On the origins of the evolutionary epic

Addison on Aliens

Anthropocentrism

Anthropocentrism is displaced in Addison´s essay on the Scale of Being. The human is no longer the center of God´s plan, and it is only a limited perspective we can have on the whole of nature. The world is the work of a perfectly intelligent design, but it is no longer made for us; it also belongs to a variety of animals, angels, and aliens.

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Addison´s essay on the Scale of Being (*Spectator* no. 519, 1712), is an excellent exposition and instantiation of the notion of the FULL NATURE. It puts forward a view of the natural world which is thoroughly purpose-driven, providential, a version of the Intelligent Design that Paley will still be holding a hundred years later.

Addison's view of the Scale of Being goes back to age-old conceptions of the Great Chain of Being, insisting on the fullness of the chain as a providential design. Every possible nook and pigeonhole of the world of nature has its place and every possible creature has been instantiated in this brimful productive system, whose very abundance is proof, for Addison, of the perfection of the creative plan. We have here, then, a classical version of theodicy, and the world-view it offers is that of the static Scala Naturae, with God´s mind expressed in nature and culminating (at least as far as the Earth is concerned) in human beings as the closest expression of the divine will, and the ones who can best understand the divine plan of which they are a subordinate part.

On the whole, Addison´s views have been dismissed from a twentieth-century stance as a form of naive and complacent anthropocentrism, a prolongation of classical or medieval views into the age of enlightenment. But there may be a degree of historical myopia at work here, once we take the historical context into account. There are highly interesting elements to be found in Addison, just as there are in the comparable takes on this idea of a Full Nature formulated by his contemporaries—Leibniz first, perhaps, then Shaftesbury, Bolingbroke, and Pope in his *Essay on Man.* And in Mandeville in another sense.

The notion of a *full nature* is not merely a justification for this seemingly anthropocentric view of mankind in its place in nature—just like some aspects the Linnaean (static, non-evolutionary) system will seriously question man´s exceptionality in nature. Antropocentrism is, instead, displaced. The human is no longer the center of God´s plan, and the perspective we can have on the whole of the Scale of Nature is only a limited one.

There is, by the way, an apparent contradiction here, quite prominent also in Pope ´s *Essay on Man:* the overall plan is divine, and it therefore escapes the human scope, which is necessarily limited—but these thinkers present themselves as

providing a perspective on the divine plan which transcends (the "ordinary") human scope. Such reasoning leads to the paradoxical doctrine that we live in the best of possible worlds. The best—only not for us; it is "the best" from a divine stance... that we cannot share or comprehend.

Still, the notion of "the best of all possible worlds" and its concomitant "full nature" serve their function as an explanation of human limitations and of the fact that the world cannot be reduced to a moral order defined in human terms. What is more, we see that some elements in this world view are on the very brink of settting in motion the System of Nature, and transforming the static scale of creation, a natural taxonomy of diversity, into an epic of evolution, far in advance of the *Vestiges of the Natural History of Creation,* and in advance of Diderot and Buffon (though not ahead of Lucretius, of Ibn Khaldun, and of other proto-evolutionists).

It is an evolutionary epic conducted, sure enough, by the mind of God unfolding its plan through nature. The opposition between evolutionary and non-evolutionary thinkers is in many respects not as clearly-drawn as it might look at first sight, and many of the principles of the evolutionary thought of Darwin, or of Spencer, rest on the notions developed by eighteenth-century thinkers, or, indeed, their predecessors.

To name but a few:
- The reasoning on public benefits arising from private vices in Mandeville´s *Fable of the Bees* is a reflection on the indirect and unplanned results of action, resulting in complex self-organization.
- Adam Smith´s Invisible Hand, a concept emphasizing the emergence of spontaneous order from a multiplicty of conflicting forces —an order not planned by the intention of the (nonetheless conscious) agents.
- Malthus´s reflections on the dynamics of population and resources, and on their effects on social dynamics, not just as regards such phenomena as war or famine, but also institutions, customs and beliefs.
- Or, again, the principle of the Tangled Bank which is so memorably formulated in the last paragraph of Darwin´s *Origin of Species.* It is from the variety (the fullness of nature), from the tangled nature of the bank, that competition and ecological integration result, further biological complexity emerges and ever more beautiful forms may arise. As in an expanded Mandeville, public good results from the "private vice" of the struggle for life.

This principle of complex dynamics resulting from (and into) a Full Nature is also formulated in a memorable way in Oliver Goldsmith´s story "Asem the Man-Hater". This is a squib against idealism which asserts the divine Providence and its working through indirect means and Secondary causes, far from any simple-minded projection of a moral order on the world. One of these days I will put down in writing a detailed commentary of this story, which I take as a memorable fable of complexity and evolutionary dynamics *avant la lettre.* There we see, again, that the very existence of complex human society rests on the predatory dynamics and self-interest that enable the emergence of a human order in the first place. And the existence of a multiplicity of creatures involves the dynamics of hunting and preyiing; ultimately, even the forms of human cooperation rest on non-altruistic self-interest and derive from it. If Goldsmith is a proto-evolutionist, he does nail down some of the complex dynamics driving evolution. And not every aspect of this reasoning is formulated by explicitly evolutionary eighteenth-century thinkers, like Buffon or Erasmus Darwin.

There is a fine line and a fuzzy one at that dividing proto-evolutionism from early evolutionism. All in all, Addison´s essay on the Scale of Being, while being firmly planted in the thought of the past, seems on the brink of inventing evolution in the very process of its reasoning.

Addison´s central assumption (that inanimate nature is merely the support of life, and that there is no inanimate nature without life) is a direct consequence of Robert Hooke´s *Micrographia* (1665) and of the new awareness of the microbial world. It also draws on the cosmological speculations of Fontenelle and other continental theorists of the Plurality of Worlds (the 17th-century equivalent of today´s multiverses), who were extracting the intellectual consequences of the new discoveries in astronomy.

But in spite of its progressive outlook around the year 1700, the assumption of a fully peopled universe is of course mistaken. We now know that most of the material universe, at least insofar as we can observe it, is inanimate and lifeless—that life, far from being spread everywhere, is an extremely exceptional development. Both life and intelligence are much more exceptional than Fontenelle or Addison would seem to think—it is the exception, rather than the rule of the universe.

A century and a half later, William Whewell recognized as much—if the Universe is conceived as the purposive basis for this, then it is extremely wasteful and, well — ...pointless.

Addison´s teleology and his providentialism are likewise the relics of an earlier age. And yet there are elements in this essay which look to the future, as well as to the past. And these go far beyond Addison´s speculations on Aliens (and Angels). Evolution did not evolve in a single day, and this essay is one of my favourite texts on eighteenth-century proto-evolutionism, with human thought gathering the materials of the past and moving further towards a new perspective on nature and man´s place in it. Beyond its apparent self-complacency we can detect a bold step in the decentering of man and of human thought. This is apparent in Addison (or Shaftesbury, or Pope) discerning a universe which, while it exhibits a cosmic order, is not guided by human priorities or aims. A mighty maze, not without a plan, indeed, but one whose plan is neither of human proportions, nor designed with an eye to human priorities. This is thought in evolution, soon to become fully evolutionary thought.

Note, for instance, in Addison's essay, the use of such notions as "adaptation" and "progress", the "transitions" from one species to another, or his description of the emergence of the senses in higher beings of the scale of nature. It is the very rhetoric of Addison´s essay, his speculative journey through the Scale of Nature, that invites his reader to see that scale as an emergent or evolutionary system. He stands so much on the very brink of explicitly formulating an evolutionary interpretation, that this interpretation seems to be forming at the back of the author´s mind, and to come to the fore in the consciousness of his reader as a natural development of Addison´s reasoning.

It is not clear, for instane, whether the "advance" of the world of life through these stages, the "progress" of the scale of nature, is only the progress of Addison´s examination from simple to complex, or the historical-evolutionary progress of the emergence of biological complexity, a reading it seems (perhaps cautiously) to invite—much more indeed than the Locke text he quotes. The "software" of life, the instincts or mental capacities of animals, are for Addison likewise on a rising scale of complexity which likewise admits or invites an evolutionary interpretation, in the sense of 'descent with modification (and improvement)'. Bergson, indeed,

observed in *L´Évolution créatrice* that the idea of the Scale of Nature was preparing the ground for the birth of evolutionism.

Consider the closing statement of Addison´s essay, asserting the fundamental kinship between Man and Worm, and their common origin. Clearly, no reader of Addison will understand him to be claiming that worms are descended from humans or from human-like creatures—but it would not take (it didn´t take) such a big step for Charles Darwin to suggest that humans evolved from worm-like creatures, and ultimately from inanimate matter. Many a reader of Addison, beginning with Erasmus Darwin and his grandson, was more than ready for such a claim. Perhaps Addison himself would have been open to take such a notion into consideration.

Addison´s displacement of anthropocentrism is, paradoxically enough, a mode of thought which is in a way quite naturally in keeping with traditional Biblical wisdom, when he observes that it is not for man to question the acts of God. The divine design, as he sees it, far transcends our limited outlook as creatures too narrowly centered on their own priorities, and unaware of their complex integration with all other beings in a cosmic order we can barely begin to discern.

Here is, then, Addison´s proto-evolutionary text, transcribed from the *Norton Anthology of English Literature:*

JOSEPH ADDISON: [On the Scale of Being]

The Spectator, No. 519, October 25, 1712

Inde hominum pecudumque genus, vitaeque volantum,

Et quae marmore fert monstra sub aequore pontus. (1)

—VIRGIL, Aeneid 6.728-29

Though there is a great deal of pleasure in contemplating the material world, by which I mean that system of bodies into which nature has so curiously wrought the mass of dead matter, with the several relations which those bodies bear to one another, there is still, methinks, something more wonderful and surprising in contemplations on the world of life, by which I mean all those animals with which every part of the universe is furnished. The material world is only the shell of the universe: the world of life are its inhabitants.

If we consider those parts of the material world which lie nearest to us and are, therefore, subject to our observations and inquiries, it is amazing to consider the infinity of animals with which it is stocked. Every part of matter is peopled. Every green leaf swarms with inhabitants. There is scarce a single humor in the body of a man, or of any other animal, in which our glasses (2) do not discover myriads of living creatures. The surface of animals is also covered with other animals which are, in the same manner, the basis of other animals that live upon it; nay, we find in the most solid bodies, as in marble itself, innumerable cells and cavities that are crowded with such imperceptible inhabitants as are too little for the naked eye to discover. On the other hand, if we look into the more bulky parts of nature, we see the seas, lakes, and rivers teeming with numberless kinds of living creatures. We find every mountain and marsh, wilderness and wood, plentifully stocked with birds and beasts, and every part of matter affording proper necessaries and conveniences for the livelihood of multitudes which inhabit it.

The author of *The Plurality of Worlds* (3) draws a very good argument upon this consideration for the peopling of every planet, as indeed it seems very probable from the analogy of reason that, if no part of matter which we are acquainted with lies waste and useless, those great bodies, which are at such a distance from us, should not be desert and unpeopled, but rather that they should be furnished with beings adapted to their respective situations.

Existence is a blessing to those beings only who are endowed with perception and is, in a manner, thrown away upon dead matter any further than as it is subservient to beings which are conscious of their existence. Accordingly, we find from the bodies which lie under our observation that matter is only made as the basis and support of animals and that there is no more of the one than what is necessary for the existence of the other.

Infinite Goodness is of so communicative a nature that it seems to delight in the conferring of existence upon every degree of perceptive being. As this is a speculation which I have often pursued with great pleasure to myself, I shall enlarge further upon it, by considering that part of the scale of beings which comes within our knowledge.

There are some living creatures which are raised but just above dead matter. To mention only that species of shellfish, which are formed in the fashion of a cone, that grow to the surface of several rocks and immediately die upon their being severed from the place where they grow. There are many other creatures but one remove from these, which have no other sense besides that of feeling and taste. Others have still an additional one of hearing, others of smell, and others of sight. It is wonderful to observe by what a gradual progress the world of life advances through a prodigious variety of species before a creature is formed that is complete in all its senses; and, even among these, there is such a different degree of perfection in the sense which one animal enjoys, beyond what appears in another, that, though the sense in different animals be distinguished by the same common denomination, it seems almost of a different nature. If after this we look into the several inward perfections of cunning and sagacity, or what we generally call instinct, we find them rising after the same manner, imperceptibly, one above another, and receiving additional improvements, according to the species in which they are implanted. This progress in nature is so very gradual that the most perfect of an inferior species comes very near to the most imperfect of that which is immediately above it.

The exuberant and overflowing goodness of the Supreme Being, whose mercy extends to all his works, is plainly seen, as I have before hinted, from his having made so very little matter, at least what falls within our knowledge, that does not swarm with life. Nor is his goodness less seen in the diversity than in the multitude of living creatures. Had he only made one species of animals, none of the rest would have enjoyed the happiness of existence; he has, therefore, *specified* in his creation every degree of life, every capacity of being. The whole chasm in nature, from a plant to a man, is filled up with diverse kinds of creatures, rising one over another by such a gentle and easy ascent that the little transitions and deviations from one species to another are almost insensible. This intermediate space is so well husbanded and managed that there is scarce a

degree of perception that does not appear in some one part of the world of life. Is the goodness or wisdom of the Divine Being more manifested in this his proceeding?

There is a consequence, besides those I have already mentioned, which seems very naturally deducible from the foregoing considerations. If the scale of being rises by such a regular process so high as man, we may by a parity of reason (4) suppose that it still proceeds gradually through those beings which are of a superior nature to him, since there is an infinite greater space and room for different degrees of perfection between the Supreme Being and man than between man and the most despicable insect. This consequence of so great a variety of beings which are superior to us, from that variety which is inferior to us, is made by Mr. Locke (5) in a passage which I shall here set down after having premised that, notwithstanding there is such infinite room between man and his Maker for the creative power to exert itself in, it is impossible that it should ever be filled up, since there will be still an infinite gap or distance between the highest created being and the Power which produced him:

> That there should be more species of intelligent creatures above us than there are of sensible and material below, is probable to me from hence: That in all the visible corporeal world we see no chasms or no gaps. All quite down from us, the descent is by easy steps and a continued series of things that, in each remove, differ very little from the other. There are fishes that have wings and are not strangers to the airy region; and there are some birds that are inhabitants of the water, whose blood is cold as fishes and their flesh so like in taste that the scrupulous are allowed them on fish days. There are animals so near of kin both to birds and beasts that they are in the middle between both: amphybious animals link the terrestrial and aquatic together; seals live at land and at sea, and porpoises have the warm blood and entrails of a hog, not to mention what is confidently reported of mermaids or seamen. There are some brutes that seem to have as much knowledge and reason as some that are called men; and the animal and vegetable kingdoms are so nearly joined that, if you will take the lowest of one and the highest of the other, there will scarce be perceived any great difference between them;

> and so on, till we come to the lowest and the most inorganical parts of matter, we shall find everywhere that the several species are linked together and differ but in almost insensible degrees. And when we consider the infinite power and wisdom of the Maker, we have reason to think that it is suitable to the magnificent harmony of the universe and the great design and infinite goodness of the Architect, that the species of creatures should also, by gentle degrees, ascend upward from us toward his infinite perfection, as we see they gradually descend from us downward; which, if it be probable, we have reason to be persuaded that there are far more species of creatures above us than there are beneath, we being in degrees of perfection and much more remote from the infinite being of God than we are from the lowest state of being and that which approaches nearest to nothing. And yet of all those distinct species we have no clear distinct ideas.

In this system of being, there is no creature so wonderful in its nature, and which so much deserves our particular attention, as man, who fills up the middle space between the animal and intellectual nature, the visible and invisible world, and is that link in the chain of beings which has been often termed the *nexus utriusque mundi* (6). So that he who, in one respect, is associated with angels and archangels, may look upon a Being of infinite perfection as his father, and the highest order of spirits as his brethren, may, in another respect, say to corruption, "Thou art my father," and to the worm, "Thou art my mother and my sister" (7).

Notes

1. Thence the race of men and beasts, the life of flying creatures, and the monsters that the ocean bears beneath her smooth surface (Latin).

2. Microscopes. "Humor": fluid.

3. Bernard de Fontenelle (1657-1757). This popular book, a series of dialogues

between a scientist and a countess concerning the possibility of other inhabited planets and the new astrophysics in general, was published in 1686 in France and was translated in 1688 by both John Glanvill and Aphra Behn.

4. A reasonable analogy or equivalence.

5. John Locke, in his *Essay Concerning Human Understanding,* 3.6.12.

6. The binding together of both worlds (Latin).

7. Job 17.14.

Are Humans Necessary?

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