21L448A: DARWIN AND DESIGN Professor Kibel

Fall, 2003

## SECOND ASSIGNMENT

Papers are due on November 4<sup>th</sup> and should consist of six and one-half typed pages (roughly speaking about 2,200 words or 10K characters). Include a word-count or character count on the title page, which is not to be include in the count. Do not number the title page but number the rest. As before, the following questions and topics are meant to be suggestive. If you wish to modify them or invent a topic of your own, you may do so, but the focus of discussion should be one (or more) of the texts read and discussed this term after Hume's *Dialogues* and should deal with issues relevant to both the text and to the substance of our discussions in class.

Once again, please remember that you are writing an essay, not a book-report. We have read the book and do not require a rehearsal of its contents. What an essay supplies is some reminder of the contents in the context of an argument about those contents; the reminder is offered in the course of explaining how one should understand or interpret those contents.

## Suggested Topics:

- 1. Compare any of the arguments (offered by either Cleanthes or Philo) in Hume's *Dialogues* with the overall position of Paley in his *Natural Theology* in any way that will illuminate and contrast the character of both. For example, much of the discussion at the outset of the *Dialogues* concerns the closeness or exactness of the analogy from artificial (human-made) things to natural things-stairs were meant for climbing, and feet were obviously meant for walking-and whether any particular degree of similarity is required for Cleanthes's argument; in contrast, Paley insists upon identity, a basic discrimination between designed and undesigned things. Again, Cleanthes begins by asking us to observe the universe (not any easy thing to do); in Chapter XXII, Paley argues that astronomy is not the best place to look for the evidence of design.
- 2. In his early notebooks, Darwin expresses impatience with a contemporary who argued that the Almighty had adapted the length of the night to the needs of human beings for sleep, instead of seeing sleep as an adaptation to the length of the night. He calls this "an expression of arrogance". Yet he never ceased to admire Paley, who said (in Chapter XVII) that "the relation of sleep to night appears to me to be a relation which was expressly intended." Explain why Paley is not judged for arrogance by elaborating Paley on this and other points in a way that reflects the concern of his book.
- 3. The opening chapters of Paley's text develop an extensive consideration of issues raised by finding a watch. Is the example well-chosen? How is it developed? What arguments are the development intended to address? Discuss the choice of example—would another have done as well, less well, or better, and why?
- 4. Paley freely admits the imperfections of the created world, which is marked, as he says, by "expedients", which are the refuge of imperfection. (Chapter III and again in Chapter XVI) Offering an example, he explains that humans lose their first set of teeth and develop a second so that their would not be gaps between the teeth as the skull expands with growth. Is this example a good one for illustrating "imperfection"? In any case, Paley take the existence of imperfections and the expedients that remedy them to be the strong point of an argument for the existence of God. How does his argument work here? Compare Paley's idea of imperfection and of its character as evidence for the existence of God with those of any other writer read so far this term.

- 5. Adam Smith's ambition was to describe what he called "political economy" (in contrast to what was called "the economy of nature", which is now term "ecology") as a self-regulating system, much as Newton tried to enable descriptions of periodic relations in nature as self-regulating systems whose occasional irregularities could be explained by showing that they conformed to the regularities of some larger system of which they were a part. (It follows, of course, that the universe taken as a whole is entirely regular.) How does self-regulation work in Smith's economic system? What is wealth in his view? How does it come into existence? The natural measure of value in Newton is momentum, defined as a ratio of the values of mass and acceleration, which is constant in any system. What is the natural measure of value in Smith? Why does Smith think that the rise and fall of the value of things can be measured only against this constant and that the monetary price of things does not express their real value?
- 6. Adam Smith, writing twenty-two years before Malthus, seems to be saying something very like Malthus (in the chapter entitled "The Wages of Labour") when he says that no species can multiply beyond its means of subsistence and that scarcity of subsistence regulates the production of men as it does any other commodity. And yet he does not reach Malthus's gloomy conclusions. How does he avoid them? Is there anything about the "division of labor" (which Malthus never mentions in the first edition of his *Principles*) that makes a difference to the argument?
- 7. According to Adam Smith, when everyone tries to serve his or her interests, the result is that the actions of all, taken together, necessarily enhance the annual revenue of the society; to use his famous metaphor, one is "led by an invisible hand to promote an end which was no part of one's intention," Inamely, the good of society, and to do this better than if one actually *tried* to do it. How does Adam Smith account for this? In this context it might be said that where the general interest of society was concerned, Smith believed that the best motivation is enlightened self interest. Develop a thesis about Smith's principle of enlightened self interest and test your thesis in the context of Malthus's *Essay* or Voltaire's *Candide*.
- 8. Malthus applied the principle of population to both plants and animals. But the bulk of his argument seems to apply only to mankind, since it is humankind that increases geometrically, while mankind's food supply (plants and animals) increases only arithmetically. Is there a contradiction here? Put the case for and against the existence of a contradiction on this point and argue for one against the other.
- 9. Malthus suggests that it is criminal receive charity and the recipient is an enemy to all those who work for their living. How deeply is this notion embedded in his general argument? Further, Malthus argues that inequality is natural to humankind and that attempts to depart from it by way of social improvements will always fail. Elucidate his argument. To what extent does Malthus see a function in the existence of a privileged class? Is the existence of such a class, on the whole, a good or a bad thing in his view? Assuming that we agree with Malthus, how appropriate would the phrase "the best of all possible worlds" be to a world which has a privileged class? To what extent, if any, do you think Malthus's concept of natural inequality holds in an age of advanced technology? Does technology have the potential to eliminate the Malthusian predicament?
- 10. Compare the theodicies (i.e., the justifications of God's goodness) in Paley and Malthus, and how each of them relates to the overall views of its author.
- 11. Darwin described his theory as "the doctrine of Malthus applied with manifold force to the whole animal and vegetable kingdoms; for in this case there can be no artificial increase of food, and no prudential restraint from marriage." How Malthusian is Darwin's theory?

- 12. Darwin never mentioned Adam Smith as a source but his notion of the origin of species bears obvious marks of derivation from writers upon the new science of "political economy", who regarded Adam Smith as their progenitor. How "Smithian" is Darwin's theory? How strong is the analogy between Adam Smith's "invisible hand" and the description of natural selection given on p. 91 of the *Origin*, where we are told that natural selection "is daily and hourly scrutinising, throughout the world, every variation, even the slightest; rejecting that which is bad, preserving and adding up all that is good; silently and insensibly working . . . at the improvement of each organic being . . ."? How weak is the analogy? Is there a "general interest" of nature served by Natural Selection?
- 13. There is a particular implication in the idea of an "invisible hand" that Smith never makes explicit–namely, that something which is the result of human activity can appear the work of an intelligence smarter than any of the humans whose activity resulted in it. This notion made its appearance in the *Dialogues* by Smith's good friend, David Hume, who has Philo say:

But were this world ever so perfect a production, it must still remain uncertain, whether all the excellences of the work can justly be ascribed to the workman. If we survey a ship, what an exalted idea must we form of the ingenuity of the carpenter who framed so complicated, useful, and beautiful a machine? And what surprise must we feel, when we find him a stupid mechanic, who imitated others, and copied an art, which, through a long succession of ages, after multiplied trials, mistakes, corrections, deliberations, and controversies, had been gradually improving?

The same idea is repeated in Darwin with slight modification. In the last chapter, he urges us to look on organisms as we would any mechanical invention, not as a savage looks at a ship, but as a ship is—the summing up of the labors, experience, reasonings and even blunders of innumerable workmen. Can something be smarter than those who make it? How important is this idea to the gist of what Darwin, Hume and Smith are saying?

- 14. Armed with his concept of a natural measure of value "which is the same in all times and all places", Adam Smith describes a system in which the market value of anything will hover about its true value. (Ch VII: "The natural price, therefore, is, as it were, the central price, to which the prices of all commodities are continually gravitating.") The image here is that of the balance, in which the scale hovers minutely about the real weight. Darwin, too, sees hovering and balance in nature. Consider his invented example concerning cats, mice and clover in Chapter III of the *Origin*. And yet Nature is not stable but constantly changing. How adequate is the image of the balance to what Darwin is talking about? Is there any constant value "which is the same in all times and all places" as in Smith.
- 15. In the same connection, consider the development of life on Earth. In the penultimate paragraph of the last chapter, Darwin alludes to it as "progress": "And as natural selection works solely by and for the good of each being, all corporeal and mental endowments will tend to progress towards perfection." Is life, in any or all of its forms, getting more and more perfect? Perfect in what way or what function? In this connection, we should consider Darwin's remarks elsewhere in the *Origin* and particularly at the end of Chapter six, where perfection is defined as "being slightly more perfect" than anything else in the ambient ecology. Certainly, if we compare the present with the monocellular beginnings of life, both the biosphere itself at present and the organisms within it will exhibit greater complexity of organization. But is Darwin's view of increasing complexity an idea of increasing perfection? Again, Darwin does not think that the organic structures of individual species were less complicated in, say, the Mesozoic than in the Cenozoic periods. The last sections of Chapter IV constitute an extended meditation on the direction of life's development since the Cambrian period and the direction in which it may be heading. How does this meditation compare with the notion of progress, in the usual sense of the word?

- 16. Darwin writes: "I use the term 'Struggle for Existence' in a large and metaphorical sense . . ." [] (p. 62) How many ways does he use the term? How does it differ from Malthus's use? What do the differences show about the nature of Darwin's theory?
- 17. Taking a direct cue from Paley's discussion of the eye and telescope, Darwin examines "organs of extreme perfection" in the *Origin*, including the eye (pp. 185-89, 201-206). Examine the two texts and compare the views of Paley and Darwin with regard to the eye. One issue here is the idea of "perfection". How do the two texts treat this notion?
- 18. Darwin did not invent the tree metaphor that he invokes as an image of life (pp. 130-31). After all, his subject is genealogies, the idea of lineal descent, and this has often been invoked in speaking of "a family tree". How adequate is the metaphor to his subject and what are its shortcomings?
- 19. Darwin answers certain criticisms of his theory, most pointedly in chapter six ("Difficulties on Theory") and in chapter seven, which deals with inherited instincts (we read the last pages), but he answers potential objections or misconceptions at other points, too. Later, in the last chapter, he argues that those who have been looking for a lifetime at nature through the spectacles of one theory are going to have trouble looking at nature through the spectacles of another. Find some few instances of objection or misconception (anywhere from two on up) and give the objection the best run for its money that you can; then offer Darwin's answer and show how it relates to Darwin's overall view.
- 20. Suppose that Voltaire had got hold of a copy of Darwin's *Origin* and was sufficiently in advance of his time to have understood its argument. How would he have applied the phrases "sufficient reason" and "best of all possible worlds" to it? Alternatively: The phrase "best of all possible worlds" sounds upbeat but it may express the same pessimism as the phrase "This is as good as it gets". With reference to the idea that Nature is a system, does Darwin lend support to the use of the phrase in either of these senses or is it irrelevant to his argument?
- 21. In causal relations, a necessary condition for the occurrence of an event is a state of affairs without which the event cannot happen, while a sufficient condition is a state of affairs that guarantees that it will happen. The idea behind the principle of sufficient reason is that you have not understood the existence of anything (or the occurrence of any event) until you have identified its sufficient reason. (It follows, of course, that anything that can be understood was bound to happen.) How much scope is there in Darwin's argument for the use of these two concepts?
- 22. Here is an excerpt from chapter 8 of Aristotle's *Physics*:

Why should not nature work, just as the sky rains, not in order to make the corn grow, but of necessity? What is drawn up must cool, and what has been cooled must become water and descend, the result of this being that the corn grows. Similarly if a man's crop is spoiled on the threshing-floor, the rain did not fall "for the sake of" this—in order to spoil the crop—but that result just followed. Why then should it not be the same with the parts in nature, for example, that our teeth should come up of necessity—the front teeth sharp, fitted for tearing, the molars broad and useful for grinding down the food—presuming that they did not arise for this end, but it was merely a coincident result; and so with all other parts in which we suppose that there is purpose? Wherever, then, among all the parts that came about, some came about fortuitously just as they would have done if they

had come about for an end, these things would survive, being organized by mere chance in a fitting way; whereas those which grew otherwise perished and continue to perish, as Empedocles says his "man-faced ox-progeny" did.

The passage discusses *necessity* and *mere chance* and opposes to these things the kind of agency in which things happen "for the sake of something". How close is the view that Aristotle is dismissing to Darwin's. What kind of an agency (the cause of something) is Natural Selection? What would Darwin say about this passage?

## 23. From Darwin's *The Descent of Man*:

The advancement of the welfare of mankind is a most intricate problem: all ought to refrain from marriage who cannot avoid abject poverty for their children; for poverty is not only a great evil, but tends to its own increase by leading to recklessness in marriage. On the other hand,... if the prudent avoid marriage, whilst the reckless marry, the inferior members tend to supplant the better members of society. Man, like every other animal, has no doubt advanced to his present high condition through a struggle for existence consequent on his rapid multiplication; and if he is to advance still higher, it is to be feared that he must remain subject to a severe struggle. Otherwise he would sink into indolence, and the more gifted men would not be more successful in the battle of life than the less gifted. Hence our natural rate of increase, though leading to many and obvious evils, must not be greatly diminished by any means. There should be open competition for all men; and the most able should not be prevented by laws or customs from succeeding best and rearing the largest number of offspring.

Darwin deals here with the issues raised by Malthus. Develop a thesis and compare Darwin and Malthus in some detail on their social views. Darwin seems to advocate a laissez-faire (leave things alone) policy, unconstrained by legal or moral principles, in the production of offspring. Is Darwin's view more sensible than or simply the same as Malthus's?