

distinct languages out of a common parent language, which modern philologists have proved to be indubitably the case."⁴⁶⁾

Anti-evolutionists were naturally reluctant to accept this analogy, and insisted that the facts of philology were fundamentally different from those of a science like biology. One sometimes alleged that there was a difference in that, while the organic world was in the main under the sway of unconscious forces, "the impulses and efforts which have formed and which improve . . . languages are not unconscious, but . . . are prompted and guided at every step by human reason. The analogy, as far as it applies, not only gives no support to the theory of the production of works of Intelligence by a process of unintelligent variation and selection, but is strongly against it."⁴⁷⁾ There were those, indeed, who took their stand on the permanence of species to deny the analogy: "A more plausible, if not a more forcible, objection arises from the constant change which is perceptible in language. The types of nature, it is urged, are never changed."⁴⁸⁾ But this was simply to assume the point at issue, and in general the analogy was accepted.⁴⁹⁾ It was of course mainly used to support the transmutation theory in general, but there were philologists who claimed that Natural Selection also occurred in the field of philology precisely as in biology.⁵⁰⁾ It is evident, however, that in philology the phrase, "survival of the fittest," was even more indeterminate and difficult to define than in biology, and cautious reviewers met the argument with sound scepticism.⁵¹⁾

⁴⁶⁾ *Cornhill*, I, 1860, 445.

⁴⁷⁾ *British and Foreign Evangelical Review*, 20, 1871, 719.

⁴⁸⁾ *Edinburgh Review*, 115, 1862, 76.

⁴⁹⁾ *Daily News*, 1864, Oct. 21, p. 2, (reviewing Max Müller).

⁵⁰⁾ *Nature*, I, 1869—70, 529. (F. W. Farrar ref. Schleicher).

⁵¹⁾ *Westminster Review*, 37, 1870, 288.

CHAPTER 14

The Descent of Man

The Background

The Descent theory of evolution and the doctrine of Natural Selection were perfectly general in their application. Their domain was the whole of organic life, whether vegetable or animal. Now as man's physical organization classed him with the animals, it was inevitable that the doctrine should be applied to him as well.

For several reasons, however, it has been desirable to treat the Darwinian theory's application to Man separately from its application to the lower organic world. First, there were some problems, notably those relating to the intellectual and moral spheres, which almost exclusively concerned the human species. Second, the question of man was so closely bound up with religious and other convictions that contemporaries themselves often attempted to set it apart from the problem of evolution in general. And third, the heat and the eagerness with which the question of the theory's application to man was discussed in itself justifies a separate treatment.

In the *Origin* Darwin referred to the question of Man only at the very end of the book, where he said, "In the distant future I see open fields for far more important researches. Psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation. Light will be thrown on the origin of man and his history."¹⁾ Darwin's great reserve on this subject was diplomatic. He knew that his theory would meet with much opposition, and wished to avoid hurting everybody's feelings at once. When A. R. Wallace asked him, in 1857, whether he would discuss Man in his forthcoming book, Darwin answered, "I think I shall avoid the whole subject, as so surrounded with prejudices; though I fully admit that it is the highest and most interesting problem for the naturalist."²⁾ That he did not

¹⁾ *Origin*, 1 ed. r., 413—14.

²⁾ Darwin, *Letters*, II, 109, to Wallace, 1857.

leave the subject altogether alone was due, as he explained in later years, to his sense of honour: "Although in the 'Origin of Species' the derivation of any particular species is never discussed, yet I thought it best, in order that no honourable man should accuse me of concealing my views, to add that by the work 'light would be thrown on the origin of man and his history.' It would have been useless and injurious to the success of the book to have paraded, without giving any evidence, my conviction with respect to his origin."³) That this correctly renders Darwin's feelings when he published the *Origin* is apparent from a letter to a private correspondent at that time: "With respect to man, I am very far from wishing to obtrude my belief; but I thought it dishonest to quite conceal my opinion. Of course it is open to every one to believe that man appeared by a separate miracle, though I do not myself see the necessity or probability."⁴)

In any case it must have been obvious to those who followed the argument of the book that it applied to man quite as much as to the lower species. Reviewers of the *Origin* therefore seldom omitted some comment on the matter. Especially it was the "nervously anxious supporters of religious orthodoxy"⁵) who showed concern, and, as one religious organ put it, "The Darwinian theory would lose half its interest with the public if it did not culminate in a doctrine on the origin of the human species."⁶) But Darwin's judicious caution in handling the issue certainly prevented — as was intended — too violent an outcry. Indeed, there were some traditionalists who comforted themselves that evolution by descent was "a theory which the originator does not see his way clear to apply to man."⁷) The publication of the *Descent of Man* made that idea untenable, but until then, said, the *Guardian*, "Mr. Darwin's silence on the subject seemed to favour the idea that he himself . . . shrank . . . from pushing his theory to its legitimate issue."⁸)

But if Darwin was cautious in order not needlessly to antagonise the religious, some of his opponents were not averse to turn the *odium theologicum* to good account for their own purposes. Thus when Owen

³) Darwin, *Letters*, I, 94, autobiographical sketch.

⁴) Darwin, *Letters*, II, 263—4, to L. Jenyns (Blomefield), 1860.

⁵) *Morning Post*, 1860, Jan. 10, p. 2.

⁶) *Literary Churchman*, 6, 1860, 393.

⁷) *Popular Science Review*, 2, 1862—3, 517.

⁸) *Guardian*, 1871, 935.

and the Bishop of Oxford brought up the question of man's descent at the British Association at Oxford in the summer of 1860, Huxley was probably correct in surmising that it was done with a view to arousing popular feeling against the theory. In the next few years the discussion sharpened. A good share of it was taken up by the famous *hippocampus* debate between Owen and Huxley, which was carried on both at the British Association meetings from 1860 to 1862, and in the press.⁹) A sign of the latent public interest in the question of man's descent, and also a powerful catalyst on that interest, was the tremendous popular excitement caused by the French-American traveller Du Chaillu and his gorillas. Du Chaillu lectured at the Royal Institution, published a book on his African travels and his encounters with the gorilla — a book which became a bestseller and was reviewed and commented on everywhere in the press — and appeared at the British Association meeting in 1861. Discussions on his gorillas assumed an enhanced interest from the fact that a controversy arose both on the value of specimens he had sold to the Natural History Museum, and on the veracity of his accounts from the "gorilla country." His descriptions of the gorilla's habits, especially, were sometimes alleged to be purely imaginary.¹⁰)

As a result of all the stir, the popular press in 1861 was full of articles on the gorilla, and naturally on the resemblances and differences between the great ape and man. *Punch*, for instance, repeatedly used the unsightly beast in its satires on Ireland. A deputation of Irish "hooligans" was led by gentlemen named Mr. O'Rangoutang, Mr. G. O'Rilla, and Mr. Fitzcaliban.¹¹) It is of course true that one did not go very far into the Darwinian theory in these instances, but it clearly provided an emotional background. Significantly enough, the Darwinian doctrine was usually referred to as the "ape theory" in the popular press, and the "missing link" *par préférence* was the as yet undiscovered intermediate form between ape and man. In the low-brow press, indeed, little else was said about the Darwinian doctrine than that it represented man as descended from apes. It is no wonder that Disraeli, with the politician's grasp of the mentality of the average man, found in 1864 that the great

⁹) See above, Chapter 3, p. 50—51, and below, p. 305—6.

¹⁰) Letters in the *Athenaeum*, 1861: 1, 662—3, and subsequent weeks.

¹¹) *Punch*, 1861, Dec. 14, 244.

question was whether man was an ape or an angel.¹²⁾ Nor was it surprising that he, like the majority of those who knew nothing of scientific argumentation, decided for the side of the angels.

On the scientific level also, attention came to be focussed more and more on the question of man's evolution. Huxley published *Man's Place in Nature* in 1863, to some extent the fruit of researches he had undertaken in connexion with the *hippocampus* debate. In the same year Lyell published his great book on the *Antiquity of Man*, where a great mass of geological evidence was marshalled in order finally to establish a more realistic chronology of the human race. In the following years several noteworthy publications on the subject appeared, such as Tylor's *Early History of Mankind*, 1865, Lubbock's *Prehistoric Times*, 1865, and *Origin of Civilization*, 1870; the Duke of Argyll's *Primeval Man* in 1869, and Wallace's *Contributions* in 1870. In these books biological, ethnographical and anthropological questions were treated from various points of view. Moreover, there was a continuous discussion in the scientific and semi-scientific press, as well as at the British Association, which had a separate subsection of Anthropology from the middle 'sixties onwards.

Thus the ground was well prepared when Darwin published his *Descent of Man* in 1871. It did not cause the sort of sensation produced by the *Origin* twelve years earlier. The public were already familiar with the argumentation on the subject. In fact, one detects a slight tone of disappointment in many reviews of the book. Partly this was due to the rather disproportionate amount of space that Darwin gave to the somewhat abstruse question of Sexual Selection, partly also to the fact that little new evidence and no radically new arguments were produced. However, coming from Darwin, whose reputation as a scientific authority had gone on increasing during the 60's — a reputation which had gained rather than suffered from Darwin's reluctance to enter personally into the controversies which his theory aroused — the book could not but exert a very great influence on the climate of opinion.

There is one general difference between the debate on the Darwinian doctrine's application to man, and that concerning the lower organisms: it was much more common to make an unashamed and direct appeal

¹²⁾ Disraeli's speech reported in *Times*, 1864, Nov. 26, p. 7—8.

to feelings and prejudices rather than mere facts, when man was concerned. We have indeed already seen some examples of the emotional line of argument, based specifically on religious objections to the doctrine.¹³⁾ Many of these objections had regard to man in the first place. But in the case of man it was possible to invoke in addition the revulsion and horror that many people evidently felt in regard to a possible genetic relationship with the brute creation. To believe that man was only a developed ape was called a "mental catastrophe"¹⁴⁾ and those who contributed to spreading such a belief had set as their aim to "degrade man deeply in the scale of animal existence."¹⁵⁾ Ordinary folk recoiled; the question of man's origin, it was said, "touches too nearly the sanctity of the mysterious light which enshrouds our being and endows us with a responsible humanity."¹⁶⁾ On this emotional level the question evidently ceased to be a factual one: "Granting even that the conclusions were fairly deducible from the facts, it is no light matter to shake the convictions of thousands . . . the question here is not the truth or error of the doctrines or opinions opposed, but the feelings with which such momentous questions ought to be approached,"¹⁷⁾ wrote the *Athenaeum* in 1866. The *Times* reviewer of the *Descent* tried to justify the use of an emotional argumentation by appealing to idealistic metaphysical assumptions: "There are certain instincts, which so far as we can see, are ultimate facts, and an instinct of this nature, except where it is obscured by the prejudices of speculation, impels us to a profound conviction of the essential difference between man and the rest of the animal creation. We are intimately sensible of a difference which is not one of degree, but of kind."¹⁸⁾

Religious writers naturally obtained the emotional effect by appealing to the direct evidence of the Bible. "Holy Scripture plainly regards man's creation as a totally distinct class of operations from that of the lower beings,"¹⁹⁾ wrote a correspondent to the *Guardian* at a time when the *Descent* theory was becoming generally accepted among

¹³⁾ See above, Chapter 5, p. 100.

¹⁴⁾ *Rambler*, 2, 1859—60, 368. See also: *Edinburgh New Philosophical Journal*, 19, 1864, 56, *Friends' Quarterly Examiner*, 1867, 43.

¹⁵⁾ *Athenaeum*, 1863: 1, 287.

¹⁶⁾ *Parthenon*, 1863, 174.

¹⁷⁾ *Athenaeum*, 1866: 2, 121.

¹⁸⁾ *Times*, 1871, Apr. 7, p. 3.

¹⁹⁾ *Guardian*, 1871, 713.

educated people, at least in its application to the organic world below man. Another religious organ developed the idea in more detail: "Of the lower creation, it is said, 'Let the earth bring forth,' but of man it is said, 'Let us make man.' Here we have a difference, not of degree, but of kind. The laws of natural selection, development, or whatever philosophers please to call it, may be true to any extent of all organisms below man."²⁰) In this connection critics of course also marshalled the usual objections against Darwin's "speculative" and "hypothetical" mode of reasoning. One orthodox naturalist, for instance, was pleased to find that Owen, at least, "condemned any imaginary scheme by which some anthropoid ape . . . might, by Mr. Darwin's principle of Natural Selection, become a man."²¹)

But even if the purely emotional line of reasoning was not infrequent, anti-Darwinians would not in general admit that their opposition was based or had to be based on such grounds. "It would be absurd to deny," said one writer, "that the adoption of Mr. Darwin's views would materially affect many of our opinions on subjects of the highest importance; but even this should not be allowed to bias our judgment of their truth."²²) This latter question, however, was not so straightforward as it may have seemed: prejudice and bias, as we have seen, came out on a higher level, namely, in the decision on the fundamental criteria according to which theories were to be judged.²³)

In order to illustrate the more factual debate on Man's origin, we should distinguish not only between the arguments directed against any Descent theory, and those directed specifically against Natural Selection — a distinction which we have made in previous chapters — but also between arguments based on physical, and those based on mental characteristics. Though the Descent theory as such, of course, had meaning only as regards man's body, it was possible to adduce man's mental characteristics as an insuperable and absolute barrier separating man from the animals, and hence as one of the distinctions which made it impossible for man to be descended from them by ordinary generation. In general, however, those who concentrated on the mental powers of man tended to by-pass the question of man's bodily descent,

²⁰) *Christian Observer*, 1866, 9.

²¹) *Geologist*, 1861, 529. See also: *Church Review*, 1861, Feb. p. 28.

²²) *English Independent*, 1871, Mar. 23 273.

²³) See above, Chapter 9.

though they were certainly not in general inclined to accept it. Their argumentation may be regarded as directed, though somewhat vaguely, against the Natural Selection theory: at any rate, if pushed somewhat further than was normally done, it could serve that purpose.

In presenting the discussion on the application of the Darwinian theory to Man, we shall first deal with the arguments employed against the Descent theory as such; i. e., the missing link arguments, based on physical or mental distinctions. We shall then discuss the arguments specifically and explicitly directed against Natural Selection. Here again both physical and mental characteristics were brought into play. Finally, we shall illustrate the argumentation concerned with setting apart the human mind or soul as a separate and unique entity. It was these latter discussions which took up the bulk of the discussion at the time.

Missing Links

The missing links were just as obvious an objection against the theory of Descent in its application to man as in its application to the lower animals. The systematic affinities of man with the higher apes were not denied, any more than one denied the general systematic affinities holding throughout the organic world. Yet the gap between man and ape was held to be too big to be bridged. All races of men were clearly men, and all the various ape species were as clearly apes. There were no intermediate forms, no graduated series where each step should not appear greater than a varietal modification. This was the more damaging to the theory, one declared, as the conditions under which Darwin supposed man had been produced were still in existence in several parts of the globe.²⁴) Gorillas could not be accepted as missing links. Du Chaillu and his commentators had been at pains to emphasize the differences between the beast and man. Besides, as one critic naïvely remarked, gorillas were "few and wretched."²⁵)

Nor was there any record of change having taken place in historical times.²⁶) A *Quarterly* reviewer found comfort in this fact, when he had

²⁴) Professor Humphry at the British Association, rep. *Morning Post*, 1866, Aug. 24, p. 2. *Manchester Guardian*, 1866, Aug. 24 p. 3. Also *Contemporary Review*, 17, 1871, 280.

²⁵) Leader in *Morning Advertiser*, 1866, Aug. 25, p. 4.

²⁶) John Crawford rep. *Times*, 1863, Aug. 31, p. 7. *Nonconformist*, 1863, Sep. 2, 710.

to admit the probability of a longer chronology than the traditional one for the existence of the human race on the earth: "The larger the glacial epoch, the more remarkable is the failure of proof of indefinite variation of species, the more difficult the acceptance of those consequences of 'the struggle for existence' and 'natural selection' which are offered by Darwin and his followers."²⁷) The *Times* reviewer of the *Descent* was more emphatic still: "It is almost incredible that no evidence should be producible of the existence of apelike creatures . . . we have the undoubted and recorded experience of at least four thousand years of history, during which many races have been subjected to influences the most diversified and the most favourable to the further development of their faculties . . . [yet] the earliest known examples of Man's most essential characteristics exhibit his faculties in the greatest perfection ever attained. No poetry surpasses Homer."²⁸)

Further, one demanded, as in the case of the lower animals, that Darwin should produce the intermediate links in the geological record. "Is it not incredible," one asked, "that not a single species of [man's] ancestors should remain, or a fossil remain of one of them to be discovered?"²⁹) Even a pro-Darwinian organ like the *Westminster Review* was impressed by this argument: "The gap between humanity in its most degraded physical condition, and the very highest of the apes is so great, that we may well be excused for asking for a demonstration of some of the intermediate grades, before giving an unconditional assent to the Darwinian proposition that Man has originated by the progressive development of apelike ancestors."³⁰)

The fossil links which were in fact produced were dismissed as not to the point. Huxley, discussing the Neanderthal and Engis skulls, admitted that though they showed some transitional features, yet they were well within the range of variation of present-day human forms, and outside that of the anthropoid apes. Such an admission was in many quarters interpreted as a near refutation of the Descent theory.

²⁷) *Quarterly Review*, 114, 1863, 411.

²⁸) *Times*, 1871, Apr. 8, p. 5. See also: *Journal of Sacred Literature*, 10, 1866—7, 201, *Edinburgh Review*, 132, 1870, 459.

²⁹) *London Review*, 1866, Aug. 25, 203. See also: *Parthenon*, 1863, 262, *Popular Science Review*, 2, 1862—3, 516, *Tinsley's Magazine*, 8, 1871, 395, *Quarterly Journal of Science*, 1, 1871, 251, *Zoologist*, 6, 1871, 2617.

³⁰) *Westminster Review*, 23, 1863, 584.

The Neanderthal skull, said the Duke of Argyll, referring to Huxley's authority, "might have contained the brains of a philosopher. So conclusive is this evidence against any change whatever."³¹)

Other anti-Darwinians, who were more intent on saving the traditional chronology of the Bible, chose the opposite course. The fossils, they said, were not distinctly human, they were distinctly simian. "We subside into a belief that the respected Neanderthal individual was, after all, an unfortunate chimpanzee or gorilla, who came to grief in comparatively recent times," was one comment.³²) Thus under no circumstances were the fossil skulls to be accepted as intermediate, they were apes, or they were men, for ape-men could not exist.

Two subsidiary lines of reasoning, intended more directly to prove the constancy of the species man, supported the missing link argument. One was to deny that there were any grounds for considering any of the savage races as in any way, whether physically or mentally, intermediate in the sense of more brutish. The other was to assert that the earliest men had not only been physically as highly developed as modern man, they had actually lived in a state of civilization. Now in attempting to mark off the human domain as distinctly as possible from that of the animals, the anti-Darwinians met with a dilemma. The repugnant connexion with the brutes was avoided, but it seemed at the cost of making the connexion with the savage races much closer. *Punch's* statement of the dilemma, written a few months after Benjamin Disraeli's famous Oxford speech,³³) can hardly be improved upon:

"The Negro's and Gorilla's shape
Comparatively scan
What kin is that anthropoid ape
To that pithecoïd man?
If any, the Gorilla's proved
Our cousin some degrees removed
If none, with fellow men

³¹) Argyll, *Primeval Man*, p. 73, quot. *Dublin University Magazine*, 74, 1869, 591. See also: *Home and Foreign Review*, 2, 1863, 502, *Parthenon*, 1863, 262, *Edinburgh New Philosophical Journal*, 19, 1864, 54, *Good Words*, 9, 1868, 253 (Argyll).

³²) *Eclectic Review*, 4, 1863, 412. See also: *Quarterly Journal of Science*, 1, 1864, 88.

³³) See above, p. 37; 295—6.

And angels Quashee takes his stand
With Michael, Gabriel, Raphael and
Accordingly with Ben.³⁴⁾

An easy way of solving the problem was to declare that the human races were really species, and therefore distinct both from each other and from the animals. This solution had been advocated in America by Agassiz, and in England it was expounded at several British Association meetings by J. Crawfurd and W. Hunt.³⁵⁾ But in general Englishmen did not approve of such a solution, which struck them as both uncharitable and unorthodox. One was therefore prepared to accept the negro as a brother.³⁶⁾ Not wholly, however. There were undoubtedly differences, both physical and mental, between the various present human races. Now in order to account for these differences without giving any support to the evolution hypothesis, one turned to the opposite extreme. Civilized men had not progressed, one said: it was the savage races which had degenerated from the perfect state of civilization in which the whole human family had originally been placed.

This degeneration theory was evidently chiefly inspired by traditional conceptions of the Garden of Eden and the Fall. Some extreme religious organs brought the Biblical story directly to bear on the question. It was suggested, for instance, that "the persistent and degraded negro type may well have come from a sudden and violent shock — in a word, from a supernatural punishment."³⁷⁾ Punishment for what? "A believer in the miracles recorded in Scripture will find no difficulty in supposing the Negro configuration to be impressed on a line of the descendants of the unnatural and unfilial son of Noah,"³⁸⁾ or as another journal put it, "The curse pronounced upon Canaan, the son of Ham, would sufficiently account to us for such a variation in the skin, and in the contour of the human face and figure, as separates the black race from the white; it may have been the judgment of God inflicted as a punishment for sin."^{39 A)}

³⁴⁾ *Punch*, 48, 1865, 160.

³⁵⁾ See above, Chapter 4, p. 75.

³⁶⁾ *Observer*, 1863, Sep. 6, p. 6, *Inquirer*, 1863, Sep. 5, 566, *Quarterly Journal of Science*, 3, 1866, 173, *Contemporary Review*, 17, 1871, 280.

³⁷⁾ *Tablet*, 1869, Apr. 10, 780.

³⁸⁾ *Dublin University Magazine*, 74, 1869, 593.

^{39 A)} *Christian Observer*, 64, 1864, 93.

In general, however, one tried to adduce factual evidence to support the contention that the savage races were degenerate, and not remnants of a previous stage of development. Now the progress of prehistoric archaeology undoubtedly showed that from the point of view of material culture, primitive society had to be equated with modern savage societies. On the material level, therefore, it became more and more difficult to uphold the degeneration theory. But even this point was conceded only very reluctantly by traditionalists.^{39 B)} "We suppose we must accept modern philosophical doctrines," wrote a *Times* reviewer in 1870, "but it is not a pleasant idea to think that, for untold myriads of years, our ancestors were benighted savages."⁴⁰⁾

In order to accommodate such facts as these, the somewhat question-begging theory was developed that "our first parents need not have been savages, although unacquainted with modern arts."^{41 A)} The view was set forth fully by the Duke of Argyll in the series of articles in *Good Words* which were later published in book form as *Primeval Man*: "What consciousness had Primeval Man of Moral Obligation, and what communion with his Creator? . . . What were his innate powers of Intellect or Understanding? What was his condition in respect to Knowledge, whether as the result of intuition, or as the result of teaching?"^{41 B)} In all these respects Argyll found reason to assume that early man had been "civilized". The whole question was discussed fully at the British Association meetings of 1867 and 1869,⁴²⁾ where Lubbock defended the Darwinian development position, while Wallace defended the other view, expressing his conviction that primitive man was "civilized morally".⁴³⁾ Wallace supported his thesis by referring to his experience of savage life in the East Indian archipelago, where he had found that from the ethical point of view, the savages compared

^{39 B)} British Association reports in *Daily Telegraph*, 1865, Sep. 11, p. 3 (Rawlinson), *Morning Post*, 1869, Aug. 23, p. 2, (Morris) See also: *John Bull*, 1871, Apr. 6, 234, *Edinburgh Review*, 135, 1872, 111.

⁴⁰⁾ *Times*, 1870, Apr. 25, p. 4.

^{41 A)} *Critic*, 1863, Apr., 295—8.

^{41 B)} *Good Words*, 9, 1868, 385. See also: *Examiner*, 1869, Apr. 17, 246. A similar position expressed in British Association reports, e. g. *Daily Telegraph*, 1865, Sep. 11, p. 3.

⁴²⁾ See above, Chapter 4, p. 80—84.

⁴³⁾ Report in *Record*, 1869, Aug. 25, p. 3.

of the human brain did not exist in the ape brain. When Huxley and others were able to prove that this view was incorrect, and that the difference was one of degree only, Owen and his supporters tried to save their position by holding that "in the sense used by human anatomists"⁵⁶) the part was not to be found in apes, which was of course literally true, but also uninteresting, since nobody had asserted that the apes had a human *hippocampus*. Therefore yet another defence was worked out. The difference between man and ape was much greater, one said, than that between the apes themselves.⁵⁷) It was indeed true, as Huxley insisted, that the difference between man and the highest ape was smaller than that between the highest ape and the lowest: yet the apes formed a continuous series of small steps, whereas no intermediate steps linked the chimpanzee with man.⁵⁸)

However, the general public were becoming impatient of the attempts to base the distinction between man and ape on "abstruse anatomical details."⁵⁹) They were content with the bare assertion — which Owen had in fact volunteered at a British Association discussion — that there was an "impassable gulf" separating man from the lower creation.⁶⁰) On the whole, they were content to let the distinction depend on the mental difference between man and animals. One interesting variant of the argument we have been dealing with now should, however, be mentioned. It might be argued that the physical differences between man and ape were small. But as they were accompanied by so very marked mental ones, they should be given a correspondingly great systematic importance. "The moral hiatus might be greatly out of proportion to the physical distinction,"⁶¹) as one orthodox naturalist put it. Indeed, from the mental point of view it was the dog, one said,

⁵⁶) *Edinburgh Review*, 117, 1863, 557. (Argyll). See also *Annals and Magazine of Natural History*, 7, 1861, 458 (Owen).

⁵⁷) *Athenaeum*, 1861: 1, 395—6, *Cassell's Illustrated Family Paper*, 7, 1861, 362.

⁵⁸) *Edinburgh Review*, 117, 1863, 549, *Lancet*, 1868: 2, 765—6.

⁵⁹) *Guardian*, 1863, Sep. 9, 841.

⁶⁰) *Nonconformist*, 1861, July 17, 577. British Association report in *Daily News*, 1861, Sep. 7, *Manchester Guardian*, Sep. 5, *Standard*, Sep. 6, *Evening Star*, Sep. 7, *Record*, Sep. 6, *Patriot*, Sep. 12, *Nonconformist*, Sep. 11, 727, *Critic*, Sep. 14, p. 276; *Leader* in *Nonconformist* 1861, Sep. 11, 732—3.

⁶¹) *Daily Telegraph*, 1862, Oct. 4, p. 2, reporting Humphry and Molesworth at British Association. See also *Watchman*, 1862, Oct. 8, 331, *Good Words*, 9, 1860, 250—51, *Dublin University Magazine*, 74, 1869, 588.

rather than the monkey, that came next to man — a point of view which came natural to many people. This again showed that mental organisation had little to do with physical structure.⁶²)

Darwinians did not attach very much weight to the missing link argument in its specific application to man. The general homology of the human body with that of the lower animals was too obvious to require much discussion, the variability of just those parts in man and the apes where they differed most from each other,⁶³) the incompleteness of the fossil record, the brevity of the time of observation — all these points held for man as they did for the lower animals. Usually, therefore, Darwin and the Darwinians relied on the general acceptance of the Descent theory for the lower creation to lead to its acceptance for man as well. They therefore tended to prefer to concentrate their efforts on the former object, since it did not so directly bring prejudices and emotion into play.⁶⁴) And as a matter of fact, opposition to the idea of man's bodily descent from ape-like ancestors was notably weaker at the end of our period. Attention was concentrated on the origin of his mental constitution instead — a development which coincided with the increasing attention given to Natural Selection rather than Evolution as such as regards the general theory.

Natural Selection

The argument from the alleged uselessness of the incipient stages of ultimately useful structures was the chief argument against Natural Selection as applied to man. At first it appeared in a rather vague form. Man, one said, was physically weaker than most animals of comparable size, and therefore also than his supposed progenitors. His physical weakness, at the present time, is more than compensated for by his mental superiority. But in former times, when that mental superiority, according to the evolution theory, had not existed, how could his loss of strength and swiftness give him that advantage in the struggle for life which the Natural Selection theory demanded? This

⁶²) Crawford at British Association, rep *Morning Post*, 1863, Apr. 15, *Daily News*, 1863, Aug. 31, *Times*, 1863, Aug. 31, *Critic*, 1863, 295—8. See also *Quarterly Review*, 114, 1863, 414.

⁶³) *Natural History Review*, 1861, 510; British Association, 1863, reports of Embleton's paper (see above, Chapter 4, p. 74).

⁶⁴) *Westminster Review*, 33, 1868, 262—3.

reasoning was advanced by Agassiz and others,⁶⁵) and became popular when the Duke of Argyll took it up. "Man must have had human proportions of mind before he could afford to lose bestial proportions of body," wrote the Duke. And if Darwinians wished to argue that the changes might have proceeded concurrently, the Duke had an answer at hand: "If the change in mental power came simultaneously with the change in physical organization, then it was all that we can ever know or understand of a new creation."⁶⁶) A popular writer illustrated Argyll's argument in a picturesque manner: "Place a naked high-ranking elder of the British Association in presence of one of M. de Chaillu's gorillas, and behold how short and sharp will be the struggle."⁶⁷) It appears that in most cases those who reasoned in this way consciously or unconsciously assumed that the change must have been a sudden and drastic one — especially the mental change, which, as we shall see later, was often assimilated with the infusion of a soul into man's body.

A much more developed and detailed criticism of the Natural Selection theory as applied to man was that offered by A. R. Wallace towards the end of the 1860s, at the British Association in 1869, in an article in the *Quarterly Review* in the same year, and in this *Contributions* in 1870. "Neither natural selection nor the more general theory of evolution can give any account whatever of the origin of sensational or conscious life . . . We may even go further, and maintain that there are certain purely physical characteristics of the human race which are not explicable on the theory of variation and survival of the fittest,"⁶⁸) he wrote in the *Quarterly*, and went on to list, in addition to man's moral faculties, his hand, his erect posture, his expressive features, the beautiful symmetry of his features, and his power of speech, and in general the size of his brain, as properties which could not have been developed by Natural Selection. Instead Wallace suggested that there "seems to be evidence of a power which has guided the action of [the laws of organic development] in definite directions and for special ends."⁶⁹)

⁶⁵) *Friends' Quarterly Examiner*, 1867, 42, *Press*, 1865, 896, ref. Guizot, *Quarterly Journal of Science*, 3, 1866, 173.

⁶⁶) *Good Words*, 9, 1868, 253, and reviews of Argyll's book, e.g. *Examiner*, 1869, Apr. 17, 245.

⁶⁷) *Dublin University Magazine*, 74, 1869, 589.

⁶⁸) *Quarterly Review*, 126, 1869, 391—3.

⁶⁹) *Quarterly Review*, 126, 1869, 393.

These remarkable views of the co-founder of the Natural Selection theory were naturally highly appreciated by anti-Darwinians,⁷⁰) while Darwinians understandably did not quite know how to treat them. Darwin contented himself with remarking, in a note in the *Descent*, that Wallace's recent views would surprise every one who had read his earlier publications on the subject.⁷¹) Scientific writers were of course highly critical of the alternative explanation offered by Wallace.⁷²)

Anyhow, Wallace's arguments undoubtedly had a marked influence, especially as they coincided in many respects with the general criticism of the Natural Selection theory associated with Mivart's name: and Mivart also added further illustrations for the argument.⁷³) Many commentators must have felt, as one of them put it, that "Mr. Wallace's reference . . . to a Creator's will really undermines Mr. Darwin's whole hypothesis."⁷⁴)

Though several instances of purely physical characteristics were adduced by scientific writers, the most important, and also the most popular of all the arguments against the Natural Selection theory as applied to man concerned his mental powers. Wallace was among those who argued that the wonderful capabilities of the human mind were of no use to a man living under the conditions of savage life. As, on Darwin's theory, humanity must have passed through a stage of savage life, the conclusion must be that his brain could not have developed by Natural Selection alone, but would have been guided by some benevolent power; a conclusion which was welcomed in many religious organs. "We cannot conceive how, according to the Darwinian hypothesis, man might have become more crafty than the fox, more constructive than the beaver, more organized in society than the ant or the bee; but how he can have got the impulse, when he had once made

⁷⁰) See above, Chapter 4, p. 84.

⁷¹) *Descent*, 73, note.

⁷²) *Nature*, 2, 1870, 472, *Westminster Review*, 38, 1870, 195. *Saturday Review* 29, 1870, 710.

⁷³) *Month*, 13, 1870, 600—3, *Guardian*, 1870, Sep. 14, 1097, *Popular Science Review*, 10, 1871, 188, *Guardian*, 1871, 935, *Academy*, 2, 1870—1, 180, (Wallace), *Standard*, 1871, Apr. 13, *Tablet*, 1871, Sep. 9, *Press*, 1871, 262—3, *Morning Post*, 1871, Aug. 8, p. 7, *Lancet*, 1871, Mar. 18, 381, *Edinburgh Review*, 134, 1871, 200, *Leisure Hour*, 1872, 364.

⁷⁴) Staniland Wake at British Association, rep. *Morning Post*, 1871, Aug. 8, p. 7.

his position on the earth secure among the animals, to follow out abstract ideas and to go working on and on, while all other creatures rested content with the sphere which they had made for themselves — this is, indeed, hard to understand . . . No mere exigencies of life or struggle for existence can have given rise to the high thoughts which led to poetry and science,"⁷⁵) wrote Sir Alexander Grant in the *Contemporary*, and a writer in the *Guardian* asked, "How would the conceptions of space and time, of form, beauty, and order, above all, of right and wrong, be of any use to a savage in his early struggle for existence?"⁷⁶) Some critics enlarged upon this idea by introducing the current theory of the loss of organs and structures by disuse: "The brain of savage man is far beyond his needs . . . even if once originated, [it] ought, according to Mr. Darwin's theory, to have been lost by disuse."^{77 A)}

The view that the brain of the savage was too large for his needs led up to the idea that it had been intended for some future use, or else it was interpreted as evidence of a former more highly developed stage of existence. The latter tallied most satisfactorily with the deterioration theory, while the former supported the idea that savages, though they were definitely men, could not qualify as equal with the civilized races. They had a latent power of receiving the gift of civilisation, but they had not yet received it. It is necessary to keep in mind that civilization, according to the traditionalist view, was not a natural development. The accepted dogma was that no race has ever progressed by its own unaided efforts,^{77 B)} a doctrine which was a natural outgrowth of the Biblical story of God's covenant with his chosen people. The savages were people who had not been offered, or had rejected, that covenant. Some such idea, at least, seems to have been implied by Grant, who concluded that "the extremely unprogressive character of savage society is an obstacle to believing that the best civilization of the world, that of the Aryan and Semitic races, can have ever taken its start from such a society [as the savage one] in the primeval ages."⁷⁸) Grant

⁷⁵) *Contemporary Review*, 17, 1871, 278, 281. See also: *Edinburgh Review*, 134, 1871, 204.

⁷⁶) *Guardian*, 1870, Sep. 14. See also: *Standard*, 1871, Apr. 13, p. 3, *Academy*, 2, 1870—71, 183 (Wallace).

^{77 A)} *Edinburgh Review*, 134, 1871, 204. See also: *Dublin University Magazine* 74, 1869, 599.

^{77 B)} Archbishop Whateley's thesis; see e. g. Argyll, *Primeval Man*, 130.

⁷⁸) *Contemporary Review*, 17, 1871, 280. See also *John Bull*, 1872, Nov. 30, 814.

clearly wished to believe that at least European man's progenitors had never led a savage life. Savages, on the other hand, had not received the Divine gift of civilization; they were, as Grant said, "the back-waters and swamps of the stream of humanity, and not the representatives of its proper and onward current."⁷⁹) In this manner the distinction between the civilized Europeans and the uncivilized races could still be upheld as divinely ordained, while the unity of the human species was retained.

However, the progress of prehistoric archaeology made it increasingly difficult to deny that even the European races had once lived as savages now do. It then only remained to draw comfort from the supposed fact that, as Grant put it, "we know for certain that if the best races did pass through a period of communal marriages, and the like, they passed out of it early and completely."⁸⁰)

The Human Mind

Those who, like the writers quoted above, applied the argument of the uselessness of incipient structures specifically against the Natural Selection account of man's mental superiority, were only a rather small minority. Much more popular was the argument that man's mind and soul, being entities of quite another nature than his body, could not be explained in the same terms, since they did not belong to the sphere of natural science, but to that of philosophy and religion. The Natural Selection theory — indeed, any purely scientific theory — was declared to be fundamentally incapable of explaining man's mental characteristics. It was unnecessary to discuss it on its own ground and in its own terms. The theory was opposed instead on *a priori* grounds, which were largely derived from Christian religion and idealistic philosophy.

Critics of this type did not always, indeed, not usually, make a clear distinction between the human mind — a psychological entity — and his soul — a religious entity. This was natural at a time when psychology was still very largely looked upon as a branch of philosophy, and as closely bound up with religion, and when religion was in general much more intimately connected with the world of ordinary experience than it has since become. We shall here, however, discuss separately man's

⁷⁹) *Fortnightly Review*, 9, 1871, 363.

⁸⁰) *Fortnightly Review*, 9, 1871, 370.

soul, his intellectual capacities, and his moral and religious ideas; keeping in mind that usually none of these matters were sharply distinguished by writers.

The Soul

The chief aim of the argument we are now concerned with was to establish that at least the essential nature of man was something which placed him absolutely apart from the brutes — something of which the lower creation did not even possess a faint beginning, which might have served as a starting-point for a gradual development. As we have already said, this alleged fundamental distinction between the human and the animal worlds could be used as a missing link argument against the Descent theory as such, but it could also be turned directly against the Natural Selection part of the Darwinian doctrine. It was not necessary to insist on the separate and supernatural creation of man as a physical species, as long as the spiritual element in him could still be retained as a carrier of the theological interpretation.

The religious overtones of the argument were quite obvious, especially when the concept of the soul was used to express man's distinctive character. Several writers advocated an interpretation of Genesis according to which man's creation occurred when God breathed His spirit into man's animal body.⁸¹⁾ Man's body might be developed naturally, but his soul was in a different category: "What the law of development could do, or whatever else the law of production of species may be, seems to have terminated in the gorilla. Intellect, a moral sense, and a soul being superadded, the gorilla is converted into a man."⁸²⁾

The idea of the supernatural creation of the soul was naturally included in the fairly popular theory of evolution according to which each specific change, or at least each major evolutionary step, was due to a special Divine intervention into the course of nature. It was therefore quite in order for the Duke of Argyll to hold that "If it were proved to-morrow that the first man was 'born' from some pre-existing form of life, it would still be true that such a birth must have been in every sense of the word, a new creation."⁸³⁾

It is hardly surprising to find that the idea of the special creation

⁸¹⁾ E. g. *Recreative Science*, 2, 1860—1, 151—160.

⁸²⁾ *All the Year Round*, 5, 1861, 243.

⁸³⁾ *Edinburgh Review*, 116, 1862, 389.

of the human soul was advocated also by those who were inclined to consider the species below man, sometimes including the physical part of man's body, as originated by "secondary" causation. Thus while they might admit that the creation of new physical species required no new direct interposition by God, the creation of the soul did require it. The best exponent of these views was Mivart, who was well summarized by a *Tablet* reviewer: "Mivart . . . is of opinion that, provided the exertion of creative power be not denied, it may be supposed to have acted through secondary causes, even in the formation of the human body, though the soul of man must, of course, have arisen from direct and immediate creation."⁸⁴⁾ Similar ideas, less concisely but often much more picturesquely expressed, were fairly common in the religious press. Some writers attempted to describe what the creation of the soul was like: "There is nothing shocking in the idea [of man's descent from the apes] as long as we also believe that the simian was not simply developed into a man, but was the subject matter . . . on which a creative force was exerted, producing an immortal, sinless, powerful, and wise image of Him Who is eternal, all holy, almighty, and knoweth all things."⁸⁵⁾ Naturally, the creation was believed to be an instantaneous event: the anti-Darwinian insistence on big mutations left room for this belief. Indeed, there can hardly be any doubt but that the theory of big mutations was largely motivated by the belief. Thus a Dissenting organ quoted a French writer with evident approval on this subject: "I assume that natural history demonstrated by solid proofs that the first man was carried in the bosom of a monkey; and I ask: What is the circumstance which set apart in the animal species a branch which presented new phenomena? What is the cause? That monkey-author of our race which one day began to speak in the midst of his brother-monkeys, amongst whom thence forward he had no fellow; that monkey, that stood erect in the sense of his dignity, that, looking up to heaven, said, My God! and that, retiring into himself, said: I! . . . What climate, what soil, what regimen, what food, what heat, what moisture . . . separated from the animal races, not only man, but human society? . . . That monkey, what shall we say of it? Do you not see that the breath of the Spirit passed over it?"⁸⁶⁾

⁸⁴⁾ *Tablet*, 1871, Feb. 25, 232.

⁸⁵⁾ *Church Review*, 1865, Mar. 25, 270.

⁸⁶⁾ *Eclectic Review*, 10, 1866, 152—3, quoting E. Naville.

It is against the background of these views that the religious were able to save the traditional chronology of the Bible on the age of the human race. The year 4004 B. C. was the date of the "advent of the divine element into humanity."⁸⁷) Thus the fossil skulls of early human races could be summarily dismissed: they could only prove the existence at that early age of man's earthly covering, but "there are no traces of the existence of man — *qua* man, 'a living soul'."⁸⁸) One wonders what sort of evidence could have been acceptable to writers of this type. When it became clear that these early races had at least possessed some rudiments of culture, traditionalists only restricted their definition of man's soul to meet the new situation. "I by no means deny," wrote somebody in *Good Words*, "that there may have been . . . a species of animal . . . still more like man than any of the existing ape tribes; more like him in general organization, and with keener instincts and more intelligence than any of those tribes now possess; and yet not *man* — having none of man's higher intellectual nor a vestige of his distinctive moral endowments."⁸⁹) There were writers who seemed willing to restrict the "Divine element" to the extent that even the present savage races seemed excluded — though the unity of mankind might be saved by the degeneration theory. The *Nonconformist*, reviewing Sir Alexander Grant's articles, said: "Sir Alexander Grant points, with convincing emphasis, to the fact that savage humanity is unprogressive . . . Mr. Darwin's investigation of humanity must necessarily stop short at savage life . . . From this point the life of man is not simply human; it is Divine, and cannot be completed without Divine intervention, which infantile science ignores, and calls 'a break' and leaves to be discussed 'in another place' "⁹⁰).

It should not be thought that views such as these were confined to a small group of religious extremists. If Sir Alexander Grant was not himself so explicit as his commentator, his opinions were not very widely different. And Mivart, who so successfully expressed the dominant trend of opinion on these matters in the early 70's, wrote in the respected *Contemporary*, "If Adam was formed in the way of which

⁸⁷) *Nonconformist*, 1871, 240.

⁸⁸) *Church Review*, 1864, Mar. 26, 304.

⁸⁹) *Good Words*, 6, 1865, 380.

⁹⁰) *Nonconformist*, 1871, May 4, 428. See also *Quarterly Journal of Science*, 1864, 88.

I suggested the possibility [by descent from the apes], he would, till the infusion of the rational soul, be only animal vivens et sentiens, and not 'homo' at all."⁹¹) Further, the *Times*, quoting Froude in its review of Darwin's *Descent*, maintained that "even if our bodies could have been developed by Natural Selection to such a degree of perfection as to render them fit for our use, the soul still remains distinct from its bodily habitation."⁹²)

Such quite general references to the soul as a separate and distinct entity, whose creation was to be accounted for separately from that of his body, were quite common. A scientific organ like the *British Medical Journal* apparently subscribed to this idea, when it criticised those writers who only occupied themselves with the physical differences between men and animals: they miss, it said, "the true distinction between men and monkeys . . . that is to be found in man rather than in his mere carcase."⁹³) An early reviewer of the *Origin*, favourably disposed towards Darwin, held that "there is something so transcendently superior in the divinity — I know not how else to express it — of man's soul, that places him, at least for the present, quite out of the argument."⁹⁴)

The soul was often said to stand in relation to life as life itself to dead matter. "Species is a mystery, life is a great mystery, the conscious rational soul is a greater mystery still,"⁹⁵) was a typical statement.⁹⁶) Similar ideas were advanced by Stokes in his presidential Address to the British Association in 1869, and were naturally underlined in the religious press. The *Guardian* declared in a leader that "Mind is in his judgment as much above Life, as Life itself is above Chemistry and Mechanics, and he has little expectation that Science will ever be able to unfold its laws."⁹⁷) It may be assumed that the terms Mind, Life, and Matter were interpreted as standing for substantial entities with independent existence. Few, however, attempted to describe

⁹¹) *Contemporary Review*, 19, 1871—2, 185.

⁹²) *Times*, 1871, Apr. 8, p. 5.

⁹³) *British Medical Journal*, 1861, Sep. 21, 316.

⁹⁴) *London Review*, 1, 1860, 33.

⁹⁵) *Illustrated London News*, 1871, 243.

⁹⁶) See e. g. *Morning Advertiser*, 1863, Sep. 4, p. 4, *London Review*, 1868, Aug. 29, 263, *Weekly Review*, 1869, Aug. 28, 816, *Dublin Review*, 17, 1871, 5, *Guardian* 1871, June 7, 682 (letter).

⁹⁷) *Guardian*, 1869, Aug. 25, 948. See also *English Independent*, 1869, Aug. 26, 829.

more in detail what sort of entity the soul was. But the conceptual realism of most anti-Darwinians often led to the soul being discussed in terms altogether parallel to those used about the physical body. Huxley's lecture on "The Physical Basis of Life" — which caused a tremendous stir among the general public⁹⁸) — led one writer to assert that "there may be in man a protoplasm which science cannot detect, one which he shares in common with the highest, as his physical basis rests upon the lowest."⁹⁹) Accordingly it was also possible to extend the idea of continuous evolution to this entity: and this was also done in the more unorthodox religious organs. "It is surely not inconceivable that a germ of spiritual force might have been implanted in the race of reasoning beings, and that such germ is transmissible and capable of growth by purely natural methods."¹⁰⁰) The germ itself was separately created, endowed by God with a capability of developing in a particular direction. This was altogether in line with the theories of directed evolution which traditionalists were constructing in opposition to Darwin's Natural Selection theory, towards the end of the 'sixties.¹⁰¹)

The Intellect

Those writers who emphasized the intellectual capacities of man as his essential distinction had the advantage of being able to support their argument by specific factual illustrations. On the other hand, they were hampered by the fact that the intellect, unlike the soul, was not so readily apprehended as a separate entity with independent existence: conceptual realism had not here such a strong backing from religious tradition and popular thought. And without the support of such conceptual realism, it was difficult to contend that man's intellectual capacities were fundamentally and absolutely distinct from those of at least the higher animals. It is therefore not surprising that when such claims were in fact made, there was a tendency to fix the distinction by using different words for the mental capacities of man and those of animals. There was of course an old tradition for this.

Above all, there was the traditional distinction between instinct and reason. Man alone possessed the latter, while the activity of animals

⁹⁸) Brown, Alan Willard, *The Metaphysical Society*, 51.

⁹⁹) *English Independent*, 1869, Feb. 18, 151.

¹⁰⁰) *Theological Review*, 9, 1872, 341.

¹⁰¹) See above, Chapter 12, p. 267—79.

was wholly guided by instinct. It is clear, however, that this assertion was based on a *a priori* rather than empirical grounds. Those who made it did not in general indicate precisely how instinctive behaviour could be distinguished from reasonable activity. One writer naïvely recognized that "their instincts simulate our reason"¹⁰²) — under such circumstances one should not expect any observable difference of behaviour. In a close argument the distinction was therefore of little value, and it was in fact primarily met with in the popular, non-scientific type of organs.¹⁰³)

Several writers tried to provide a more satisfactory definition of the faculties which were uniquely human. Argyll in the *Edinburgh*, reviewing Huxley's *Man's Place*, drew up quite an extensive list. "There is the gift of articulate language, — the power of numbers, — the powers of generalisation, — the power of conceiving the relation of man to his Creator, — the power of foreseeing an immortal destiny, — the power of knowing good from evil, on eternal principles of justice and truth."¹⁰⁴) The aspects of the problem that we have distinguished — the intellectual, and the moral and religious — are here mixed together. Common to them all was their obvious dependence on an idealistic type of metaphysics: neither "immortal destiny," nor "justice," nor "truth" were considered as merely abstract constructions of the human mind; they were independent realities, "eternal principles." This was especially obvious in the case of the moral and religious concepts, as we shall illustrate more fully below. But it was also true of the purely intellectual concepts, with which we are now mainly concerned. On the empiricist view, the generalisations of abstract thinking were "logical fictions," as Mill called them. They were based on the experience of the senses: they did not furnish any knowledge beyond that of sensory experience, but only served to systematize that knowledge. Now animals, like men, adjusted their behaviour in accordance with their sensory experience; the difference was that man's adjustment was on the whole more effective, since his power of apprehending and systematizing his experience was so much greater. For this reason, empiricists like Darwin could regard the difference in intellectual capacities between men and animals as a difference of degree only.

¹⁰²) *Athenaeum*, 1863: I, 288.

¹⁰³) *News of the World*, 1862, Oct. 12, *Daily News*, 1871, Feb. 23, p. 2, *Month*, 15, 1871, 80, *Times*, 1871, Apr. 7, p. 3.

¹⁰⁴) *Edinburgh Review*, 117, 1863, 567.

But if, as idealists claimed, an abstraction was something more than a logical fiction, if it gave an insight (as Whewell put it) into the "essential nature and real connexions of things," an insight which was not derived from experience alone, then it was natural to maintain that the faculty which gave rise to this insight was essentially distinct from those possessed by mere animals.

The support which the idealistic doctrine on these matters had always received from the Church and from the established philosophical schools, had won for it almost the position of a self-evident truth among the general public. It was, as the *Quarterly Review* insisted in its review of the *Descent*, "the position . . . in possession — that which is commended to us by our intuitions, by ethical considerations, and by religious teaching universally. The *onus probandi* should surely therefore rest with him who, attacking the accepted position, maintains the essential similarity and fundamental identity of powers which are so glaringly diverse."¹⁰⁵) The Catholic *Tablet* referred to St. Thomas Aquinas: "The souls of brutes being entirely dependent on their bodies, it follows, as S. Thomas teaches, that they can have no ideas higher than those which can be acquired by means of the senses. Man, on the other hand, is endowed with the power of subjecting the ideas obtained from his senses to analysis, and by abstraction, of arriving at the knowledge of the essence of the objects represented to him from without. This is a perfectly distinct faculty from anything to be found in the brutes."¹⁰⁶) It may be due partly to Aquinas that the Roman Catholic tradition on this subject seems to have been very strong. The French naturalist, St. Hilaire, maintained that "it is by his faculties, so incomparably higher, by the addition of *intellectual* and *moral faculties* to the *faculty of sensation* and the *faculty of motion* that Man . . . separates himself from the animal kingdom and constitutes above it, the supreme division of nature, the Human Kingdom."¹⁰⁷) Descartes' idea of animals as automata is of course in line with this tradition.

But it would be a mistake to look upon this way of thinking as peculiarly Roman Catholic. Since it was, as the *Quarterly* said, universally sanctioned by tradition, it was also found among Englishmen with Evangelical tendencies, and a *Contemporary* reviewer expressed it as

¹⁰⁵) *Quarterly Review*, 131, 1871, 69.

¹⁰⁶) *Tablet*, 1871, Apr. 15, 456.

¹⁰⁷) Quoted with disagreement in *Natural History Review*, 1862, 1.

follows: "All other animals but man seem to be under a strict limit, which they cannot pass, their faculties, however acute, and wonderful, are restricted in their direction to the finding means of bodily preservation and bodily enjoyment . . . All these tendencies in the lower animals are stopped dead, as it were, by the want of the faculty of apprehending universals."¹⁰⁸)

The power of apprehending universals was obviously intimately bound up with language, and it is remarkable how often Darwin's opponents adduced man's "power of articulate speech" as one of the important absolute distinctions between man and animals. In a certain sense, this was something that everybody had to agree to: no animal possessed an articulate language. But the anti-Darwinians also claimed that it was impossible for articulate language to arise by a natural development of the faculties possessed by the brutes, since man's language was based on a perception of exactly those universals to which no merely sensory experience could lead.

The chief exponent of these views in England was Max Müller, who was popularly recognized as the leading authority on the incipient science of philology. Müller's avowed opposition to the Darwinian theory on these grounds was of considerable importance, since in other respects, as we have seen, the science of philology yielded effective support to evolutionary views. His followers insisted strongly on the dependence of human language on the power of generalisation and abstraction, and contended that "the fact that words express general ideas (that is, that every word was originally a predicate) has been proved by the strictest analysis,"¹⁰⁹) and accepted the view that man had been created in a perfect state, and consequently that "there was not and could not have been any period of mutism for a being whose faculty of speech was strictly natural."¹¹⁰) These views almost seem intended to compensate for the unorthodox tendencies of philology in other spheres. They were at any rate eminently acceptable to traditionalists. It is significant that Müller himself later employed his philological theory in a direct attempt to refute the Darwinian doctrine of Man's descent.¹¹¹)

¹⁰⁸) *Contemporary Review*, 17, 1871, 277.

¹⁰⁹) *Edinburgh Review*, 115, 1862, 101.

¹¹⁰) *Ibid.*

¹¹¹) Report of Müller's lecture in *Nature*, 7, 1872—3, 145.

In religious circles, such views as Müller's were seen as a confirmation of the traditional view of language as a direct and separate Divine gift. Moreover, when philology could prove that primitive languages were at least as complex as those of modern civilized nations, and that the great linguistic families of the world were as distinct thousands of years ago as nowadays, one tended to interpret these facts as a confirmation both of the story of Babel, and of the view that man had never been different from what he is now.¹¹²⁾

But it was also possible to assimilate the idealistic view of language with the evolution theory. Language was then regarded as a separate entity, developing like an organism wholly independently of all merely human wishes. But the germ of language, like the germ of any organic being, was created by God. Language, one said, "is something beyond man's control. It is . . . under the dominion of natural laws, has an existence and a vitality in common with all organic nature, and is not more the invention of man than the fuel he burns or the food he consumes. It is the gift of God to man, but then it is so only in a certain sense. It was not *communicated* to him in its perfect state, or any state at all; but it was implanted in him in such a way that he himself became the unconscious instrument of its development."¹¹³⁾

Another corollary of the idealistic view of the human faculties as separate entities conferred by a special Divine act, was the widespread conviction that a fundamental distinction between man and the animals was "the stationary condition of the one and the progressiveness of the other."¹¹⁴⁾ Animals stayed where God had placed them — or, alternatively, developed into what God willed — whereas man, with his free-will and power to understand, albeit imperfectly, the ways of God, was able to progress by his own efforts. Though superficially this view might appear as a concession to the development theory, it was not really so. On the contrary, man's ability to progress set him absolutely apart from the brutes. It was, like all his other marks of distinction, a Divine gift, "an inward impulse which led to the evolution of civilization."¹¹⁵⁾ The inward impulse solved the problem of reconciling

¹¹²⁾ *Dublin University Magazine*, 74, 1869, 595.

¹¹³⁾ *Home and Foreign Review*, 1, 1862, 194.

¹¹⁴⁾ *Guardian*, 1871, 1007.

¹¹⁵⁾ *Contemporary Review*, 17, 1871, 281.

the progress theory with the equally popular one of man having been created in a state of civilization.¹¹⁶⁾

Against the background of such specific arguments it was possible in other contexts merely to assert that the intelligence of man was of another nature than that of the animals.¹¹⁷⁾ For it was unnecessary to develop any further an idea which was so obviously in harmony both with traditional convictions and long-established prejudices and feelings.

Morality and Religion

However much Darwin's idealistic opponents differed from him in their assessment of man's intellectual superiority over the animals, they disagreed even more strongly from him as regards man's moral nature. In this matter, religious objections obviously strongly reinforced those of idealistic metaphysics and sheer traditionalism.

According to the Darwinian theory, all the characteristics of any species had arisen by the accumulation of such chance variations as happened to favour the survival of their possessors. Only those characteristics could be selected which were beneficial in the particular environment where the organism found itself. Moreover, as Darwin himself repeatedly emphasized, there was no reason to expect any absolutely perfect adaptation, since the natural selection process was necessarily slow, and moreover, since its rate depended on the severity of the struggle for existence.¹¹⁸⁾

Now if the Darwinian theory was to be consistently applied to man, a similarly relativistic view of human morality could not be avoided. There was no reason to expect the systems of values, whether ethical or aesthetical, which were actually to be found in human societies, to have any sort of universal and absolute validity. They had been developed in response to the particular conditions under which the different communities had found themselves. Communities adopting a moral

¹¹⁶⁾ E. g. *Athenaeum*, 1863: 1, 288, *Parthenon*, 1863, 235, *Quarterly Journal of Science*, 1864, Jan., 88, *Contemporary Review*, 17, 1871, 277, *John Bull*, 1872, Nov. 30, 824.

¹¹⁷⁾ *Daily Telegraph*, 1863, Aug. 31, p. 2, rep. Crawford, *Press*, 1863, 163—4, *Quarterly Journal of Science*, 3, 1866, 173, *Quarterly Review*, 126, 1869, 391, *Examiner*, 1869, Apr. 17, 245—6, *Academy*, 1, 1869—70, 236, *Inquirer*, 1871, May 20, 311, *Gardener's Chronicle*, 1871, 649, *Month*, 14, 1871, 232, *Guardian*, 1871, 1006, *Lancet*, 1872: 2, 297.

¹¹⁸⁾ See above, Chapter 12, p. 255.

code which made them prosperous and strong would tend to proliferate. To the extent that they succeeded in inculcating their beneficial code in their descendants, or in others who came under their influence, such a moral system would tend to gain ground. But the fact that a certain moral code had established itself did not prove that it was a perfect one, even for the society which had developed it. The success of a society in the struggle for life might very well be due to other causes than its system of moral values, and even if, for the sake of the argument, this difficulty was disregarded, it could at most prove that its morality was more favourable, or more efficient in the struggle for life, than others with which it had come into competition. Just as many species in Australia had shown themselves incapable of holding their own against imported Old World forms, so also it might well be that an established moral code would prove inferior — from the point of view of survival value conferred on the community accepting it — to one developed under different conditions, or to a totally new one.

Such relativism of values was altogether unacceptable to the religious. To them the good and the right were absolute and eternal entities, and Man was endowed with a special moral intuition, which provided him with an insight into this world of eternal values. One might concede that man's intuitions were not infallible. But no doubt was allowed as to their existence, and still less about the existence of the world of absolute values which was their object. Belief in that world was enjoined not only by man's conscience, but also by the Bible and the Church. Thanks to these sources, it was possible to establish the standard according to which the values actually found in different human societies could be themselves evaluated.

Darwin, as a scientist, was not concerned with evaluating men's values according to some absolute standard, but only with ascertaining what the values were, and explaining why they had become established. But if the theory of Natural Selection was true, a possibility was provided of determining the survival value of any set of values, and if, as certainly appeared reasonable to most people, survival was recognized as something good, the Darwinian theory also offered a means of evaluating the values actually accepted by human societies. And this evaluation was completely independent of any reference to religion. Moral and aesthetical codes could be regarded as good or bad, in the sense of successful or unsuccessful, to the extent that they increased the chances

of survival of the communities which accepted them. If such a standard of right and wrong was to become widely accepted, the absolute standard provided by religion could no longer be maintained.

This was a serious matter. The conflict between science and religion had already led to the exclusion of religion and religious explanations from a wide range of factual questions, so that several defenders of the faith had chosen to take the position that religion did not concern the world of factual experience at all, but only that of morality.¹¹⁹ Now if Natural Selection was applied to the development of man's ethical ideas as well, religion seemed in danger of total disintegration. "We do not see how to reconcile with our Christian faith the hypothesis . . . that our moral sense is no better than an instinct like that which rules the beaver or bee; that He whom we have been accustomed to regard as the Creator of all things, is a creature of our imagination, and that our religious ideas are a development from the dreams and fears of anthropomorphous apes,"¹²⁰ wrote one religious organ. Other writers stressed the social effect of the Darwinian account of morality. "The sense of right and wrong, according to this view, is no definite quality, but merely the result of the working together of a series of accidents controlled by natural selection for the general good. We need hardly point out that if this doctrine were to become popular, the constitution of society would be destroyed, for if there be no objective right and wrong, why should we follow one instinct more than the other, excepting so far as it is of direct use to ourselves?"¹²¹

What Darwin asserted of the moral ideas clearly also applied to religious ideas. They differed from community to community, and to the extent that they were of any importance in a community's struggle for existence, they were also bound to be subject to the influence of Natural Selection. Whether there was anything objective corresponding to the religious ideas that people held, — for instance, whether God existed — was a question which Darwin did not need to ask, as little as he needed ask whether anything objective corresponding to the moral ideas of people — for instance, God's will — existed. These questions could have no empirical answer. The only relevant question for Darwin was whether a community's moral and religious ideas did

¹¹⁹) Above, Chapter 5, p. 112.

¹²⁰) *British and Foreign Evangelical Review*, 21, 1872, 31.

¹²¹) *Edinburgh Review*, 134, 1871, 217.

in fact have any survival value. If they had, they would establish themselves whether they corresponded to anything really existing or not. But since, as we said, everybody would instinctively feel that survival value was something good, it was natural to conclude that the Darwinian theory came into conflict with the current religious doctrines on these matters. It was therefore in order for one religious critic to ask, "If Christianity itself is a mere product of the human mind, how is its truth to be maintained?"¹²²⁾

Empiricists inevitably looked upon moral and religious ideas as products of the human mind. But before Darwin it had been difficult to explain both the nature and the strength of people's moral and religious beliefs on purely empiricist principles. Utilitarianism was partly an attempt to overcome these difficulties, but the very unplausibility of utilitarianism in the moral sphere had rather strengthened the hand of those who maintained that any attempt to base morality on nothing but experience was fundamentally fallacious, and who advocated instead an idealistic theory of ethics, according to which moral judgments depend on "intuitive beliefs, which certainly were in our minds as originally constituted, and were not contributed to them from without."¹²³⁾ The current idealistic doctrine was, of course, that these intuitive beliefs were implanted in the soul by the Creator. Man was endowed, one said, with a moral sense or conscience, and it was especially important to set it apart as divinely inspired — and consequently *true* — if the lower animal senses and appetites were recognized as developed by a natural process. "The moral sense or conscience," said the *Guardian*, "[is] most important to the true humanity of the individual and to the maintenance of society. If any theory tends to depose it from its spiritual throne . . . and makes it but an instinct differing from others only in the greater vividness and durability . . . such a theory comes home to those who care little about abstract metaphysics, and is pregnant with results which will pass beyond the school or the lecture-room, to affect the great issues of practical life."¹²⁴⁾

Now the Darwinian theory of Natural Selection offered a solution whereby the empiricist, utilitarian view of the origin of moral ideas

¹²²⁾ *British and Foreign Evangelical Review*, 17, 1868, 187.

¹²³⁾ *Friends' Quarterly Examiner*, 1867, 52.

¹²⁴⁾ *Guardian*, 1871, 1007. See also: *Guardian*, 1871, May 24, 624, (letter), *Fortnightly Review*, 9, 1871, 371 (Grant), *John Bull*, 1871, Apr. 6, 234.

could be made plausible, since it was no longer necessary to depend on either conscious calculations of utility, or on the effects of conscious or unconscious experience of utility, associated with certain actions during the life of the individual or the race. As the example of the bee beautifully showed, it was possible for instincts which could not possibly be experienced as useful by any of the individuals possessing them to be naturally selected, since Natural Selection affected the population as a whole, and not the individuals within it.

But the bearing of the Darwinian theory on these matters was not recognized by the large majority of the public, partly, no doubt, because at first the problems raised by the Descent theory as such caused the Natural Selection theory to be neglected, and later because anti-Darwinians were so successful in persuading the public of the insufficiency of Natural Selection as an explanation of Evolution. In addition, traditionalists were able to seek support from the current two spheres doctrine of science and religion, according to which at least the domain of morality was wholly under the jurisdiction of religion. Therefore the influential *Saturday Review* could declare in its review of the *Origin*: "To any . . . man of science who should attempt to prove to us that the moral and spiritual faculties of man have been gradually developed by the working of matter upon matter, we should reply by demurring *in toto* to the applicability of his reasoning. No conceivable amount of evidence derived from the growth and structure of animals and plants would have the slightest bearing upon our convictions in regard to the origin of conscience, or man's belief in a Supreme Being and the immortality of his own soul."¹²⁵⁾ Such views were very common.¹²⁶⁾ Naturalists might say, "With Human Progression in a moral sense, no morphological theories have anything to do; it is only with Man as an animal . . . that Zoology is concerned."¹²⁷⁾ And for religious people the attitude was a matter of course. "Let man be allied by specific descent to the whole animal creation, he is a 'moral and intellectual' being, and on this religion and morality depend,"¹²⁸⁾ wrote the *Nonconformist*, and laid it down that "Science offers as yet no certain base on which to build a new

¹²⁵⁾ *Saturday Review*, 8, 1859, 775.

¹²⁶⁾ *London Review*, 1, 1860, 33, *Morning Post*, 1860, Jan. 10, p. 2, *Spectator*, 1860, 380, (letter). See also note 131, below.

¹²⁷⁾ *Geological Magazine*, 1865, 309.

¹²⁸⁾ *Nonconformist*, 1868, May 27, 538.

theology . . . [Darwin's] now famous theory relates only to the form of life, not to the principle of life, still less to the moral principle or soul."¹²⁹)

When the bearing of the Darwinian theory on these questions was recognized, the challenge was in the large majority of cases simply met by the bare assertion that *since* man's moral sense was implanted in him by God, it was impossible to explain it naturally. "Certainly," wrote one religious critic, "the conscience is a primitive fact of man's nature, which is not formed by language, study, or habit, and which, thanks to the Father of truth, no system can ever annihilate . . . Man is endowed with a moral nature, a perception of right and wrong, and a feeling of moral obligation."¹³⁰) Not only was it impossible to explain conscience and moral sense naturally, they also furnished a basis for a fundamental distinction between man and the animals, placing man, as Quatrefages said, in a different kingdom from the rest of the creation.¹³¹) It was on this basis, above all, that the theory was established that Man's creation had taken place when God had miraculously breathed a soul into man's bodily frame, which we have illustrated above.

There were also attempts to meet on its own ground the Darwinian theory of the origin of human morality. Critics sometimes went some way with Darwin in recognizing that his theory might to some extent account for the *practice* of morality. But more was involved than merely moral behaviour — "material morality".¹³²) An act was moral materially, if it was objectively in accordance with moral rules, though its motives might be non-moral, or though it might be performed unconsciously. Thus even animals might exhibit a material morality. But a moral man did not only behave morally, he was also conscious of the duty so to act. Such acts as were performed with a knowledge of that duty were not only materially, but also "formally" moral, and formal morality, said Mivart and those who accepted his argument, was distinctive of man. It presupposed a conscience, a conscious knowledge of right and

¹²⁹) *Nonconformist*, 1868, Sep. 2, 869. See also: *Morning Post*, 1868, Aug. 27, p. 2, where the same words occur in a report of a British Association lecture by H. B. Tristram.

¹³⁰) *British and Foreign Evangelical Review*, 12, 1863, 486, 490.

¹³¹) See e. g. *John Bull*, 1861, Sep. 14, 580 (Owen), *British Medical Journal*, 1862, 591, *Times*, 1861, Apr. 3, p. 7, *Popular Science Review*, 2, 1862—3, 403, *Journal of Sacred Literature*, 10, 1866—67, 201, *News of the World*, 1871, Apr. 16, p. 6, *John Bull*, 1871, Apr. 6, 234.

¹³²) Mivart, *Genesis of Species*, 220.

wrong, and often manifested itself in the feeling of remorse. Darwin's critics were convinced that such a feeling could not have arisen through Natural Selection. "No amount of the accumulation of the experiences of utility could give origin to a feeling in which utility not only had no share, but to which it was, if anything, antagonistic."¹³³) The argument was obviously not to the point, for the Darwinian theory did not assume that any conscious experience of utility was needed for the feeling to be naturally selected: what was necessary was that the feeling should in fact have survival value for the race. But such misunderstandings were common in relation to the Natural Selection theory.

In many cases the basis of the argument seems to have been, that since formal morality depended on conscious judgment and insight, there was nothing in the animal world from which it could have developed, since insight into moral rules presupposed the power of forming generalisations and abstractions. When expounding the fundamental distinction between animals and men as regards the moral sense, it was therefore natural for anti-Darwinians to support their views by referring to the traditional distinction between instinct and reason. The material morality of animals might be regarded as instinctive, man's apprehension of formal morality depended on reason. Darwin, said one critic, showed no sign of metaphysical acumen by confusing the two, as when he explained the moral sense as "a mere social instinct, refined and extended by means of a superior intelligence. But instinct and intelligence are simply incompatible one with the other, instinct being essentially a blind impulse."¹³⁴) Thus when Darwin suggested that the feeling of remorse might be caused by the conflict of two instinctive appetites, one retorted that "the conflict of the two appetites gives . . . no clue to the sense of Obligation which is the distinguishing element of Conscience."¹³⁵) The basis of that sense was, instead, the direct moral intuition which was a natural assumption for the idealistic school. A *Quarterly* reviewer expressed it, "It is a patent fact that there does exist a perception of the qualities 'right' and 'wrong' attaching to certain actions . . . intellectual judgments are formed which imply the existence of an ethical ideal in the judging mind."¹³⁶)

¹³³) *Edinburgh Review*, 134, 1871, 220. See also: *Month*, 11, 1869, 274.

¹³⁴) *Tablet*, 1871, Apr. 15, 456.

¹³⁵) *Guardian*, 1871, 935.

¹³⁶) *Quarterly Review*, 131, 1871, 79.

Darwin's derivation of the moral sense from the social instincts was naturally unacceptable to those who held these idealistic views. "It seems to us that the moral tie or bond of any race precedes the political, not the political the moral. It is, indeed, in the position of the elementary 'accidental' (or providential) advantage from which all the future history of advantage is deduced,"¹³⁷ wrote the *Spectator*, and an Evangelical reviewer asserted his belief that "all the higher social virtues which exist in man are a consequence of his possession of a moral sense, and not the cause of its existence."¹³⁸

On the idealistic view there was necessarily one and only one true morality. If different nations adhered to different moral systems, the explanation must be that their moral intuitions were not equally clear. But fundamentally morality was assumed to be the same everywhere. When Wallace, at the British Association in 1869, insisted on the high moral standard of the savage races of the Malay Archipelago, it was taken as a confirmation of the view that man had been created in a state of civilization, with a moral sense specially conferred upon him. The fact that the moral ideas of many present-day savages were revolting in the extreme could be dismissed by means of the current degeneration theory: their moral sense had been perverted by their sins.

Darwin did not contradict the view that the morality of the human race was fundamentally the same everywhere. He even gave some factual support to it, for on his Natural Selection theory as well, some conformity of moral codes was to be expected. For instance, honesty and truthfulness might be assumed to be beneficial to any society whose members practiced these virtues. On the other hand, Darwin went out of his way to insist that he regarded the conformity as solely due to similarity of conditions and of constitution. Under widely different conditions a fundamentally different morality might arise. He wrote in the *Descent*: "If, for instance, to take an extreme case, men were reared under precisely the same conditions as hive-bees, there can hardly be a doubt that our unmarried females would, like the worker-bees, think it a sacred duty to kill their brothers, and mothers would strive to kill their fertile daughters; and no one would think of interfering."¹³⁹ This passage exhibited Darwin's relativism quite clearly,

¹³⁷) *Spectator*, 1867, 1255.

¹³⁸) *British and Foreign Evangelical Review*, 21, 1872, 27.

¹³⁹) *Descent*, 151—2.

and it is hardly to be wondered at that his idealistic opponents strongly objected to his illustration.^{140 A)}

In the parallel sphere of aesthetic judgments as well, the idealistic school found themselves in opposition to the empiricist Darwinians. Darwin explained the sense of beauty as partly dependent on purely physiological reactions, partly on habit, and saw no difference in this respect between men and animals. Indeed, he even argued that in animals the sense of beauty was sometimes more developed than in man. He further regarded the relativity of aesthetic judgments as a matter of course. His opponents, on the contrary, wished to restrict the sense of beauty to the human species, making it depend on the perception of an ideal standard, which animals were by nature incapable of apprehending. Aesthetic judgments, they further held, were not relative, but absolute. They found support for this view in the facts. A *Quarterly* reviewer of the *Descent* declared that it was not true that the standard of personal beauty, for instance, differed from nation to nation according to the type that was prevalent in each. "All cultivated Europeans, whether Celts, Teutons, or Slaves, agree in admiring the Hellenic ideal as the highest type of human beauty."^{140 B)}

Conclusion

As the anti-Darwinian arguments concerning man's intellectual, moral and aesthetic capacities were largely based on idealistic metaphysics, the chief Darwinian defence consisted in asserting empiricist principles of scientific inquiry. When discussing psychological questions, Darwin deliberately avoided metaphysical speculations and religious considerations, using consistently a naturalistic approach: "from the side of natural history,"¹⁴¹ as he himself put it. His psychological method may almost be called behaviouristic. As he aimed at comparing the faculties of men with those of animals, he needed a standard of comparison, and that standard was necessarily the outward behaviour, since the subjective feelings and thoughts of animals were not open to investigation.¹⁴² If the behaviour was similar, then the thoughts were

^{140 A)} *Theological Review*, 1871, 167—92 (F. P. Cobbe). See also: *Academy*, 3, 1872, 230, H. Sidgwick rev. Cobbe.

^{140 B)} *Quarterly Review*, 131, 1871, 63.

¹⁴¹) *Descent*, 149.

¹⁴²) *Descent*, 126—7.

assumed to be similar also. For the purposes of the argument, thoughts were defined in terms of behaviour, which was the proper empiricist procedure. On this basis it was easy to show that the supposed fundamental difference between animal instinct and human reason, for instance, had little factual basis, and was in fact largely a product of conceptual realism. Darwin approvingly quoted Leslie Stephen as saying, "The distinctions, indeed, which have been drawn, seem to us to rest upon no better foundation than a great many other metaphysical distinctions; that is, the assumption that because you can give two things different names, they must therefore have different natures. It is difficult to understand how anybody who has ever kept a dog, or seen an elephant, can have any doubts as to an animal's power of performing the essential processes of reasoning."¹⁴³) Huxley, in his usual cutting manner, dismissed the idea that the moral sense was an "immutable and eternal" law of human nature: "I do not see how the moral faculty is on a different footing from any of the other faculties of man. If I choose to say that it is an immutable and eternal law of human nature that 'ginger is hot in the mouth', the assertion has as much foundation of truth as the other, though I think it would be expressed in needlessly pompous language."¹⁴⁴)

Darwinians did not of course deny that there was a great difference between animals and men in mental powers, but the difference was one of degree, not of kind.¹⁴⁵) One direct way of pushing this lesson home was to point to the development of human infants: in them, the acquisition of the higher faculties undoubtedly proceeded gradually.¹⁴⁶) On this point, however, traditionalists had various solutions ready. Some assumed the separate development of mental germs,¹⁴⁷) others the special providential interposition in each individual instance: "Why should not conscience, like sight, be given to each new baby as one of his faculties for the conduct of life?"¹⁴⁸)

¹⁴³) *Descent*, 120, note.

¹⁴⁴) *Contemporary Review*, 18, 1871, 469.

¹⁴⁵) See e. g. *Examiner*, 1869, Aug. 4, 519; 1871, 233, 256, *Reynolds's Newspaper*, 1871, June 11, p. 2, *Observer*, 1871, Mar. 19, p. 3, *All the Year Round*, 3, 1871, 450.

¹⁴⁶) *Natural History Review*, 1862, 1, *Descent*, 128.

¹⁴⁷) See above, p. 316.

¹⁴⁸) *Spectator*, 1869, 1002. See also: *Fraser's Magazine*, 67, 1863, 474, *Quarterly Review*, 133, 1872, 449.

But this solution of the difficulty was fraught with its own dangers, since it tended to blur the distinction between ordinary phenomena and miracles. The awe-inspiring mysteriousness of the miraculous would disappear.

On the whole, the more specific attempts to establish the distinctness of the human soul on the basis of factual, scientific arguments do not seem to have been very successful. It is true that the large majority did not accept the Darwinian doctrine of the development of man's mental and moral powers by purely natural selection. But neither did most people wish to commit themselves to a definite "catastrophist" view of the creation of the human soul. The various solutions which we have set forth above illustrate, so to speak, the trial and error process by which the religious world responded to the new situation which had arisen when practically the whole of the educated portion of the community had come to accept man's bodily descent from lower animal forms. For the soul, as for the body, it was the Natural Selection theory which was the chief stumbling block. Now precisely as it had been possible to reconcile the physical transmutation theory with religious feelings and theological prepossessions, provided Natural Selection was replaced by a postulate of Divine Design, so it was also possible to accept the gradual development of the soul, if it was combined with a recognition that it must have been providentially guided. The manner of that providential guidance might be obscure — hence the many speculations on the subject — but if the Natural Selection theory was rejected, it was hardly possible to deny the necessity of assuming the existence of some guiding force. It may be that the majority were not prepared to reduce their opposition to naturalistic Darwinism to these bare essentials. But they provided the foundation for all the various individual schemes of reconciling Evolution with traditional modes of thought as regards man's nature.