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Altruism: From Pagan Virtue to Political Biology

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Theories of human altruistic behavior are many, varied, conflicting, and often controversial. This essay examines the scope of philosophical, psychological, economic, biological, political, and religious arguments for and against the possibility of altruistic phenomena. It emphasizes *reputation*, both as an inherent and rational component of altruistic human behavior, and as a complement to the evolved propensities for cooperation, reciprocity, trust, and exchange. Placing reputation within this short litany of inherent propensities perfects a coherent evolutionary theory of altruism that, unlike influential theories, is encompassing, parsimonious, and verifiable.

Keywords: altruism, evolution, group selection, economics, scarcity, self sacrifice, virtue signaling, honor, reputation

> *"Within the wide range of mistakes made by those who live recklessly and without reflection, my excellent Liberalis, there is almost nothing, I would claim, more harmful than our ignorance of how to give and receive benefits.* [...] *I can see several causes for this state of affairs."* Lucius Annæus Seneca (2011, 17)

> *"No man giveth but with intention of good to himself, because gift is voluntary; and of all voluntary acts, the object is to every man his own good; of which, if men see they shall be frustrated, there will be no beginning of benevolence or trust, nor consequently of mutual help."* Thomas Hobbes (2009, 87)

1. Introduction

The implications of giving and exchanging benefits in the form of gifts, favors, aid, opportunities, cooperation, and reciprocation have been a focus of philosophical, psychological, sociological, political, religious, economic, and scientific inquiry since antiquity. Philosophically, the voluntary and generous exchange of benefits is imagined to

represent either the apex of personal virtue, or the epitome of folly. The possibility of moral altruism stems from Aristotle (see Mueller 2010), although the term itself (as denoting the antithesis of *egoism*) originated in the voluminous mid-Nineteenth Century writings on Positivist philosophy, polity, and religion by the French social philosopher Auguste Comte. The Roman Stoic philosopher Lucius Annæus Seneca wrote that "people must be taught to give benefits freely, receive them freely, and return them freely and to set themselves a grand challenge: not just to match in actions and attitude those to whom we are obligated, but even to outdo them, for the person who should return a favor never catches up unless he gets ahead" (Seneca 2011, 22). An upward eudæmonic spiral was imagined to result when benefits were given and reciprocated as gifts rather than being proffered as loans or investments. Conversely, "anyone who thinks about being repaid while he is giving deserves to be cheated" (18).

Such beneficence raises questions about whether individuals acquire altruistic virtue through teaching, as Seneca asserted, or else by nature or by other means (see Plato 1997, 871). Other possible means of acquisition include mimicry, social conditioning, compulsion, and by weighing the costs of altruistic behavior against the consequential benefits, both material and *psychic* (principally, the pleasurable neurochemical effects of dopamine and serotonin). Once acquired and internalized, altruistic virtue need not be used solely as a source of moral guidance. The practice also can be applied strategically to *game* the social system in pursuit of rational, egoistic, and deceptive ends, the actor's underlying motivations typically being impossible for others to discern (Becker 1976, 286–289, 293). Some individuals, like politicians, falsely signal altruistic virtue and reciprocity merely by coercively redistributing other individuals' scarce resources.

Several academic disciplines have contributed stylized explanatory theories of altruistic behavior. Sociologically and politically, holiday gifts and exchanges, including ritualized potlatches, are thought to enhance and stabilize social cohesion and cooperation, not only between pairs of individuals, but also within and between social groups (Montanye 2015). By comparison, evolutionary biologists and psychologists since Darwin have imagined that natural-selection pressures have produced altruistic behavior in humans, both through evolved propensities for cooperation, reciprocity, trust, competition, and exchange, and also through the uniquely human capacity for rational individual thought and action (see Ridley 1997; 2010). Quasi-altruistic behavior that is essentially egoistic and often outwardly deceptive similarly is explicable along consequentialist lines. Both categories of behavior represent efficient responses to constraints posed by the scarcity of economic resources, which handicap individuals' survival and reproductive objectives.

The challenges posed by scarcity are recognized across economics and biology, yet rarely are acknowledged within moral philosophy and the social sciences generally. The economist Lionel Robbins canonically defined economics as "the science which studies [rational] human behavior as a relationship between ends and scarce means which have alternative uses" (Robbins 1962, 16). Whereas philosophers characterize human reason as being "concerned with nothing but itself, nor can it have any other occupation" (Kant 1922, 680), the economist Ludwig von Mises argued that "the primary task of

reason is to cope consciously with the limitations imposed on man by nature" (Mises 2008, 237). The biologist Richard Dawkins aptly describes scarcity's influence on evolution: "Natural selection is a miserly economist [...] It's economics everywhere you look: unconscious calculations, 'as if' deliberately weighing up the costs and benefits" (Dawkins 2015, 53, 55). Another biologist who has written comprehensively about altruism's biological foundations, Richard Alexander, finds "no evidence for even a core of morality. Rather it appears that our judgments about it [altruism] are always cost-benefit decisions (including conscious and subconscious acts as a result of conscience) made in relation to our own personal history of lessons of the structure of our society" (Alexander 1987, 118).

The existential challenges posed by scarcity have prompted economists and biologists to consider how a human propensity for sacrificial altruistic behavior could have evolved through natural selection. Dawkins, who self-identifies politically as a socialist, notes that "[h]uman superniceness" ["universal altruism"] is a perversion of Darwinism, because, in a wild population, it would be removed by natural selection. […] Let's put it even more bluntly. From a rational choice point of view, or from a Darwinian point of view, human superniceness is just plain dumb. But it is the kind of dumb that should be encouraged" (Dawkins 2017, 276–277). Other prominent biologists (about whom more later) justify political superniceness on both rational and Darwinian grounds.

Imagine briefly how the material and psychic rewards of giving and reciprocity would be moot if humans inhabited a utopian world of superabundance, in which scarcity would be unknown. Individuals in this state of nature would not benefit from altruistic virtue because, in the absence of scarcity, giving and reciprocity would be meaningless acts, except perhaps as personal affectations (Mises 2008, 233–237). Scarcity, therefore, is altruism's first cause uncaused, just as it is the first cause uncaused of religion, morality, and ethics generally, and also of human consciousness and the evolved capacity for rational thought and action.

Human altruism covers a wide range of cooperative behaviors. The developmental psychologist Michael Tomasello identifies three categories: "To be altruistic with respect to *goods* such as food is to be generous, to engage in sharing; to be altruistic with respect to *services* such as fetching an out-of-reach object for someone is to be helpful; and to share *information* and attitudes with others (including gossip) is to be informative" (Tomasello 2009, 5). More generally, altruism connotes any form of cooperative behavior, be it mutually beneficial, deceptively egoistic, or personally sacrificial as in the case of caring for family, friends, and loved ones. The biologist David Sloan Wilson (hereinafter "D.S. Wilson" to distinguish him from the biologist E.O. Wilson – the two are unrelated apart from being occasional collaborators) defines altruism more precisely—both philosophically (morally) and scientifically (consequentially)—as being "[i]ntentional action ultimately for the welfare of others that entails at least the possibility of either no benefit or a loss to the actor [... and arising where] group-level functional organization evolves primarily by natural selection between groups" (D.S. Wilson 2015, 4, 21). Other descriptions and definitions of altruism are examined in the course of this essay (see also the essays in Phelps 1975).

This essay begins by considering altruism as a moral virtue. It continues by examining altruism as social philosophy, as rational individual action, as a product of Darwinian natural selection, and as a creation myth underlying modern political biology. The essay concludes with a brief summation and synthesis. The synthesis considers the relationship between altruistic behavior and personal *reputation*, suggesting an approach to understanding altruism that is at once encompassing, parsimonious, and, unlike most prevailing theories, essentially verifiable.

2. Altruism as Pagan Virtue

Altruistic behavior, by Seneca's early lights, entails a benefit that "is merely a well-intentioned action that confers joy and in so doing derives joy" (Seneca 2011, 24). Stoic philosophy, unlike the contemporaneous Epicurean variety, rejected strategic giving as an instrumental act, believing instead that the virtue of bestowing benefits was its own psychic reward, "a sign of a great and good mind to pursue not the returns from benefits, but the benefits themselves, and even after dealing with bad people to seek out a good person" (19). The act of giving never was to be used for gaining personal advantage over others. The wise giver instead regards gifts as being reciprocated when they are given, thereby constructively cancelling the recipient's implied obligation to reciprocate. In this way, virtuous givers would not be frustrated by ex post failures of reciprocity. Indeed, "it is a virtue to give benefits that are not guaranteed to be repaid in the future, benefits whose returns are felt immediately by a donor of real excellence" (19).

Reciprocating benefits, like the initial giving of them, was regarded by Seneca as being a correlative virtue. Failure to reciprocate was considered to be *shameful* (a categorical "bad"), shame being the opposite of *honor* (a categorical "good"). The pragmatic Roman orator Cicero cautioned that individuals who failed to reciprocate benefits lacked virtue, and so were not to be trusted. *Pace* Cicero, however, apparent failures of reciprocity tend to be subjective. True reciprocity, according to Seneca, need not be materially commensurable in kind or in value. Reciprocity might, for example, take the intangible form of mutual good will and prospective cooperation. Reciprocity's only inflexible aspect is the recipient's appreciative attitude toward the giver.

Reciprocity presumes that benefits are not given anonymously. This is a marked difference between Stoic and Christian philosophy. Compare Seneca's views, for example, with the message of Matthew 6.2, which asserts that alms (benefits) must be given anonymously because overt giving abets egoistic grandstanding and hypocrisy: "when you give alms, do not let your left hand know what your right hand is doing, so that your alms may be in secret." Charitable giving in Christian philosophy is a duty owed to God, who reciprocates benefits in the afterlife. Augustine and Aquinas elaborated early Christian ideals regarding altruism by combining Jesus' views with Aristotle's (Mueller 2010).

Whereas Jesus preached indiscriminate giving, the Stoics urged prudent discrimination. Seneca argued that "the multitude is not the proper recipient of generous giving; and there is no respectable way to make lavish gifts of anything, least of all

benefits; for if you eliminate judgment they cease to be benefits and will acquire some other label" (Seneca 2011, 19). Dispensing benefits *as if* indiscriminate altruism were a moral, rational, and logical necessity rather than a private virtue, as argued for example by the philosopher Thomas Nagel (1979), not only would violate the pagan (and ultimately Christian) virtues of prudence and temperance, but also would bankrupt the giver in the limit. Scarcity imposes binding constraints upon altruism; indiscriminate altruism would attract inveiglers and sundry parasites just as honey attracts flies.

3. Altruism as Positivist Philosophy

Comte's utopian, Positivist philosophy subordinated inherent human rationality to the "charm" of altruism, which Comte characterized as being the antithesis of egoism. His views represent a secular substitute for pagan virtue and Christian love. Egoism by Comte's lights was a social evil that the scientific management of capital would eliminate through the forthcoming superabundance of material goods, thereby permitting "the universal ascendency of Altruism" (Comte 1875, II:134). Comte confidently and somewhat presciently (about which more later) predicted that "Biocracy and Sociocracy will be alike pervaded by Altruism; whereas during the long period of theological and military training Egoism predominated. Thus it is that Biology in its remodelled form raises us to a point of view from which the true policy of the human race, nay of the whole animal kingdom, stands before us; a policy in which the whole forces of the living world are combined for the social regeneration of Man, who in his turn becomes responsible for the wise government of the other races" (Comte 1875, I:500). For Comte, as for Seneca,

> Our harmony as moral beings is impossible on any other foundation but altruism. Nay more, altruism alone can enable us to live, in the highest and truest sense. The degraded beings who at present exist only to live, would be tempted to give up their brutal selfishness, had they but once had a real taste of what you so well call the pleasures of devotedness. They would then understand that, to live for others is the only means of freely developing the whole existence of man. [...] In this way you see how happiness and duty will necessarily coincide. (Comte 1858, 310–311)

Comte's utopian vision was one of many that appeared during the Nineteenth Century. 137 utopian sects arose in the United States between the years 1787 and 1860 (Bushman 2005, 165), most of which flourished for about two years before practitioners became disillusioned and reverted to egoism. The distinguished biologist E.O. Wilson once offered a curt explanation for the failure of such communitarian social schemes: "Wonderful theory. Wrong species" (quoted in Pinker 2002, 296). Hope nevertheless springs eternal in the hearts and minds of philosophical, political, and scientific elites, even as legislated and coercively enforced utopian social policies have collapsed, often descending into dystopia (see Lowi 1979).

Comte's vision rested partly upon two other, non-biological fallacies. The first, which Comte shared with Karl Marx, was that the scientific social management of capital could, and eventually would overcome the constraints posed by economic scarcity (what the economist John Maynard Keynes termed "the economic problem"). The productivity of capital (and capitalism) soon exceeded the utopians' wildest imaginings, and yet their consequential social predictions failed to materialize. Failure occurred because capital accumulation does not alter the intrinsic nature of economic *cost*, cost being a natural consequence of scarcity. Cost obliges individuals to choose highly valued goods over goods of lesser subjective value, typically on the basis of explicit and implicit prices. Scarcity, cost, and prices prevent egoism from giving way to altruism in the sunny and carefree manner imagined by Comte and other utopian thinkers.

Comte's second fallacy was the belief that economic superabundance naturally would engender a utopian state of perfect altruism. The opposite social arrangement seems more likely to result. Human sociability evolved in response to scarcity. Individuals inherently group together voluntarily and cooperatively in order to generate economic efficiencies (through mutual cooperation, the division of labor, and the exchange of goods, for example) by which to overcome scarcity's deleterious effects upon survival and reproductive success. Without the external pressure generated by scarcity, individuals would have no instrumental need to behave cooperatively or altruistically. Consequently, individuals would become insular, except perhaps for the purpose of procreation; prime reproductive partners would remain scarce resources under Comte's positivist scheme, and so would continue to be objects of egoism. Material superabundance therefore would be unlikely to foster "our harmony as moral beings." At best, it would lessen the extent of human suffering. At worst, humans would begin evolving into solitary individuals.

Utopian aspects of Comtean positivism and altruism echo clearly through modern progressive politics, although elite thinking about altruism's foundations has shifted over the years: from moral virtue, to utopian social behavior, to rational individual action, and on to being an evolutionary telos implying both political and religious significance.

4. Altruism as Rational Individual Action

Economists, in contrast to moral philosophers, tend to be consequentialists who examine human behavior in the cold light of material costs and benefits. For evolutionists, in contrast to economists per se, "cost and benefit are defined in terms of reproductive success" (Trivers 1985, 456); "there must be some way for the sacrificing individual to not sacrifice herself or her progeny out of existence; there must be some kind of compensating advantage for her sacrifice" (Tomasello 2009, 51). An extreme example of sacrificial, altruistic behavior in non-human species occurs among female spiders that give themselves, without conscious consideration, to be eaten alive by their hatchlings, an act (*matriphagy*) that nourishes her young while simultaneously kindling their hunting instinct. The cost to the individual female is uncomfortably apparent—natural selection has produced many such strange and disquieting results. The correlative evolutionary benefit is the continuation of the female's genes into future generations. Human standards

for altruism are timid by comparison (the risk of death in childbirth notwithstanding), and appropriately so. Among humans, altruism typically is afforded out of economic surplus. It's appearance hinges upon evolved propensities for rationality, reputation, trust, sociability, cooperation, reciprocity, exchange, competition, language, and symbolic thought. Human altruism rarely compromises individual fitness fatally, except in societies where individuals are acculturated to prefer death over dishonor.

Aristotle famously characterized humans as social and political animals whose individual brains are geared by nature to work together harmoniously for the sake of mutual benefit. Modern biology, sociobiology, and evolutionary psychology all point to a natural propensity for cooperative altruism that is rooted in evolution. Tomasello notes that "the development of altruistic tendencies in young children is clearly shaped by socialization. They arrive at the process with a predisposition for helpfulness and cooperation. But they learn to be selective about whom to help, inform, and share with, and they also learn to manage the impression they make on others [so-called *indirect reciprocity*, which nowadays is called *virtue signaling*]. [...] In addition, they learn the social norms that characterize the cultural world in which they live, and they actively attempt to learn what these are and to follow them" (Tomasello 2009, 43–44). The spontaneous emergence of cooperation in early infancy is taken as proof that constituent elements of cooperative altruistic behavior are inherent in humans (Hamlin, Wynn, and Bloom 2007). This propensity, coupled with cortical structures that facilitate accurate empathy (so-called *mirroring neurons*), produce the phenomena of human altruism, which becomes amplified by cultural norms and institutions. In answer to Plato's interlocutor Meno (Plato 1997, 871), altruistic virtue is at once taught, learned, inherited, and acquired through mimicry and experience. Moreover, its extent is proportional to the importance, proximity, and frequency, of interpersonal interactions.

Rational altruism admits many definitions. The Nobel economist Gary Becker defined it, almost oxymoronically, as an "egoistic virtue" by which the welfare of two or more individuals (a *h*usband and *w*ife in Becker's example) become productively intertwined: "*h*'s utility function depends positively on the well-being of *w* [... which] 'effectively' means that *h*'s behavior is changed by his altruism. [...] Since an altruist [in this sense] maximizes his own utility [...] he might be called selfish, not altruistic, in terms of utility. [...] I am giving a definition of altruism that is relevant to behavior—to consumption and production choices—rather than giving a philosophical discussion of what 'really' motivates people" (Becker 1991, 278–279). Becker observed that "selfishness is common in market transactions [whereas] altruism is common in families [and by extension within other non-market relationships, as among close friends] […] [this is so] because altruism is less 'efficient' in the marketplace and more 'efficient' in families" (299). Becker concludes that non-market altruism "is more important in economic life than is commonly understood" (303), which is a remarkable claim by a classically trained economist (compare, for example, Waldfogel 1993 and 2009; see also Montanye 2015).

Becker does not consider deeply the reasons for altruism's operating more efficiently within the family. One obvious possibility, long popular (but becoming less so)

among evolutionists, is that evolution favors biological *kinship* and *inclusive fitness* (about which more below). Becker's analysis argues for a different explanation: altruism is proportional to the extent, importance, proximity, and frequency of economic *interdependence*, rather than being proportional to the degree of genetic *interrelatedness* as evolutionary theories require. Becker's insights contradict evolutionary theories of altruism, which Becker dismisses as being in error.

Economists, especially those grounded in Austrian-school economics, have internalized the practice of thinking in terms of rational individual actors instead of homogenous social aggregates. Accordingly, economists avoid using terms like "society" and "groups" when positing theories of human behavior. The mathematical biologist Martin Nowak, who is a forceful proponent of the evolutionary, group-selection theory of altruism, also accepts economics' view that altruistic "cooperation is entirely compatible with the hard-boiled arithmetic of survival in an unremittingly cold-eyed and competitive environment," and that "cooperation can emerge out of nothing more that a rational calculation of [individual] self-interest" (Nowak 2011, xvi, 29, citing the Nobel economist Robert Aumann). Tomasello notes that "most forms of cooperation that we see in nature, such as social grooming and alliance formation, are not examples of [metaphysical] mutualism: they are examples of altruistic cooperation in which costs are recouped through reciprocity or nepotism" (Tomasello 2009, 117). Darwin himself observed, perhaps in writings by Thomas Hobbes, David Hume, and Adam Smith, that "as the reasoning powers and foresight of [individuals] became improved, each man would soon learn from experience that if he aided his fellow men, he would commonly receive aid in return" (Darwin 1871, 37). Modern group-selection theory, by contrast, "makes no assumptions about whether individuals are cooperative or selfish," resting instead upon "intense between-group competition" (Nowak 2011, 93).

5. Altruism in Evolutionary Theory

The behavioral biologist Robert Trivers (1985) coined the term "reciprocal altruism" to describe the cultivation of mutual aid relationships between and among individuals of many species, relationships that are both prudential and non-sacrificial. The accidental humorist Yogi Berra expressed Triver's concept somewhat less elegantly, but to the same effect: "Always go to other people's funerals, otherwise they won't come to yours" (quoted in Nowak 2011, 64). Alexander (1987, 93–106) disaggregated Triver's concept of reciprocal altruism to distinguish between the exchange of material goods and services (*direct reciprocity*) on one hand, and on the other hand those acts of apparent altruism that are intended to establish and maintain the giver's *reputation* as a trustworthy cooperating partner (*indirect reciprocity*)—Yogi's comment regarding funeral attendance is amusing in part because it conflates these two categories of reciprocity. Nowak (2011, 271–272) identifies two additional drivers of altruistic behavior: (i) *kin selection* (entailing inclusive fitness), which is the observed tendency of individuals to favor family members over others; and (ii) *multilevel natural selection*, a controversial theory positing that natural selection fosters altruism by operating at the level of social groups.

Casual observation suggests that natural selection has endowed humans with three interrelated altruistic qualities: (i) a propensity for sociability, which entails an inherent desire for group membership in order to improve, through economic efficiencies, private opportunities for survival, reproduction, and psychic flourishing; (ii) a heightened capacity for reason, which leads individuals (as if by Adam Smith's "invisible hand") to cooperate, reciprocate, and exchange for purely instrumental reasons, frequently benefitting "society" in the process (Smith 1976, I:477–478); and (iii) a capacity for interpersonal trust, which emerged from evolved changes in the human oxytocin system (Ridley 2010, 7, 97), and which facilitates productive cooperation among humans when giving and reciprocity are not simultaneous.

Nowak exaggerates the process of natural selection when asserting that "[c]ooperation is the master architect of evolution" (Nowak 2011, xviii). Cooperation (and altruism generally) among humans is a *consequence* of evolution's response to resource scarcity rather than being evolution's architect, as Nowak's theory of multilevel group selection requires. E.O. Wilson notes that highly social and cooperative (*eusocial*) species (including humans) have evolved only twenty times in the history of life on earth (E.O. Wilson 2014, 19), which would be an impossibly small result if cooperation truly were evolution's master architect. Wilson explains that "[t]he overpowering of individual selection by group selection has not only been rare in mammals and other vertebrates; it has never been and likely never will be complete. The fundamentals of the mammalian life cycle and population structure prevent it. No insect-like social system can be created in the theatre of mammalian social evolution" (E.O. Wilson 2012, 56). Wilson notes, however, that "the *perception* of group selection as the main driving force of evolution fits well with a great deal of what is most typical—and perplexing—about human nature. It also finds resonance in the evidence from the otherwise disparate fields of social psychology, archeology, and evolutionary biology that human beings are intensely tribalist by nature" (290, italics added). However, "if the object of interest is altruism in the sense of sacrifice of personal reproduction, the goal of explaining it by multilevel selection theory is likely to be illusory" (146).

Scientists of all stripes nowadays regard *as fact* the process of evolution by Darwinian natural selection (E.O. Wilson 2013, 61). Among the many possible evolutionary explanations for human sociability and altruistic behavior, however, none is more controversial than evolutionary "multilevel group selection" theory, whose mantra is: "Selfishness beats altruism within groups. Altruistic groups beat selfish groups. Everything else is commentary" (D.S. Wilson 2015, 23).

D.S. Wilson notes that "[e]volutionary theories of altruism and cooperation focus almost exclusively on the problem of *cheating* [including failures of reciprocity]" (D.S. Wilson 2002, 109, italics added). The human ability to overcome cheating requires, by Wilson's lights, that groups be imagined as single adaptive organisms: "Human groups cannot lightly be described as adaptive units, but if they can be rigorously shown to function as adaptive units, that will be a major scientific accomplishment" (84). Egoistic cheating, however, is a powerful evolutionary force that has been shown to weaken, rather than to ground, the theory of multilevel group selection argued for by Wilson and others.

The idea that social evolution, including various forms of altruism, might be driven by natural selection at the level of groups flows from Darwin himself:

> It must not be forgotten that although a high standard of morality gives but a slight or no advantage to each individual man and his children of the same tribe, yet an increase in the number of well-endowed men and advancement in the standard of morality will certainly give an immense advantage to one tribe over another. A tribe including many members who, possessing in a high degree the spirit of patriotism, fidelity, obedience, courage, and sympathy, who were always ready to aid one another, and to sacrifice themselves for the common good, would be victorious over most other tribes; and this would be natural selection. (Darwin 1871, 500)

This passage has given rise in recent years to a cottage industry of group-selection theorists.

In the 1960s and 1970s, an eccentric chemist named George Price was among the first researchers to seek a group-selection theory of altruism (Harman 2010). Price imagined a connection between the social success of a few individuals and the general prosperity of all. Seeking an overarching remedy for society's many ills (à la Comte), Price seized upon altruistic kindness as a salvational human quality that might be propagated genetically. He sought specifically to explain how pure altruism, which reduces individual fitness, might nevertheless evolve through natural selection. His efforts culminated in a mathematical equation describing a hypothetical case in which the effects of natural selection not only are stronger between groups than within them, but also are stronger than inherent individual egoism. The technical issue to be resolved, in short, was whether group-related adaptations pose a stronger evolutionary force than individual selection (Nowak 2011, 85). Price's equation required the totality of cultural variables to offset the penalty that natural selection extracts for the sacrifice of individual fitness. Pure altruism might be heritable, thought Price, so long as a few nice guys (and gals) finished last.

The details of Price's life and work largely have been forgotten, although related theories of altruism rooted in group-selection theory continue battling against a tide of scientific skepticism: "what became known as 'group selection' was denounced as heresy by many evolutionary biologists" (Nowak 2011, 83; see also D.S. Wilson 2002, chap. 1). The theory's principal supporting evidence presently flows from mathematical game theoretic models and related computer simulations which, among other things, coincidently have weakened, if not invalidated, earlier kinship and inclusive fitness theories of altruism: "Multilevel selection presently is gaining in favor among evolutionary biologists because of recent mathematical proofs that kin selection can operate only under special conditions that rarely exist" (E.O. Wilson 2014, 24). By both Wilson's and Nowak's lights, kin selection and inclusive fitness theories of altruism came to be accepted because of a widely mistaken belief that empirical support was robust when actually it was nonexistent. Moreover, the mathematics of kin selection is "obscure," and

the theory offers no greater insights and predictions than ordinary natural selection theory (Nowak 2011, 106–108). Becker expressed similar concerns about inclusive fitness theory, albeit from an economics perspective (Becker 1991, 16). E.O. Wilson, who once chided economists for drawing their principles "from close descriptions, experiments, and statistical analyses (E.O. Wilson 1998, 202), recently hitched his own evolutionary wagon to the theoretical and statistical results of group-selection simulations.

Results derived from mathematical theories and computer simulations do not prove that elements of human altruism *actually* evolved though groups selection, but merely that they might have arisen in this manner given certain strong presuppositions. Theory alone cannot prove the existence of imagined phenomena ("proofs" of this sort remain in the domain of theology). Group-selection's strongest positive argument is that the theory clears the low epistemological hurdles of coherence and correspondence. Its predictions cannot be tested against reality, thereby rendering the theory itself non-falsifiable, and so making it at once a theory of everything and a theory of nothing.

Trivers defined group selection as "[t]he differential reproduction of groups, often *imagined* to favor traits that are individually disadvantageous but evolve because they benefit the larger group" (Trivers 1985, 456, italics added). Many evolutionists (including some of the theory's most enthusiastic supporters) admit that some degree of imagination is necessary for group-selection theory to work. Trivers explained the basis for his own skepticism: "When ascribing a function to a trait it only makes sense to see how the trait increases the reproductive success of those bearing the trait, not the reproductive success of the group or the species" (81). Group-level selection is counterintuitive by this light, in part because, as E.O. Wilson notes, "[w]hen an individual is cooperative and altruistic, this reduces his advantage in competition to a comparable degree with other members of the group as a whole" (E.O. Wilson 2014, 179). This narrow characterization of altruistic behavior overlooks cases of reciprocal cooperation that benefits all participants. But how, in the self-sacrificial cases implied by Wilson, might altruism arise and remain evolutionarily stable so long as individual selfishness, which is rooted in resource scarcity, trumps it? Skeptical evolutionists also wonder how group-selectionists determine which evolutionary level is the decisive one: "If selection goes on between groups within a species, and between species, why should it not also go on between larger groupings? [...] between lions and antelopes" for example (Dawkins 1989, 10; see also Williams 1996, chap. 4). Group-selection theory appears in this light to be predicated upon arbitrary and all too anthropocentric presuppositions .

Economists too have expressed logical concerns about the merits of group-selection theory, arguing in part that human altruism operates, even in non-market settings, through evolved propensities for rationality, cooperation, reciprocity, trust, and exchange, which are mutually beneficial, and which entail no sacrifice of individual fitness. Accordingly, Becker concluded that evolutionary "models of group selection are unnecessary since altruistic behavior can be selected as a consequence of individual rationality" (Becker 1976, 284). Group-selectionists retort vaguely that "nonhuman societies provide outstanding examples of the [economist's] invisible-hand metaphor [only] when they are products of society-level selection but not otherwise. Higher-level

selection is the invisible hand" (D.S. Wilson, 2015, 106). In other words, altruism *in its purest form* exists only where "group-level functional organization evolves primarily by natural selection between groups" (21). All hedging aside, theory and simulations presently indicate that "group selection works well [only] if there are many small groups [families and extended families, for example] and not so well if there are a few large lumbering groups [societies and civilizations, for example]" (Nowak 2011, 89). Evolutionists also concede that group selection is a relatively weak evolutionary force at best, and that it necessarily weakens further as it progresses conceptually through multiple levels. E.O. Wilson (among others) notes that natural selection cannot begin acting at the group level until a cohesive group first comes into existence by some other means (E.O. Wilson 2012, 142), whereupon altruism magically arises out of "intense between-group competition" (Nowak 2011, 93). Group-selection theory thus "makes no assumptions about whether individuals are cooperative or selfish" (93).

6. Altruism as Political Biology

The historian and philosopher of science Oren Harman concluded his study of George Price's life and work by noting that among "the people doing science, their backgrounds, historical context, family histories, education, political views, religious affiliations, [and] temperament all play a role. [...] there is always an interested logic involved" (Harman 2010, 356, 363; see also Arrow 1972). The continuing history of altruism within group-selection theory poses no exceptions. The social and political orientation of evolutionists has been tendentiously utilitarian and communitarian since the beginning: Alfred Russell Wallace, the co-discoverer (with Darwin) of natural selection, was an avid proponent of both nascent group-selection theory and socialism. Positivist social theories similarly promote normative measures of the greatest good, often by claiming that certain individuals naturally are willing—or else ought to be duty-bound for "scientific" reasons—to sacrifice their individual fitness for the common good: the Twentieth Century's progressive eugenics programs are a prime example. Group-selection theory represents, among other things, the latest in a long line of well-intentioned schemes for perfecting mankind's ostensibly flawed moral and social nature (see Passmore 2000). Dawkins, himself an unabashedly progressive social thinker, explains, against his own political interests, that "one reason for the great appeal of group-selection theory is that it is thoroughly in tune with the moral and political ideals that most of us share. […] The muddle in human ethics over the level at which altruism is desirable—family, nation, race, species, or all living things—is mirrored by a parallel muddle in biology over the level at which altruism is to be expected according to the theory of evolution" (Dawkins 1989, 9). Other evolutionists, by contrast, insist that "[g]roup-level adaptation is here to stay in evolutionary biology, and the human social sciences must follow suit to remain true to first principles" (D.S. Wilson 2002, 85).

A recent book by D.S. Wilson explores the relationship between altruism and group-selection theory. The book's title asks rhetorically whether altruism exists, to which Wilson answers with a qualified "yes" (D.S. Wilson, 2015, 141). The book's argument

begins on a moral note: "Altruism is a concern for the welfare of others as an end in itself" (3). It turns consequentialistic when claiming that the *results* of an action, rather than the action's underlying motivation, are what matter: "Our preference for some thoughts and feelings over others is based primarily on the actions they produce. There is no other reason to privilege thoughts and feelings that count as altruistic over those that count as selfish" (8–9). By this standard, there also is no reason to privilege voluntary acts over actions resulting from coercion, indoctrination, and other external motivations that exploit the human propensity for cooperation and exchange, as augmented by complementary propensities for reputation (*indirect reciprocity*) and trust. Wilson proposes "relaunching," through a research organization called the Evolution Institute, a broadly Comptean social scheme that is "centered on the concept of functional organization [grounded on multilevel group-selection theory], not [upon] altruism per se" (143). Wilson is devastatingly candid about his overarching agenda:

> If we want to solve the most pressing problems of our age, such as world peace and global environmental sustainability, then more cultural evolution is required and it must be guided by a sophisticated knowledge of evolution. [...] Future social arrangements need to be based more on intentional planning than ever before. This does not necessarily mean centralized planning; it can also include the smart design of decentralized processes. [...] The selection of best practices must be intentional because we cannot wait for natural selection and there is no process [...] to select for functional organization at the planetary scale. [... W]e need to become wise managers of variation and selection processes [...] we must choose policies with the welfare of the whole world in mind. (D.S. Wilson 2015, 88, 114, 146, 149).

Wilson's chillingly progressive, ideological pretensions leave nothing to the imagination.

For Nowak, "the biggest issues of all—saving the planet and maximizing the collective lifetime of the species *Homo sapiens*—cannot be solved by technology alone. They require novel ways for us to work in harmony. If we are to continue to thrive, we have but one option. We now have to manage the planet as a whole. If we are to win the struggle for existence [...] we have to refine and to extend our ability to cooperate" (Nowak 2011, xix). In other words, we all are in this mess together. Predicating normative social policies upon an illusion of multilevel group-selection theory, instead of recognizing, say, the fundamental necessity of accepting economic trade-offs, is Nowak's congenial basis for orchestrating humanity's future.

E.O. Wilson has endorsed group-selection theory in recent years, collaborating with Nowak, and separately with D.S. Wilson, on influential journal articles. Along the way he has apostatized many of his earlier views supporting kin selection and inclusive fitness (Wilson 2012; 2014; 2017). Wilson now advocates group-selection theory on grounds that "[i]t is impossible to overstate the importance of group selection both to science and the humanities, and further, to the foundation of moral and political reasoning [... for otherwise ...] To explain [humanity's most 'noble traits'] with individual selection

alone, it is necessary to take a thoroughly cynical view of humanity, based on selfish genes and the convoluted methods of deception and manipulation they describe" (E.O. Wilson 2017, 100). No longer does Wilson dismiss humanity's "noble traits" as "Wonderful theory. Wrong species." Group-selection theory presently is preferred if only for tendentious moral and aesthetic reasons.

Group-selection's fatal scientific shortcoming as a theory of human altruism, as with some of the convoluted evolutionary theories that preceded it, is the lack of empirical support outside of the theory itself. Empirical work in behavioral and experimental economics, by contrast, detects only cold, primitive egoism instead of the warm and fuzzy altruism predicted by group-selection theory (Levitt and Dubner 2009, 113–123, 238–241). Group-selection theory's strongest claim, apart from its mathematical proofs and simulations, is that all previous evolutionary theories of altruism are intrinsically faulty.

For D.S. Wilson, E.O. Wilson, and Martin Nowak, altruistic necessity and group-selection theory rest on the cusp of attaining secular religious status. Their work ostensibly represents the best of all possible solutions to "ultimate concerns" that touch upon E.O. Wilson's "foundation of moral and political reasoning." The theologian Paul Tillich explained how "everything secular can enter the realm of the holy and that the holy can be secularized. On one hand, this means that secular things, events, and realms can become matters of ultimate concern, become divine powers; and, on the other hand, this means that divine powers can be reduced to secular objects, lose their religious character. Both types of movement can be observed throughout the entire history of religion and culture, which indicates that there is an essential unity of the holy and the secular, in spite of their existential separation" (Tillich 1973, 221). Ultimate social concerns tend eventually to distort scientific thinking and methodology, as Harman (2010) concluded in his study of George Price's life and work. Creation myths, non-falsifiable theories, and the unquestioned acceptance of non-verifiable presuppositions are hallmarks of scientific endeavors that transcend objective reality to become secular religions. Multilevel group-selection theory fits this pattern by offering a path to global salvation through a stylized scientific confession. D.S. Wilson, as if following Tillich, overtly combines the religious with the secular: "Religion returns to center stage, not as a theological explanation of purpose and order, but as itself a product of evolution that enables groups to function as adaptive units—at least to a degree" (D.S. Wilson 2002, 6).

Seneca often is credited (always without citation) for the familiar characterization of common people as regarding religion to be true, the wise regarding it as false, and rulers accepting it as useful (see Gibbon 2009, I:56). The claim that self-sacrificing forms of altruism are a consequence of multilevel group selection exhibits a similar belief structure. Ending war, alleviating economic inequality, promoting biodiversity, and saving the planet through social policies grounded upon the supposed altruistic implications of group-selection theory are politically and religiously attractive endeavors. They also entail two serious implementation concerns. The first, as posed by the Roman satirist Juvenal, is "who is to guard the guards themselves?" (Juvenal 1992, 50). Allowing an ideologically driven, scientific priesthood free reign to shape social policies on the basis of controversial biological theories and abstract mathematical proofs would be abjectly irresponsible, as

prior experience with progressive eugenics programs demonstrated. Second, self-sacrificial human altruism, which is characterized by group-selectionists as being highly desirable, is a mixed quality that would motivate both heroic first-responders and suicide bombers. Whether self-sacrificial altruism might be beneficial on balance is a question that group-selection theory cannot, and does not presume to answer.

7. Conclusion

Quiet reflection can suggest that Seneca was barking up the right tree when claiming that altruism and reciprocation are joyful aspects of human virtue that almost every individual can imagine experiencing at least occasionally. However, closer consideration is likely to reveal that altruistic acts more often represent egoistic strategies that are inherent and rational. Accordingly, old school biologists and modern day evolutionary psychologists, along with economists, argue for consequentialistic explanations of altruistic acts that occur outside the family. A small but growing number of evolutionary biologists presently argues instead—to varying degrees, largely against the scientific tide, and without identifying specific biological mechanisms—that the human species' most "noble virtues" evolved, at least in part, as a result of group-selection pressures. As Tomasello notes, "[i]n the contemporary study of human behavioral evolution, the central problem is altruism, specifically how it came to be. There is no widely accepted solution to that question, but there is no shortage of proposals either" (Tomasello 2009, 51).

Science and natural philosophy progress both from the bottom up, and from the top down. The bottom-up variety answers "how" and "what" questions based upon hypotheses and tentative theories whose predictions are tested for validity and accuracy. Top-down inquiry, by comparison, begins by adopting presuppositions and spinning elegant theories by which to organize, criticize, accept, reject, and interpret data, competing theories, and values to fit overarching ideals and tendentious, pre-formed conclusions (see Posner 1992, 433). Underdetermined science, of which group-selection theory is a part, yields idiosyncratic results (except by coincidence) because, as the philosopher Paul Feyerabend famously quipped, "anything goes;" self-imposed limitations on scientific imagination serve only to inhibit technical and social progress (Feyerabend 2010, 12–13). The upshot, as the physicist Max Planck wryly suggested, is that science sometimes advances concurrently with the death of influential theorists.

A comprehensive understanding of altruism's philosophical, scientific, and social thinking richly suggests that self-sacrificing altruism—that is, voluntary and non-egotistic behavior by some individuals for the good of others—rarely occurs naturally and systematically beyond small circles of family, friends, and loved ones, although confected simulacra often are imposed (typically upon society's most impressionable and normatively expendable individuals) by means of coercion, indoctrination, and adverse conditioning. Group-selection, as a theory for explaining sacrificial altruism, appears to be trivial at best. Its adductive proof rests largely upon a single flimsy, if not desperate claim: "group selection overcoming 'selfish' individual selection appears to be the more straightforward and comprehensive explanation" when compared to the "crumbled"

theories for kin selection and inclusive fitness (E.O. Wilson 2012, 175, 51). To reach even this stage of acceptance, group-selection theory double-counts inherent individual propensities for cooperative behavior, arbitrarily evolutionizes aspects of rational human action, and presses normative social agendas.

E.O. Wilson articulates, almost in passing, a valid insight for moving conventional natural selection theory in the direction of accounting broadly for apparent altruistic behavior. In a passage reminiscent of Seneca, Wilson asserts that "beyond the ordinary instincts of altruism, there is something more delicate and ephemeral in character but, when experienced, transformative. It is *honor*, a feeling born of innate empathy and cooperativeness. It is the final reserve of altruism that may yet save our race" (E.O. Wilson 2012, 251). Wilson is describing, in effect, an inherent human propensity for personal *reputation*, the outward expression of psychic honor that grounds indirect reciprocity. Reputation represents an investment in costly distinctions of honor that are hard won and easily lost (see, for example, Nisbett and Cohen 1996). It can ground efficient behavioral responses to scarcity, which otherwise appear to be irrational, contrary to survival and reproduction imperatives, and evolutionarily unsustainable. Such a propensity might evolve through the so-called *Baldwin effect* of gene-culture, which asserts in essence that efficient behavioral responses to scarcity ultimately evolve into inherent propensities (E.O. Wilson 2017, 119). A propensity for reputation would respond to social pressures directed toward achieving group objectives, as occurs routinely across family, social, and militarized aspects of ordinary life.

This "more straightforward and comprehensive" explanatory theory for reconciling altruism with natural selection represents a powerful and encompassing, yet parsimonious and ideology-free theory of apparent altruism. The theory is verifiable using established methods for studying other aspects of cooperative human development; for example, the spontaneous cooperation observed in infants. Theory and evidence richly suggest that extending evolutionary thinking along this line could yield valid conclusions regarding altruism's biological nature.

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