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PART ONE

Alien altruism

CHAPTER I

Explanations for altruism

There is no shortage of evidence to suggest that we are fundamentally, and all but irreparably, characterized by selfishness. If reports of consumptive greed and callous disregard for the obvious distress of others do not clinch the point, the representations of science, particularly the portrayals of sociobiology, confirm that impression beyond any reasonable doubt. This emerging discipline shows how altruism is fundamentally unnatural, an aberration that runs directly counter to the natural flow of life.

THE IMPOSSIBILITY OF NATURAL ALTRUISM

Sociobiologists contend that the altruism that concerns them is not the everyday variety of one agent assisting another agent, perhaps at significant cost to the assisting agent. At its most basic, the biological point of life is more life, reproduction. Consequently, from this perspective, altruism refers to one organism enhancing the reproductive advantage of another, especially at cost to itself. Yet this biological restriction has a way of encompassing broader, more conventional senses of the term that far exceed issues of reproductive advantage and disadvantage.

From a biological point of view, altruism should not exist. The Darwinian theory of natural selection holds that those organisms survive and reproduce which are best adapted to their environment. They are “selected” by the natural processes of geography, climate, food supplies, predation, etc. Any organism that devotes itself to the welfare of other organisms, to that

extent jeopardizes its own prospects for reproduction and enhances those of the recipient of the assistance. As that trend continues, it would seem that the altruist strain would be bound to be selected out of existence.

The dilemma is given vivid expression through the more precise genetic focus of sociobiology. Through the application of game theory, sociobiologists work out projections for what would happen as more and fewer altruists emerge in a given population. A prominent interpreter of the mysteries of sociobiology to the uninitiated, Richard Dawkins, sketches a widely endorsed reading of the situation through the identification of three behavioral types, tellingly labeled suckers, cheats, and grudgers.¹ How the presence of each would affect a given population, and how each of these types would fare, is projected in terms of an imaginary situation involving a species of bird that is parasited by an injurious and potentially lethal kind of tick. Each bird can rid itself of these parasites on most of its body, but it cannot reach the top of its own head, and so the only solution is for each bird to have its head ticks removed by another bird. And, of course, this is where the different strategies emerge. “Suckers” refers to those birds that will groom other birds indiscriminately. They are complete altruists. “Cheats” are those birds that accept this grooming, but never perform this service themselves. Now the projections indicate that in a population of suckers, everyone will have their head ticks removed, but as soon as a cheat emerges, the situation changes. Cheat genes will begin to spread through the population and the sucker genes will be driven to extinction. For the more cheats there are, the more suckers will go ungroomed, dying from the parasitic infection, and thus having their genes removed from the collective gene pool. The cheats, for their part, thrive as long as there are enough suckers to help keep them tick-free. Of course, as the sucker population declines, the cheats will be affected, but never to the extent of the suckers themselves. “Therefore, as long as we consider only these two

¹ Richard Dawkins, *The Selfish Gene* (London: Granada, 1978), pp. 197ff.

strategies, nothing can stop the extinction of the suckers, and very probably, the extinction of the whole population too.”²

The third option, represented by the “grudger,” involves grooming those who have groomed them. They never groom a cheat a second time. In a cheat population, grudgers would be almost as vulnerable as suckers. They would spend most of their time practising unrequited grooming, and paying for this with their lives, to the detriment of their own genetic legacy. But when a significant number of grudgers emerges, they will groom each other to the detriment of the cheats, who will be driven to the brink of extinction, but not over, because the lower the population of cheats, the more chance each of these individuals will have of being groomed by grudgers they have not encountered before.

Common sense, and perhaps the lingering legacy of Christian sentiment, might suggest that the ideal evolutionarily stable strategy would be represented by a population consisting exclusively of suckers. This would assure that each bird would be groomed simply because they were in need of grooming. And this might well be the ideal situation. But it is ideal. In the real world, allowance must be made for grudgers and even cheats. But once this is done, as we have seen, the way of the sucker ceases to represent an evolutionarily stable strategy. On the contrary, the way of the grudger holds the most promise for maintaining itself against the interruption of cheats or suckers. The way of the cheat is also equally effective in achieving an evolutionarily stable strategy against grudgers and suckers, but the way of the cheat achieves this at the high price of courting extinction because cheats cannot groom each other. The conclusion to which we are led, then, is that neither pure altruism, nor pure selfishness, offer long-term prospects on their own. The most promising course is the calculative reciprocity of the grudger. This strategy is effective against both cheats and suckers. But as long as there are cheats and suckers as well as grudgers, the cheats are next in order of stability, with suckers

² Ibid., p. 199.

coming in a distant third. Their strategy invites exploitation by cheats and receives only marginal support from grudgers.

Thus from the biological point of view, especially as this is sharpened through the genetic focus of sociobiology, the prospects for serious altruism are particularly bleak. The situation cannot be described more succinctly than it is by Dawkins himself.

Even in the group of altruists, there will almost certainly be a dissenting minority who refuse to make any sacrifice. If there is just one selfish rebel, prepared to exploit the altruism of the rest, then he, by definition, is more likely than they are to survive and have children. Each of these children will tend to inherit his selfish traits. After several generations of natural selection, “the altruistic group” will be overrun by selfish individuals, and will be indistinguishable from the selfish group. Even if we grant the improbable chance existence initially of pure altruistic groups without any rebels, it is very difficult to see what is to stop selfish individuals migrating in from neighbouring selfish groups, and, by intermarriage, contaminating the purity of the altruistic group.³

This biological account of altruism accords with the contemporary experience. It is no wonder that self-interest should be the prevailing strategy. We have inherited a genetic bias in this direction. Any inclination to concern for others that might have been present has been diminished by the genetic triumph of the drive to self-preservation and self-enhancement. And yet altruism continues to exist. There are individuals who apparently sacrifice themselves, and *a fortiori* the transmission of their genes, for the sake of others. Why is it that altruism has not been eliminated entirely? This represents what the leading pioneer of sociobiology, E. O. Wilson, calls “the central theoretical problem of sociobiology: how can altruism, which by definition reduces personal fitness, possibly evolve by natural selection?”⁴ Indeed, the problem is even more acute than this. For the reality is almost contrary to the picture we have considered in abstract terms. The truth is that in the broad scope of nature, far from altruism having been diminished, the

³ *Ibid.*, p. 8.

⁴ Edward O. Wilson, *Sociobiology: The New Synthesis* (Cambridge, Mass.: Harvard University Press, 1975), p. 3.

reverse would seem to be the case. It is in the most developed species, namely ourselves, that altruism has attained its most striking expression, evoking what Wilson has called the “culminating mystery of all biology.”⁵ On the premise of modern biology, especially as this is sharpened by sociobiology, altruism should not exist at all, much less have evolved through the process.

The biological problem of altruism is at least as old as Darwin’s theory of natural selection. Indeed, even for Darwin himself it constituted the “one special difficulty, which at first appeared to me insuperable, and actually fatal to the whole theory.”⁶ The altruism that Darwin found so threatening was that of social insects. In bees and ants, for example, worker castes devote their lives to work to the total exclusion of reproduction, and yet these sterile castes reemerge generation after generation. How? Why does such apparent total altruism not result in its own destruction through the lack of offspring? A possible answer is in terms of group selection. Then workers continue to be reproduced because, in these instances, selection takes place at the level of the colony. Workers are an integral part of the colony, and thus contribute to the fitness of the whole group, so that their own lack of reproductive ability is compensated for at the group level. They do not have to reproduce themselves because their lineage is provided for in the reproductive mechanisms of the group.

This identification of a group level as the focus of the selection process represents something of a minority report in modern biology. V. C. Wynne-Edwards contends that its day has come,⁷ but even to allow for group selection as a counterpart to the dominant assumptions of individual selection is a concession that does not appear to be forthcoming in any significant measure. To the novice, Wynne-Edwards’ claim for group selection can appear to offer a credible way of accounting for the continued appearance of non-reproductive worker

⁵ *Ibid.*, p. 362.

⁶ Charles Darwin, *The Origin of Species*, 6th edition (London: John Murray, 1888), p. 228.

⁷ V. C. Wynne-Edwards, *Evolution through Group Selection* (Oxford: Blackwell Scientific Publications, 1986), p. 357.

castes. “In group selection theory there is no problem about sacrificing the fitness of some individuals if it benefits the fitness of a group as a whole to do so; and this applies not only to vertebrates in changeable habitats but to the special-duty sterile castes of insects as well.”⁸ Sensible though this might appear to sociobiologically untutored common sense, it does not find favor with sociobiologists. They maintain their focus on individual selection through the concept of kin selection, which might sound like a variation on group selection, but is intended precisely to avoid any compromise of the individual focus.

In a series of articles in the 1960s and early 70s, W. D. Hamilton worked out a theory of kin selection in precise mathematical terms.⁹ Because each parent contributes half the genes that make up their offspring, there is a 50% chance that a parent and his or her offspring will share any particular gene. Thus the ratio in the genetic relationship between parent and child is half. Roughly the same ratio holds between siblings, because they share the same parents. For more distant relations, the calculation is more complicated, but the results, genetically speaking, are that there is half of ourselves in our parents, our offspring, and our siblings; a quarter in our uncles, aunts, nephews and nieces, and in our grandparents and grandchildren; one-eighth in our first cousins, our great-grandparents and great-grandchildren.

The significance of these degrees of relatedness for sociobiology is that they provide a basis for explaining altruism that is directed to an individual’s immediate kin. Thus if a bird risks attracting a predator to ensure the safety of a flock or of her own brood, as birds often do, sometimes feigning a broken wing to lead a fox away from a nest, and leaping into the air at the last possible moment to escape the fox’s jaws,¹⁰ or warning a whole flock with an alarm call when a flying predator such as a hawk is spotted,¹¹ this has all the appearance of dangerous, sacrificial, altruistic behavior. From the genetic point of view,

⁸ *Ibid.*, p. 345.

⁹ W. D. Hamilton, “The Genetical Theory of Social Behavior,” *The Journal of Theoretical Biology* 7 (1964): Part I, 1–16, Part II, 17–32.

¹⁰ Dawkins, *The Selfish Gene*, p. 7. ¹¹ *Ibid.*, p. 6.

however, it is entirely explicable in terms of gene ratios. A mother bird is not risking anything if her diversionary behavior saves two of her chicks because together they are likely to possess 100% of her genes. Similarly, the bird raising the alarm call is also protecting its own genes if it has a couple of siblings in the flock, or four nieces or nephews or eight first cousins. It is not that a bird calculates these odds, or even deliberately acts in this seemingly altruistic fashion. The level of agency is not the bird but the genes that constitute it, and every other living being, including ourselves. Genes are the ultimate subjects. "They are in you and me; they created us, body and mind; and their preservation is the ultimate rationale for our existence."¹² All plants and animals exist as vehicles for the replication of genes. "We are survival machines – robot vehicles blindly programmed to preserve the selfish molecules known as genes."¹³ It is not a group or an individual that is finally at stake in the biological process, but genes. Instances of apparent altruistic behavior in groups or on the part of individuals are really gene strategies. The individuals that are at risk, or appear to put themselves at risk, are probably acting to preserve genes they share with kin. It is kin altruism that is at stake, rather than any pure, self-sacrificing variety.

Kin altruism, by its very nature, only accounts for altruism among close relatives. It is not clear that this covers all apparently altruistic behavior among animals, and it is especially precarious in light of the more wide ranging altruistic behavior that can sometimes characterize human actions in particular. The difficulty that is especially evident with human altruism is that there may be no apparent relationship between the altruist and his or her beneficiary and so no apparent rationale for the action other than the altruistic one of actually benefiting the other person. Saving a drowning person, who is unknown and unrelated to me, can hardly be attributed to an ulterior strategy promoted by the genetic drive for replication. However, this unlikely situation is also encompassed by the sociobiological explanation of altruism. The mechanism that accounts for this

¹² Ibid., p. 21.

¹³ Ibid., "Preface," p. x.

is known as “reciprocal altruism.” Although the immediate act may appear purely altruistic, in a larger perspective, it can be seen to represent a relatively minor risk to the benefactor, with the prospect that should he find himself in any similar life-threatening situation, he will be more likely to receive the aid he requires. Thus ironically, Wilson suggests that reciprocal altruism “is less purely altruistic than acts evolving out of interdemic and kin selection.”¹⁴ Note that the pioneer sociobiologist is pronouncing on “pure altruism,” and not the biological, reproductively focused variety.

Thus sociobiology accounts for apparent altruistic behavior with an arsenal of three primary weapons, the two versions of altruism we have sketched and the underlying assumption that the fundamental behavioral orientation is one of self-interest. On the most primary level, behavior generally is self-interested, especially in the form of genetic self-interest. Beyond this, most altruistic behavior among insects, birds, and animals can be explained by the mechanism of kin selection. Finally, wider versions of apparently altruistic behavior, most evident among humans, can be more accurately understood as reciprocal altruism, engaged in with the expectation, at least genetically speaking, of receiving a return in the future, should occasion require it. Thus sociobiology demonstrates the totally illusory nature of the whole notion of altruism. What appears to be altruism is really genetically sophisticated selfishness.

The very thoroughness of this account of altruism might really be indicative of its inadequacy. Perhaps the explanations are simply too good. This is the charge of the Sociobiology Study Group. “There exists no imaginable situation that cannot be explained; it is necessarily confirmed by every observation.”¹⁵ Any putative case of altruistic behavior that is not susceptible to the calculations of kin selection is bound to succumb to the unlimited scope of reciprocal altruism.

Even such a comprehensive program as the sociobiological

¹⁴ Wilson, *Sociobiology*, p. 120.

¹⁵ Sociobiology Study Group, “Sociobiology – A New Biological Determinism,” in *Biology as a Social Weapon*, ed. Ann Arbor Science for the People Editorial Collective (Minneapolis: Burgers Publishing Co., 1977), p. 145.

explanation of altruism does have awkward instances to contend with, though, as its more forthright exponents admit. Dawkins points to the phenomenon of female herd animals adopting orphaned offspring that bear no particular relation to them, thus investing their care in individuals that hold no prospect of perpetuating their own genetic legacy. The only explanation he can provide for this is that it represents a mistake of nature. “It is presumably a mistake which happens too seldom for natural selection to have ‘bothered’ to change the rule by making the maternal instinct more selective.”¹⁶ A more difficult example, and one which Dawkins concedes might well be taken as evidence against this whole genetic explanation of altruism, is the practice of bereaved monkey mothers who steal a baby from another female, and look after it. This is really a double mistake, from the perspective of the genetic account, because, as Dawkins observes, the adopting mother not only invests her time and care in someone else’s child rather than getting on with producing further offspring of her own, but she also thereby frees the stolen child’s mother to do precisely that herself, to the benefit of that mother’s genes and the detriment of those of the adoptive mother. This behavior, then, constitutes a direct contradiction to what the sociobiological account should lead us to expect.

Yet even these obvious exceptions to sociobiology’s central thesis are accommodated by its more imaginative proponents. So D. D. Barash explains the apparent altruism of adoption of non-relatives on the human level as a hangover from the past when humanity lived in small groups, so that there was likely to be a significant genetic relationship between adopter and adoptee.¹⁷ If this extreme explanation does not represent the snapping of this highly elastic theory, other more empirical difficulties almost certainly do. We saw how Darwin was particularly troubled by the apparent altruism of social insects. He wondered how workers which did not reproduce themselves had ever evolved. We also noted the consideration that the answer in this case might lie at the group level. Their altruism is

¹⁶ Dawkins, *The Selfish Gene*, p. 109.

¹⁷ D. D. Barash, *Sociobiology and Behaviour* (Amsterdam: Elsevier, 1977), pp. 312f.