: “I would gladly die for two brothers, four cousins or eight second cousins” (Smith: 247). But it does not usually pay evolutionary or genetic dividends to benefit non-kin without getting something back from them. A mother taking care of her sick son could be described as acting simultaneously in a way that is morally altruistic, phenotypically altruistic, and genotypically egoistic.

If it pays to help one’s kin, then we might wonder how altruism for biologically-unrelated individuals might evolve. Evolutionary theorists argue that it can evolve when it reflects capacities to look for *reciprocal benefits*. Robert Trivers’ theory of “reciprocal altruism” says that acting in a costly manner to aid another organism can evolve under circumstances in which the organism that receives that benefit can return a benefit in the future.

Game theory offers four ways in which one player can interact with another player: selfish behavior that benefits one player at the expense of the other, cooperative behavior which aids both player and partner, spiteful behavior in which a player harms the recipient and also the self (“I’m going down, but you are going down with me”), and altruistic behavior in which agents benefit the recipient and harms themselves.

The “tit-for-tat” strategy trades benefits. It says we ought to cooperate with cooperators and punish cheats. Payoffs can be immediate: I’ll scratch your back, and then you scratch mine. Or it can be delayed: I’ll scratch your back, you scratch mine later. “Tit-for-tat” also punishes those who cheat. An example of this policy in real life is the insistence on “eye-for-an-eye” punishment.

There is also a “tit-for-two-tats” or “generous tit-for-tat” strategy. It says: cooperate with cooperators but sometimes cooperate with cheats (forgiveness). It allows less than

complete and perfectly balanced reciprocity, but sees that giving a partner a second chance pays off better than strict reciprocity.

Finally, the “win-stay, lose-shift” strategy is different (Nowak and Sigmund; Nowak and Coakley). It advises us to continue to reciprocate as long as our partner reciprocates but then to shift to another partner when we start to lose. In short, we ought to repeat our previous move if we are doing well, but change if not.

All of these approaches tell us that it pays to reciprocate prudently, not indiscriminately. Some evolutionists suggest that the complex demands of cooperation led to the evolution of greater human social intelligence (Axelrod 1984, 1997). If you want to get a behavioral policy from this picture, it would be: “Do unto others as they will probably do unto you.” These approaches to reciprocity assume that their models shed light on the interaction dynamics of ordinary social life. The problem is that our interactions are not just dyadic. We live in groups and interact with many people who share various kinds of connections. Even so, reciprocity only accounts for a kind of altruism toward people we know can pay us back at some point.

How could altruism toward strangers evolve? The theory of indirect reciprocity suggests that altruism can evolve when cooperators can benefit from good reputations (Alexander). Interactions between two strangers who are unlikely to meet again can be favorable when each can tell third parties about how trustworthy the other was in dealing with him or her. We prefer to help people we think are helpful, so reputation is key. If you get a good reputation, people are more likely to be inclined to help you; if you get a bad reputation, people are less likely to want to help you. This view recognizes that altruistic groups are vulnerable to invasion by cheats, so it values information about cheats and insists that they be punished to deter future cheating.

Three common assumptions about evolution create the impression that at our core we are selfish: genes determine behavior, biology is more central to us than culture, and a particular trait is the result of either “nature” (genes) or “nurture” (culture). Each of these assumptions is mistaken.

Biology is much more than genes, which develop in contingent environments that shape their expression. Moreover, genes have no direct impact on altruism (Midgley). A person who acts altruistically does not do so because he or she has special altruistic genes. Genes do not determine who we are; they contain the basic instructions for the building blocks of biological systems, and how they are expressed depends on the environment in which they develop and function. “Altruism,” moreover, is a huge ensemble of behaviors with a complicated and dynamic range of expressions. Every healthy person has the potential for a range of altruistic acts. Our potential for altruism is shaped by our particular biology, experience, personal identity, socio-economic context, cultural location, and other factors.

We can note three ways of using science today that point to our deeply cooperative potential: group selected altruism, “niche construction” in biological anthropology, and the study of empathy in primatology.

Group Altruism

Group altruism theory holds that altruism can spread throughout a group when its more altruistic members give their group a competitive advantage over competing groups composed of less altruistic members (Sober and Wilson; Wilson and Wilson). This theory argues that selection can act at the level of the group in addition to at the level of individuals and genes (it is therefore called “multi-selection theory”). The theory of group selection holds that the selection of altruistic traits results from the differential survival of entire groups of organisms. What this theory suggests is that a group can evolve to encourage its members to act in ways that benefit the reproductive fitness of organisms in their own group in ways that are costly to themselves because doing so gives their group a competitive advantage over other groups. The altruistic individual benefits from living in a more successful group. This approach could account for why people have genuinely altruistic motives.

Critics claim that group selection is relatively rare in nature and so probably cannot account for the pervasiveness of altruistic motivations in humans. They point out that group selection presupposes the existence of three conditions: 1. reproductive isolation; 2. a new altruistic trait that improves the chances of survival of the trait-carrying group relative to other groups; and 3. chance genetic modification. Advocates counter that group selection occurs frequently enough in nature to be a plausible source of human altruistic motivations. One reviewer observes that, “disagreement over the evolution of cooperation via group selection is still very much alive in biology and philosophy” (Shavit). However this debate is resolved in the future, we can say that, if one wanted to take a lesson from group-selected altruism, it would be: “Help members of your own group.” This approach has the advantage of encouraging trading, negotiating, reconciling, peacemaking, and limiting competition. However, it provides no reason for the evolution of altruism toward outsiders. It implies that when we act altruistically outside our own group, we are making a mistake.

“Niche Construction” Theory

A second scientific resource for thinking about the basis of human cooperation and altruism is provided by the theory of “niche construction.” Niche construction theory regards humans and their environments as mutually interactive participants in evolutionary processes (Fuentes 2008, 2012a). This theory holds that humans have been able to exploit multiple social and structural environments across space and time through the use of many capacities, including our enhanced cognitive capabilities, extra-somatic manipulations of the environment, and enhanced communicative abilities. We live by acting as active constructive agents.

This approach appreciates the important evolutionary roles played by learning and culture, in shaping the pattern and strength of the way natural selection influenced our ancestors. Niche construction provides as an account of both the causes and products of evolution. Its advocates claim that it enhances the explanatory power of evolutionary theory and offers a more satisfactory evolutionary framework for understanding human behavior.

Niche construction suggests that the flow of interactions between our central nervous system and our social and physical environments have demanded increased complexity and

connectivity in our social networks, relative to other primate species. Our earliest ancestors shared information about habitat, food, predators, and infant care. They had an extended period of infant development (cognitive, motor, social), which necessitated increasing support from group members throughout our evolutionary history. Niche construction theory suggests that environment, culture, and biology have intersected in very complex, nuanced, and powerful ways. This stresses the importance of ecological inheritance and supports a “multiple inheritance theory,” according to which evolutionarily relevant inheritance can occur at the genetic, epigenetic, behavioral, and symbolic levels (Fuentes 2012a, 2012b).

Niche construction underscores the importance of symbolism and language for human identity. Multiple forms of cooperation led humans to move beyond a merely functional existence. Increased interaction involved more than the material world – emergence of language and symbolic imagination became central to being human. Humans have been engaging in ritual for at least 30,000 years. Niche construction theory implies that religion is more than a functional tool. It goes beyond adaptation/exaptation/by-product rationales. Religion is related in a fundamental way to our potential for altruism.

As bio-cultural beings, our biology is “entangled,” “fused,” and “synthesized” with human culture. Our neurological connections, physiological patterns, view the world, and what we think is normal are all shaped by our social and cultural contexts. Our view of altruism is shaped by how we have assimilated our culture – symbols, rituals, linguistic patterns, and social behavior. “Survival of the fittest” is a cultural construct that says selfishness, competition, and aggression are “natural” to us and that apparent “altruism” is illusory because we can only act in self-serving ways.

Empathy

A third important resource for thinking about human altruism is provided by the scientific study of empathy. All of us know what it is like to be moved by someone’s suffering and then do something to help them. This kind of action is based in empathy, which many psychologists take to be a primary motivator of human altruistic behavior. Empathy is the ability to perceive, imagine, and understand what another person is going through. Empathy by itself does not necessarily motivate us to help. A manipulative salesman is empathic but uses his understanding to get someone to buy something he or she does not need. Altruism comes from empathy complemented by care, a desire to help. Compassion in someone like the Good Samaritan has three components: an identification of someone’s suffering (empathy), wanting to do something about it (care), and then actually doing something to address the suffering (the good deed).

The capacity for empathy suggests that we are not purely selfish. Primatologist Frans de Waal has spent his career studying empathy in animals, especially the great apes. He rejects the dominant evolutionary view of morality as merely a “cultural overlay, a thin veneer hiding an otherwise selfish and brutish nature” (6). DeWaal draws from Darwin’s work on our social instincts and natural capacity for sympathy. As members of a highly social species, we are able to flourish only because we can get along with and, to some extent, understand one another. The human capacity for sympathy, however, is not indiscriminate. We tend to be especially sensitive to our own family members and friends – or anyone with whom we

live in close proximity for a long period of time. At the same time, we can learn to extend sympathy to others as well, at least to some extent and under some circumstances. We are more likely to feel sympathy for people who seem similar to us, to members of our groups, and to people with whom we share interests. Even the most sympathetic among us tend to prefer to help members of their own groups more than outsiders. This broad pattern of evolutionarily shaped preferences does not determine our identity, character, or acts – we have some degrees of choice.

De Waal thinks that understanding empathy can help us “put the altruism back into altruism.” He maintains that “empathy” has the capacity to (a) be affected by and share the emotional state of another, (b) assess the reasons for the other’s state, and (c) identify with the other, adopting his or her perspective. Human empathy is marked by self-awareness and the cognitive distinction between self and other. Once children can distinguish themselves in a mirror (around the age of 2), they can begin to take the perspective of an other and become more empathic. Empathy also depends on a capacity for both feeling (emotional connection) and insight (cognitive appraisal of particular situation).

Cognitive empathy is an ability to understand another animal’s needs. This understanding facilitates helping behavior. DeWaal points out that altruism, or helping behavior, is a common feature of animal behavior. Animals engage in consolation (comforting, reassuring) behavior; they try to calm one another through contact. Primatologists found bonobos raised by their own mothers to be more likely to comfort others when compared to orphaned bonobos. A stable parental relationship encourages the development of consolation behavior, while early stress may interfere with it.

DeWaal believes that we have inherited what he calls the “mammalian building blocks” of empathy. He thinks empathy is probably rooted in female maternal care, connected to cooperation, evoked by similarity, and requires significant cognitive skills that are themselves made possible by greater empathy and perspective-taking. He suggests that mothers are more successful when they respond to needs of their infants, and that males are capable of parental empathy but do so less automatically. Maternal care makes possible wider cooperation, which depends on paying attention to the needs and goals of those with whom one wants to cooperate. Empathy depends upon and triggers the further evolution of greater cognitive skills, to the point where we are able to take the perspective of one another and understand something of the other’s feelings and thoughts.

Our capacity for empathy can be suppressed, cultivated, or extended, or otherwise modified by particular experiences and cultures. We learn it more easily when people we encounter are like us, and it is harder to engage when people are really different from us. We can apply empathy well beyond what it was adapted for – e.g., not only to help strangers but also stranded whales and a cat in a tree.

DeWaal uses the metaphor of a Russian doll. The doll's inner core consists of the perception-action mechanism (PAM) that underlies state-matching and emotional contagion. Built around this hard-wired socio-affective core, the doll's outer layers include sympathetic concern and targeted helping. The complexity of empathy grows with increasing perspective-taking capacities, which depend on prefrontal neural functioning, and while remaining

fundamentally connected to the PAM. A few other large-brained species show all of the doll's layers, but most show only the inner ones.

DeWaal maintains the early humans learned to face environmental challenges as groups, not as lone individuals; evidence from archeological records shows us to be highly cooperative, social beings. This evidence includes the widespread use of fire and tools, including weapons for hunting and protection against predators; strong physio-emotional bonding and empathic neuro-biology; collective intentionality, cooperative child rearing, male care, and complex parenting; the development of language and symbols that cement social unity (suggesting a complex theory of mind); the extension of kinship lines beyond strictly biological connections and across generations; the practice of food sharing, including non-nutritional sharing; and evidence of helping elderly and injured individuals. All of these converge to suggest a species-wide capacity for altruism rooted in empathy and sociality.

Christian Theological Responses to Evolutionary Explanations of Altruism

Christian theologians respond to these approaches to altruism in a wide variety of ways. We can look at three illustrative types: the assimilationist approach, the dialectical approach, and the transformationist approach.

First, the assimilationist approach regards Christian love or agape as a Christianized version of natural altruism (Post). It places faith in God as benevolent Creator who wants us to love one another, and has given us the natural building blocks for doing so. Christian love or agape is a strong form of natural altruism. It emphasizes scientific studies that show the benefits of altruism. Christian formation engages our evolved emotional and cognitive capacities rather than replaces them with some kind of supernatural agency. Agape is a distinctively Christian version of altruism because it relies on the Christian narrative, modeled by Christian exemplars, and embodied in Christian rituals. But many other religions come to the same concept. The Golden Rule, for example, is found in many religions as well as embraced by secular humanists. This view sees agape as putting pressure on us to expand our circle of concern to the stranger and enemy. Agape has to “build out” from close bonds of affection and personal friendships to concern for common good and well-being of the other.

Second, what can be called a “dialectical” approach to agape begins with God as absolute, pure selfless giving (Jackson 2003, 1999). God’s agape contrasts with our eros, preferential desires, and self-centeredness. Proponents of this view stress that Jesus taught agape, not eros – a pure altruism that is willing to pay a cost without benefit to self and that is not motivated by self-interest in the slightest bit. This approach characterizes agape as having three key components: 1. unconditional willing of good to an other, 2. equal regard for well-being of an other, and 3. passionate service open to self-sacrifice.

The dialectical approach reminds us that Jesus was highly critical of any bias in favor of self, friends, family, tribe or any other particular ties. For example, in the Gospel of Matthew Jesus says: “You have heard that it was said, ‘You shall love your neighbor and hate your enemy.’ But I say to you, Love your enemies and pray for those who persecute you, so that you may be children of your Father in heaven; for he makes his sun rise on the evil and on the good, and sends rain on the righteous and on the unrighteous. For if you love those who

love you, what reward do you have? Do not even the tax collectors do the same? And if you greet only your brothers and sisters, what more are you doing than others? Do not even the Gentiles do the same? Be perfect, therefore, as your heavenly Father is perfect” (Matthew 5:43-48).

Agape is thus a “bridge too far” for kin altruism, reciprocity, or group altruism. It is based on the self-emptying love of one who dies on a cross and certainly cannot be explained as arising from selective pressures or by the calculus of game theory. In evolutionary terms, this kind of radical altruism is either a “spandrel” (a trait with a non-adaptive origin) or an intentional “exaptation” (a trait that evolved because it served one function but then came to serve another, e.g., like wings of a bird). Either way, it can be explained in evolutionary terms. The dialectical approach views agape as guiding, constraining, and outstripping the process of competitive adaptation. Common sense might ask three questions: Does such pure altruism even exist? If so, can it be sustained? If so, by what means?

Finally, the transformationist begins with the conviction that grace builds upon nature. It points out that scripture resonates with aspects of evolutionary accounts of altruism. Kinship: “Honor your father and your mother so that you may live long in the land the Lord your God is giving you” (Exodus 30:12). “You shall not hate in your heart anyone of your kin” (Leviticus 19:16). Reciprocity: “Two are better than one, because they have a good return for their work: If one falls down, his friend can help him up. But pity the man who falls and has no one to help him up!” (Ecclesiastes 4:9-10). Group altruism: “Awe came upon everyone, because many wonders and signs were being done by the apostles. All who believed were together and had all things in common; they would sell their possessions and goods and distribute the proceeds to all, as any had need.” (Acts 2:43-45).

Transformationist theology envisions God as creating the world through the evolutionary process in order to share goodness with creatures and grace, divine love, as a constant dimension of human existence that invites us to friendship with God and one another. God is the primary cause continually present in and through the secondary causes of the evolutionary process, including its contingencies, randomness, and law-like regularities. The vast network of secondary causes includes the patterns of cooperation, empathy, and altruism studied by the group selectionists, niche constructionists, and primatologists noted above.

The transformationist approach places theological emphasis on God as Trinity, creation, grace, and Incarnation. Agape comes out of the processes that produce altruistic capacities, but goes beyond them. Incarnational theology conceives of grace as enhancing human freedom to love and as enabling us to “participate in Christ.” This participation in Christ is transformative: it can embrace and ennoble everything that is human, including our capacities for altruism. The central virtue of this transformation is charity (agape), the purified and rightly directed love of God, self, neighbor, and nature. The virtue of charity moves in two directions: it seeks to intensify our love of intimates, and it seeks to extend the scope of our love of good will toward every human being.

Transformationist theology supports a virtue ethics that builds upon and corrects our altruistic potentialities. Agape in familial love orders “kin altruism” while countering

nepotism. Agape in friendship orders “reciprocity” while countering exploitation and indifference to others. Agape in solidarity builds upon “group altruism” while countering tribalism, nationalism, and xenophobia. Evolutionary depictions of humans as “ultra-cooperators” underscores our responsibility to nurture multiple forms of empathy and altruism within the Christian community and in relation to our wider society and even global humanity. The transformationist approach suggests that the science of altruism can be constructively and critically appropriated by Christian ethics. The transformationist agrees with the assimilationist that agape has natural bases and agrees with the dialectical theologian that agape transcends what is encouraged by biological evolution alone.

Theories of altruism provide plausible accounts of our potentialities, their evolutionary origins, and biological basis. Biological evolution provides the “seed bed” or “building blocks” (DeWaal) for later, much more complex, culturally formed, fully developed human forms of altruism. Nature provides our potential for altruism, but it is not determinative. At times, it favors cooperation, forbearance, empathy, altruism, and even forgiveness. At the same time, agape has to operate within constraints underscored by evolutionary theory, including a strong sense of our own finitude and our responsibility to choose where and when to direct the use of our resources of time, talent and treasure.

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