

Selfish Genes and Social Darwinism

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Exchanging views in *Philosophy* with a two-year time-lag is getting rather like conversation with the Andromeda Nebula. I am distressed that my reply to Messrs Mackie and Dawkins, explaining what made me write so crossly about *The Selfish Gene*, has been so long delayed.¹ Mr Mackie's sudden death in December 1981 adds a further dimension to this distress.

Apology is due, not only for the delay but for the impatient tone of my article. One should not lose one's temper, and doing so always makes for confused argument. My basic objections remain. But I certainly ought to have expressed them more clearly and temperately. This reply must, I think, concentrate simply on explaining the background of reasons why these objections matter. I shall have very little to say directly about Mackie's argument, since it was chiefly just a very fair and sympathetic exposition of Dawkin's views. Mackie himself drew only very modest conclusions from them, and avoided the excesses of psychological egoism, as of course he also does in his own book. But this still leaves two serious worries. In the first place I do not think that *The Selfish Gene* itself, on any natural interpretation, does avoid those excesses. In the second, even when modestly interpreted, I think it is far too one-sided a book to be picked out and used in isolation for the re-education of moral philosophy in the biological facts of life.

My own central philosophic concern—which I think Dawkins shares—is to make possible a more realistic attitude about the place of *Homo sapiens* in the world. I think we need to see, far more clearly than we now do, how small and transient a phenomenon we are in the cosmos. We need a much more realistic idea of our own mental and physical inheritance, of the constitution which relates us so closely to the other animal species of this planet. And since Darwin's theory of natural selection, incomplete though it is, is much the best guide we have to understanding that constitution, it

¹ See their Discussion Notes, 'Genes and Egoism' by J. L. Mackie and 'In Defence of Selfish Genes' by Richard Dawkins, in *Philosophy* No. 218 (October 1981). These answered my article 'Gene-Juggling' (*Philosophy* No. 210 (October 1979)), which referred to 'The Law of the Jungle' by J. L. Mackie (*Philosophy* No. 206 (October 1978)). Initials used henceforward refer to these articles and to Richard Dawkins's books, *The Selfish Gene* (Oxford University Press, 1976) and *The Extended Phenotype* (London: W. H. Freeman and Co., 1982.)

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is urgent to try to use it fully for that purpose. I therefore wholly agree with Dawkins in wanting people as fully informed as possible about the workings of evolution. And I welcome those parts of his book which simply explain them. Why, however, has this project not so far been more successful? The unwillingness of many educated people to accept evolutionary concepts fully and apply them to *Homo sapiens* does not just flow from lack of information, which could be remedied by a good clear textbook. It flows from that early, widespread and deep-rooted bunch of misunderstandings of Darwin's ideas, which is called (somewhat misleadingly) Social Darwinism. This consists in supposing that evolution endorses the simple social ethic of devil-take-the-hindmost. That ethic was in fact already provided with a theory long before Darwin wrote, as a spin-off from free-enterprise economics. But since the word *fit* can unfortunately mean *deserving* or *suitable* as well as healthy, Herbert Spencer's concept of the 'survival of the fittest' seemed to slot admirably into this framework, and to supplement what had before been merely prudential advice by deriving it from a universal law of life. Darwin himself, though he accepted the phrase, rejected such applications. But Spencer had full confidence in them, and toured the United States giving the explicit scientific blessing of evolutionary theory to the wilder excesses of free-enterprise capitalism.² The damage was deep and lasting. It remains to plague us today. And sociobiological thinking, especially in its Dawkinsian form, actually reinforces Social Darwinism, both by its language and by some of its substance. This, and not some mysterious personal spite, was what made me indignant.

Out of a vast range of possible examples I select a case which brings out specially well the fatalistic side of the error:

Acceptance of the Spencerian philosophy brought with it a paralysis of the will to reform. Youmans (an influential American popularizer of H. Spencer's views) in Henry George's presence denounced with great fervour the political corruption of New York and the selfishness of the rich in ignoring or promoting it when they found it profitable to do so. 'What are you going to do about it?' George asked. Youmans replied 'Nothing. You and I can do nothing at all. It's all a matter of evolution. We can only wait for evolution. Perhaps in four or five thousand years evolution may have carried men beyond this state of things.'³

Actually, Dawkins may very well by now have grasped this point as far as it concerns Fatalism. *The Extended Phenotype* contains an admirable chapter on what is called 'Genetic Determinism' in which he spells out well the

² For this painful story, see Richard Hofstadter, *Social Darwinism in American Thought* (New York: Braziller, 1959), Ch. 2, 'The Vogue of Spencer', and James R. Moore *The Post-Darwinian Controversies* (Cambridge University Press, 1979), Ch. 7, 'The Vogue of Herbert Spencer'.

³ Hofstadter, *op. cit.*, 47.

difference between determinism and fatalism, and points out that genetic determinism is no worse than the sociological kind.⁴ He now sees, he says, that he has unwittingly stumbled over a myth. But of course what is involved is much more than a myth. It is a whole coherent web of powerful political and psychological ideas, rooted in large and bloody historical facts. To sidestep it demands more than tact. It calls for rethinking.

This way of regarding evolution has not died. Indeed, it has been plausibly said that Social Darwinism is still the unofficial religion of the West. The amount of reasonable alarm which this raises becomes clear to anyone who reads the indignant responses of people of radical or liberal sympathies, particularly in the social sciences, first to ethological thinking and then to sociobiology, whenever those methods are applied to man. A kind of truce was maintained in the early part of this century—helped out no doubt by the bizarre Lamarckism of Freud—which allowed Darwin's ideas to apply in theory even to human beings, provided that no one actually suggested in detail how they might work. But any attempt at such specific suggestions was at once seen—not universally but surprisingly widely—as Social Darwinism. The accusation is mostly now phrased as one of 'biological determinism', which sounds metaphysical. But the quotations and examples show that the real objection is political and moral. The real opponent is still Spencer. So strong is this expectation that the slightest carelessness of language is enough to confirm it.

One cannot exorcize this trouble merely by disclaiming the intention of drawing moral conclusions.⁵ This cannot help, because the central doctrine at issue is not moral but factual. It is that conflict is universal and is in fact the only kind of interaction which is possible for us. To correct this error, what is chiefly needed is attention to the sociality of the higher animals, which shows us the roots of human co-operation, without in any way compromising the uniqueness of the tree which has grown from those roots. It then becomes possible for us to see ourselves, without distortion or reduction, as part of the animal creation. I have some sympathy with Dawkins when he repeatedly disclaims interest in human psychology, and wants its complications kept out of the way of evolutionary theory. But this is scarcely possible. In the first place he actually invites a human application. In the second, readers of a given species must naturally apply such

⁴ Chapter 2, much of which is reprinted under the title 'The Myth of Genetic Determinism' in *New Scientist* 93, No. 1287 (7 January 1982).

⁵ Dawkins gives this disclaimer at SG, p. 3, but unfortunately goes on to neutralize it. He writes: 'My own feeling is that a human society based simply on the gene's law of universal selfishness would be a very nasty society in which to live. *But unfortunately, however much we may deplore something, it does not stop it being true.*' This seems to concede the factual point I now discuss, not only about genes but about people.

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theories to their own case, even if they were not asked to, and they have a right to expect that it will make sense there. If they are inclined to suspect before they start that everything good in their own species is exclusive to it, accounts of evolution which emphasize only what they regard as evil are bound to confirm their opinion. Any writer who lays all the emphasis on conflict is inviting misunderstanding. And if he adds to this a language like the sociobiological one, drawn from everyday morality, he guarantees it.

Foremost among the snags of this sociobiological language is the equivocal use of words like 'selfish', 'altruistic', 'spite' and 'manipulate', a use which not only suggests psychological egoism to the surrounding peasants, but clearly at times misleads the writers themselves. It is because the word 'selfish', with this sense, is the key term of *The Selfish Gene*, and receives a poetic celebration there unparalleled in other sociobiological writings, that the book struck me as exceptionally likely to block the acceptance of Darwinism. Since my main controversial business is to prevent this blocking, and to show people that they can use Darwin's methods on human behaviour without being committed to a shoddy psychology and a bogus political morality, this upset me, and doubly so when I found this particular book—out of the enormous wealth of books now available on evolution—being recommended on its own as a source for moral philosophy.

Is this language however a mere formality? Dr Dawkins tells us that he is obviously not using the word *selfish* in any sense which could excuse this interpretation. It is, he says, a harmless, well-known technical term, referring only to behaviour, viz. to that which in fact increases an entity's own chance of survival. *Selfish*, then, means here something like 'actually self-preserving in the long run'. He correctly points out that biologists writing on evolution do now use the term in what he calls this 'special, restricted sense'. Accordingly, 'a philosopher who wishes to understand biologists must therefore learn this basic feature of biological language' (IDSG, 558). He wants us to treat such redefinition as normal, since 'philosophers of all people know that words may be redefined in special ways for technical purposes' (557).

The question whether this usage is a bad one must be separated from that of what we can do about a bad usage once it exists. Is it a bad one? I suggest that it plainly is. It is true that philosophers are used to special technical definitions. But that does not mean that no standards apply to their manufacture.

A *restricted* sense ought to be one which forms part of the normal meaning of the word. It cannot be one which falls, as this does, right outside it. When it does that, it becomes reasonable to ask, why use that word rather than a more suitable one? It is true (and I should have made it clearer) that this question should be put here to a whole school of biologists, not just to Dawkins, though most of them do not rest anything like so much weight on this particular word. But the question 'why say *selfish*

rather than *self-preserving* or *self-replicating* or *self-perpetuating* or *competitive* or the like?' is still serious. The use is a specially unlucky one for people who really do not want to talk about motivation. As B. F. Skinner rightly remarked,⁶ behaviourists in general do well to avoid using terms suggesting motives. And the term *selfish* is one which centres its normal meaning on motive, not on a fixed range of acts. In any case, however, as Dawkins himself now remarks (558) the tabu on taking animal subjectivity into account when discussing motivation is at present breaking up, because the attempt to explain action in puritanically behaviouristic terms has proved so disappointing. The use is probably doomed along with other perverse behaviouristic uses. So it can scarcely be a 'basic feature of biological language'. And it is certainly a real question why such rankly misleading language was ever chosen. One could of course attribute it merely to clumsiness. But it has always seemed to me more plausible, as well as politer, to suppose that a real bias towards psychological egoism made this use seem actually enlightening and suitable.

While the use remains, however, it poses a problem of a familiar kind for biologists who want to talk to the general reader, to whom *The Selfish Gene* is explicitly addressed. It is by no means enough, in such cases, simply to give a new definition and repeat it from time to time. When a term is drawn from everyday speech like this, the force of habitual usage is far too strong for that. (It can be seen at work for instance in the tendentious use sometimes made by crusading economists of terms like *freedom*. But this case is much less extreme, since the special economic sense of such terms is only a restricted one, not a total change of meaning.) To minimize the danger of misunderstanding in these cases, there are some obvious precepts which writers normally follow. For instance: avoid all emotive uses. Do not combine the word with others which must fix it in the everyday sense (as in 'ruthless selfishness' (p. 2), 'tyranny of the selfish replicators' (p. 3), etc.). Avoid doing this with particular care at the outset of the book, before the special definition has yet been introduced. (It appears on p. 4.) Instead, constantly correct the reader's inevitable bias by adding near-synonyms which take out the heat and move the meaning, if anything, the other way. Avoid examples which can conceivably look like examples of the everyday sense. If you feel a purple passage coming on, make sure that you keep this word out of it. And, above all, do not use it in your title.

By these and similar precautions, many biologists do contrive to use this language without disaster. But one thing which they cannot effectively do in it is to talk about man. Any writer who attempts this runs into impossible

⁶ See *The Behaviour of Organisms* (New York: Appleton Century, 1938), Chapter 1, 6–7. Skinner adds 'The sole criterion for the rejection of a popular term is the implication of a system or of a formulation extending beyond immediate observations'.

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difficulties. He has returned the transplanted language to its home ground. This means that it cannot possibly avoid taking on again the familiar sense which was supposed to have been purged away from it. Enormous problems arise. Nobody wants to deal with them. The effect is that the evolution of human traits is becoming increasingly unthinkable and indescribable, cut off by this linguistic reinforcement of its Wilberforcian barrier from the terms used to describe the rest of nature. Biologists who don't want trouble simply avoid the topic.

But this is not Dr Dawkins's practice in *The Selfish Gene*. Without wasting time illustrating this again at length, I mention only the last point, the title. Would it be a good idea for a physicist to publish a book called *The Charm and Strangeness of Quarks*? Dawkins gives the example of *charm* in his justification and it is an interesting one (IDSG, 557). Physicists can only use these terms because their new use is so far removed from their old one that there can be no possibility of interpreting their sentences in the old sense. So far from this being the case with selfishness, many if not most of the remarks made about it in the new sense admit of an interpretation in the old sense which sounds, not only intelligible, but attractively familiar. They read as ordinary statements and developments of psychological egoism. I am entirely prepared to believe that these interpretations come as a complete surprise to Dawkins in his capacity as Dr Jekyll, the honourable and single-minded expounder of biological truths. Jekyll writes about half the book, and I ought to have paid tribute to him before, for doing it so well. Instead, perversely enough, I not only took him for granted but thought that his presence actually made things worse. How can a writer who can do this work so admirably then go on to spoil it with irrelevant rhetoric? And how is it possible for readers to feel that, with those powers of exposition, he does not know what he is saying?

Much of Dr Dawkins's reply is devoted to spelling out fully the technical meaning of what he has said, and to claiming that I have misunderstood it in bringing non-biological objections. Is his purpose then actually just a scientific one? Is the book really just an unpretentious, neutral textbook of evolutionary biology, which my lurid imagination has no right to saddle with any wider implications? Is the non-technical part of it just a bit of standard flannel, used to wrap popular science for the benefit of publishers, and meant to be ignored by serious readers? It is printed without any health warning to the reader not to swallow it, and accordingly my criticisms, however ill-expressed, become relevant. Arguments which would be perfectly in place in purely theoretical biological discussions (such as those of John Maynard Smith) have a quite different function here. Points such as the bias of examples and the over-abstractness of models now come under a quite different standard of criticism. The claims being made are immensely larger, and gaps in the argument are therefore far graver. What then actually are these claims?

The book's first chapter, called 'Why are People?' opens with this remarkable manifesto:

Intelligent life on a planet comes of age when it first works out the reason for its own existence . . . We no longer have to resort to superstition when faced with *the deep problems: Is there a meaning to life? What are we for? What is man?* After posing the last of these questions the eminent zoologist G. G. Simpson put it thus: 'The point I want to make now is that all attempts to answer that question before 1859 are worthless and that we will be better off if we ignore them completely' (p. 1, *my italics*).

Simpson, of course, was talking about the causal story, which does not involve the first two questions. But Dawkins, though he does not discuss or analyse these questions, does repeatedly answer at least the second of them in his book, and he would scarcely mention the first if he did not think that his answer served for that as well. He must mean that all of them received in 1859 a new and revolutionary answer. In response to my complaint about loose use of metaphor, he now emphatically repeats what he takes this answer to be. It runs:

We are survival machines—robot vehicles blindly programmed to preserve the selfish molecules known as genes. This is a truth which still fills me with astonishment (p. ix).

He now comments 'That was no metaphor. I believe it is the literal truth, provided certain key words are defined in the particular way favoured by biologists' (IDSG, 572–573). (This caveat can apply only to *gene* and *selfish*, since the other words have not been discussed. The ones that really need attention, of course, are *machine*, *vehicle* and *blindly programmed*.)

What concerns me is the meaning of this and the argument by which it is supposed to follow from the theory of evolution. As to the meaning, one quite sensible point emerges, but it is a small one—namely, that we have not programmed ourselves. We are not self-creating beings inventing our own destinies from scratch. We are weak, ignorant and self-deceiving, and ought to make a much greater effort to understand our limitations. True. But this point cannot be made in the language of fatalism, which declares that all human effort is useless, since we are only pawns in the grip of an alien power. And fatalism of the most extreme sort seems central to the meaning of these numerous passages.

How is this fatalism really intended? Can it be read as mere determinism, a scientific belief in regularity with all reference to the distinctive agency of the genes removed? It will not normally be so read, because fatalism is one of the strongest and most seductive of popular thought-schemes. And to say that the remark about survival machines is 'literal truth' seems to put

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the matter past doubt, since literal programming can only be done by agents, and conscious ones at that. The fatalistic point, of course, is not that a new, conscious external agent has been found, but that those who have so far believed themselves to be agents are shown not *really* to be so. The personification of the controlling force is merely a way of dramatizing their helplessness. The message which any unsophisticated reader must receive is that he is a helpless pawn in the hands of his physical inheritance and can therefore stop trying, because he has a universal excuse. Or—to look at it another way—any states of discouragement and depression which may overwhelm him are veridical. What he feels when in their grip is the truth. He really is not capable of acting, and the sense of agency which he has at other times is a delusion. Paralysis of the will is his real condition. Since people sometimes believe the books they read, this seems a message which one should think twice about printing.

To this unofficial message we must return. The official one concerns the units of selection. It is best approached by considering what it means to call organisms 'survival machines' for genes. The language of 'mechanisms' and the like is of course common in science, but it is usually used to describe the relation of parts to whole organisms. The survival or other benefit of those organisms then supplies the purpose needed for all mechanical talk. Outside that context, this language gets obscure. To a certain extent it can be used in wider contexts, in phrases like 'the mechanisms of evolution'. But this use depends on taking some larger unit, such as the biosphere or a part of it, as the whole whose part is in some sense its 'mechanism', working for its good. This use is not entirely clear, but it is a lot clearer than the reversed one in which genes, which are parts, use their wholes as survival machines or 'vehicles'—like people buying cars. People, after all, are contingently related to their cars.

If we are merely expounding determinism, why should we pick out genes from the rest of the causal process? Genes are pieces of matter, 'programmed' along with the rest of the organism—that is, taking shape and acting in a particular way as a result of environmental pressures, of the physical and chemical forces working within them, and of the behaviour of previous organisms. The point of describing them as programmers must be to pick them out as *originators*, as in some sense the starting-point of explanation. ('Genes exert ultimate power over behaviour', p. 64.) But determinism allows of no such ultimate power.

A meaning can be found for this special status, but again it is rather a small one, and this time it is involved in current controversy. It can mean simply that genes are specially *useful* in causal explanation. This claim has two stages. First, evolutionary selection has formed our nature. (This seems to me plainly true and important, though many people still dispute it.) Second, 'what evolution selects' is not individuals or groups, but genes.

I think it is clear that this controversy about ‘units of selection’ has slipped, in its later stages, into a piece of mistaken metaphysics. It is not obvious why there should be any contest between individuals and genes; both are ‘selected’, though in slightly different senses. About groups, however, a genuine mistake was made, and real gratitude is due to the sociobiologists who, following J. B. S. Haldane, corrected it. The problem is about how ‘altruistic’ traits—that is, traits which benefit others at the expense of the individual displaying them—can evolve. It used to be somewhat casually assumed that they would do so if they benefited the group or species (‘group-selection’). Haldane and his followers pointed out that, if the trait was to be genuinely inherited, this was not enough. Unless enough owners of these traits survive to breed, the traits will be lost, however useful they might have been. ‘Kin selection’ works only through the survival of kin.⁷

Once this was clear the notion of direct ‘group selection’ was largely dropped except for certain special cases. A hot controversy then developed over which entity, if not the group or species, should be considered the fundamental ‘unit of selection’. Was it the individual or the gene? A philosopher’s first response to this query will probably be to wonder why any single unit should be expected. I do not know of any good reason for this.

D. Hull, in a very sympathetic discussion, has pointed out that Dawkins’s ‘replicating’ unit (the gene) is far too parsimonious to be equal to its work, and has offered to make metaphysical sense of it by adding, to supplement it, two further units, first the ‘interactor’, which is the organism, mediating between the gene and the environment, and then the ‘lineage’.⁸ These additions would make it possible to describe those aspects of biological change which do not take place within or between genes—that is, of course, nearly all of them. Dawkins, however, rejects this.⁹

What, however, might all this have to do with the meaning and purpose

⁷ The most comprehensive and convenient source for this history is Edward O. Wilson’s *Sociobiology* (Harvard University Press, 1976) which gives many other sources. The latter stages of the dispute can be followed in *The Extended Phenotype*.

⁸ ‘Units of Evolution, a Metaphysical Essay’, in *The Philosophy of Evolution*, U. J. Jensen and R. Harré (eds) (Brighton: Harvester Press, 1981). Hull’s extreme politeness, in the remarks which Dawkins cites (IDSG, 570), does not obscure the fact that what Hull is pointing out is a metaphysical *difficulty* raised by the doctrine of gene-selection, a difficulty which, if not cured, will sink it. It is not really too hard to commit a single ‘act of metaphysics’. What is hard is to extract oneself from its consequences.

⁹ In some parts of the new book, especially at the opening, he concedes that ‘gene-selectionism’ may be only one way of looking at things, a refreshing alternative idea which does not need to establish itself as an exclusive ruler. But most of the time, zeal for its final victory seems to remain undiminished.

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of life? Now in the case of kin-selection there is a clear answer. Kin-selection has practical importance because it refutes psychological egoism. It shows that we cannot actually be creatures designed only to pursue each our own individual safety and advantage, because such creatures would have become extinct as soon as they grew complex enough for their children's development to require a long and demanding nurture. Since theorists like Hobbes have built a great deal of our political theory on psychological egoism it would be a good idea to spell out this message plainly. Instead, however, sociobiology does its best to conceal its central discovery by cloaking it in unsuitable egoistic language, and by hunting for an entity which can still be made to fit the old, exclusively self-benefiting model. The effect is to convey the notion that altruistic and sociable behaviour is somehow an unreal façade, behind which the reality is always competition and hostility. Thus Dawkins attacks Lorenz and his followers, who have emphasized social motivation:

They got it totally and utterly wrong. They got it wrong because they misunderstood how evolution works. They made the erroneous assumption that the important thing in evolution is the good of the species (or the group) rather than the good of the individual (or gene) (SG, p. 2).

But how could there only be one 'important thing in evolution'? Again, he brackets Lorenz with Ashley Montagu as a soft-headed ignoramus, unable to face the gory facts of evolution:

Unlike both of them, I think that 'nature red in tooth and claw' sums up our modern understanding of evolution admirably.

The redness of tooth and claw, however, does not vary by a single shade according to different views about the units of evolutionary selection. On all such views, the social life of animals has developed gradually out of solitary life, and the motivation which makes it possible has only been able to prevail because it actually promoted differential survival, not because it met a pre-existing standard of value.¹⁰

¹⁰ Dawkins seems to think that I doubt this, for he attributes to me (IDSG, 558) 'the old, biology A-level reflex' of 'explaining animal adaptations, altruistic behaviour among them, as "for the good of the species"'. He bases this charge on my remarks that 'what is maladaptive . . . damages the species' chance of surviving', and that 'there is a problem about evolution which runs "Can a species survive if each member of it sometimes does things which do not (*in fact*) pay him?"' (*Beast & Man*, 149). The first of these remarks seems to be a matter of logic, and the second simply states in neutral terms the central question of sociobiology, as it affects species. The idea that there might be a direct, Lamarckian mechanism, ensuring that what helped the group or species would prevail regardless of the fate of individuals, never occurred to me, so I took no trouble to deny it. I rather suspect that others accused of 'group-selectionism' may be in the same boat, including Lorenz.

That origin is disputed by no one—unless, perhaps, by surviving champions of vitalism, to which Lorenz is implacably opposed. Neither is the amount of destruction and waste which has accompanied the process. What, then, has an acceptance of the undoubted bloodiness of nature got to do with the victory of gene-selection?

Dawkins insists on a pre-Socratic, black-or-white antithesis: universal self-interest *or* universal altruism. This makes it impossible to discuss the motivation of group-living creatures. Mackie, correctly following Dawkins's argument, quotes Kipling's line on the Law of the Jungle:

The strength of the Pack is the Wolf, and the strength of the Wolf is the Pack,

and he says that this has been shown to be an error, equally with the extreme 'red in tooth and claw' notion of jungle behaviour. Neither of these, he says, is 'the law by which nature works', since that law actually 'turns upon the self-preservation of gene-clones' (TLJ, p. 460). This assumes that there is only a single 'law by which nature works', and that Kipling's lines are meant to formulate it. But they are not.¹¹ The lines are simply about wolves and other equally social creatures, and they state a principle which is entirely necessary for understanding the behaviour, the mentality and even the physique of these animals. Solitary hunters like jaguars are different in innumerable ways, notably in communicative power. Mackie's question 'whether the good of the group or the species would ever figure in a correct evolutionary account' of such creatures cannot therefore have the negative answer which he gives it (TLJ, 456). Groups have to figure there. References to groups do not of course have to *displace* those to genes and individuals, but they do have to supplement them. There is not 'group-selection', meaning selection which works directly for the good of the group. But there is kin-selection. And since most social animals, including wolves, have groups which consist largely of kin, this comes in practice to very much the same thing. How far social behaviour, having developed toward kin, then extends beyond it is something I cannot go into here. But the important thing is that this is an empirical question about existing behaviour, which cannot be settled in advance by any theory of selection processes. If altruistic behaviour occurs, then it has somehow managed to develop. Evolutionary processes must be such as to make this possible.

Is *The Selfish Gene*, however, really just a straightforward scientific treatise on these processes, claiming no implications about human psychology? The following passages seem relevant—

¹¹ What Kipling gives is, he says, only 'a few of the laws that apply to the wolves . . . specimens of the simpler rulings' which Baloo gave to Mowgli (see 'The Law of the Jungle' in the *Second Jungle Book*, and the story before it, 'How Fear Came').

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If you would extract a moral from this book, read it as a warning. Be warned that if you wish, as I do, to build a society in which individuals co-operate generously and unselfishly towards a common good, you can expect little help from biological nature. Let us try to teach generosity and altruism, because we are born selfish. Let us understand what our selfish genes are up to, because we may then at least have a chance to upset their designs (SG, 3). We have the power to defy the selfish genes of our birth . . . We can even discuss ways of deliberately cultivating and nurturing pure, disinterested altruism, something that has no place in nature, something that has never existed before in the whole history of the world (215).

If we take seriously the view that we are nothing but gene-machines, the advice given seems as futile as inviting a chess-machine to play leap-frog. Besides, and more to our present point, it must surely be needless. The existence of altruism at an ordinary level has been admitted throughout the book and often stressed. So it cannot be this altruism which 'has no place in nature and has never existed in the world'. Nor can the point be just the cliché that we are not generous, altruistic or co-operative *enough*. Of that obvious, but not very exciting, fact psychological egoism is the exciting, but false, overstatement. But what is really mysterious is how, either in its mild or its extreme form, this point can be the moral of a book which is not supposed to be about motives at all, let alone human motives. It can only be so if the controversy about units of selection—which really is central to the book—is seen as also deciding the true nature of motivation. The victory of gene-selection is taken to establish egoism, to prove that existing forms of altruism, though present, are not what they seem, and are really only forms of self-interest. The new kind, which we are invited to invent, will be something completely different. The conjecture that human beings may even be capable of this 'genuine, disinterested, pure altruism' (215) is presented as a rash one. The kind we have now, then, is a sham. Dr Jekyll, of course, disowns this view (5). But Messrs Hyde and Hyde, the poet and moralist, cannot possibly get on without it. In its absence, no large and dashing views about the meaning and purpose of life would emerge at all.

As it is, what are those views? As far as I can see, they can amount only to one thing, namely, to a demand for a total distrust of feeling. The reader is told that *all* his natural feelings—but particularly those outgoing ones which seem to link him with others—are false and misleading guides. They are not really aspects of himself at all, but devices placed in him by alien beings in order to manipulate him. Or, less mythologically, but no less alarmingly, they are the physical effects produced by parasites which have lodged irremovably in his body, and whose chemistry continually distorts his mental processes in a way adapted only to secure their own survival.¹² Now for people to fear their feelings and regard them as alien forces is

nothing new. It is already one of the commonest causes of human misery and confusion. The trouble, of course, is that all hope of developing better feelings depends on acknowledging the existing ones honestly as parts of oneself. But if they are not part of oneself, this is impossible. Besides, if genes really have the 'ultimate power' they are credited with, all such escape routes must surely be blocked and all possible feelings would be equally alien. What alternative are we supposed to turn to? We might hope to have recourse to culture ('let us try to teach generosity and altruism'). But Chapter 11 explains that culture is itself a product of a further set of alien and parasitical entities, called 'memes' or genes of culture, which are just as ruthlessly selfish as genes. Nothing seems left to us except that well-worn asset our 'conscious foresight' (215), our power of planning for our own good. But since what we count as good will depend on our natural feelings and our culture, that is not very helpful. We have no real alternative to the paralysis of complete despair.

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¹² This idea may seem to recall an interesting science-fiction story by Colin Wilson, *The Mind Parasites*, where human faults are found to be the work of mental parasites which are (I think) then eliminated by some kind of transcendental DDT, returning the human race to the innocence which was its original condition. But Dawkins's idea is much more obscure than this, as well as more sinister. It shows *all* contents of the mind, equally and indiscriminately, as parasitical. Dawkins cites with approval a colleague's remark that 'When you plant a meme in my mind you *literally* parasitize my brain, . . . in just the same way that a virus may parasitize the genetic mechanism of a host cell. *And this isn't just a way of talking*' (SG, 207, my italics). But the idea of parasite and host requires separate, distinct individuals. If each individual is only a locus for innumerable warring parasites, how is there anyone to talk of '*my brain*' or of *you* as the parasitizer?