CHAPTER 15.

Summary and conclusion

The general public’s interest in the Darwinian theory was almost wholly due to two factors which were closely bound up with each other, namely, the religious and ideological implications of the theory as such, and its bearing on traditional views concerning the history of mankind and the nature of man. It is hardly probable that ordinary people would have cared very much whether animal and plant species were transmutable or not, unless the transmutation theory had clashed with the common interpretation of the Biblical cosmogony and widely held views on the manner of God’s providence. Nor would they have been greatly disturbed by the transmutation theory as such, unless it had led to a doctrine of man’s descent from the lower animals as a virtually unavoidable consequence. But as the theory did have these implications, it is not surprising that it attracted very wide attention indeed. It became one of those focal points of debate on which practically everybody was compelled to have some sort of opinion. Needless to say, the opinion cannot in most cases be called an informed one. Only a small proportion of those who took sides one way or the other had even a rudimentary knowledge of the facts on which the theory was based. Attitudes were determined, as in questions of religious, political or ideological allegiance, by the established prejudices of the social group to which one belonged, rather than by a detached consideration of the factual evidence.

Now when we say that the Darwinian question interested everybody, we must bear in mind that it meant different things to different people. To the uneducated majority the question was simply whether man was descended from Adam or from the apes: and most of them seem hardly to have believed that the second alternative could be seriously entertained. On a somewhat higher educational and intellectual level, the conflict between the transmutation theory and the traditional Christian cosmogony, and thus also with important points of Christian dogma, also attracted attention. Only on the very highest level was the debate centred on the fundamental problems which the theory raised on such matters as the teleological interpretation of nature, the structure of scientific explanation, and the relation of facts to values in the moral and aesthetic spheres of human activity. Yet all these various questions were interconnected, and even though the uneducated majority were unable to appreciate the problems which occupied the minds of the country’s intellectual leaders, they knew at any rate that the Darwinian question raised such problems. This gave it, even on the popular level, a greater weight and importance than it would otherwise have had. It is interesting to compare the reaction towards Chambers’s Vestiges of Creation, in 1844, with Darwin’s Origin of Species, in 1859, from this point of view. In a sense the Vestiges acted more strongly on the popular mind than the Origin. The book was quite as much talked about in the press during the first few years, and had undoubtedly a much wider popular readership. It appealed to the imagination by treating Evolution as concerning the whole of nature, and not just the organic world. Yet in spite of this, “Vestigianism” never reached the proportions of Darwinism as a matter of public concern. The Vestiges was a popular success, but no more. No scientific authority ever came forward to support its thesis. The Origin was sometimes taken as a more learned and less comprehensive imitation of the Vestiges — it was in fact described as such by the Daily News reviewer in 1859 — yet since it was perforce taken seriously by the intellectual elite of the country, the questions which it raised, whether great or small, soon took on a much deeper significance than had ever been granted to the speculations of the Vestiges. The broad public perhaps did not realise precisely in what way Darwin was more significant than Chambers, but the stir he caused in the intellectual world showed that he was. Darwinism concerned, as one popular commentator put it, “the tremendous issues of life.”

Though the general public’s interest in the Darwinian doctrine was largely due to its repercussions on religious and ideological beliefs, and though their attitudes towards it were also mainly due to these factors, yet even on the most popular level one attempted to justify one’s stand either by citing the opinions of scientific authorities in support of one’s own position, or by means of factual, scientific arguments. The argument most widely employed on the anti-Darwinian side — which was always in a majority, and more so among the unedu-
cated than among the educated — was that of the missing links. As long as Darwin could produce no actual instance of the transmutation of one species into another, his doctrine was treated as a groundless speculation which did not need to be seriously considered. On a more sophisticated level, more specific arguments, such as the sterility of hybrids, and the reversion of varieties to the original type, were adduced in support of the immutability thesis. The problems raised by the Natural Selection theory, in their turn, were only discussed in the very best quality organs. It is evident that the large majority of the general public remained in ignorance of the fundamental principles of that theory. Therefore, when a Descent theory embodying a principle of providential Design was gaining ground towards the end of the 'sixties, most people failed to see that acceptance of it did not solve some of the most important problems which Darwin’s naturalistic theory had raised. The fact that Darwinians had to be very much on the defensive on the question of Natural Selection, especially from about 1870 onwards, helped to confirm this misapprehension, which has in fact lingered on ever since. Though it was chiefly the Natural Selection theory which made the Descent doctrine scientifically acceptable, popular Evolutionism has by and large remained at the pre-Darwinian, unscientific stage.

On the Darwinian side, the most widely used argument was to point to the resemblances between the various forms of organic life, to the general progression in the geological strata, and to the general principles of continuity and uniformity, which appealed to the practical common sense of the ordinary man. These arguments, however, were only relevant to the Descent theory as such, not to the Natural Selection part of Darwin’s doctrine. It is noticeable that the arguments specifically designed to support Natural Selection were sparse indeed. For instance, though both Darwin and Wallace explicitly acknowledged their debt to Malthus, the resemblance between the Natural Selection theory and the economic theory of laissez faire was not often advertised on the Darwinian side: instead, opponents used it to discredit Darwinism. The Manchester school was not popular in the 1860s.

The most effective way to support Natural Selection was to inculcate empiricist principles of scientific explanation: and on the highest intellectual level — on which alone, as we said, Natural Selection was really debated — the theory gave rise to a vigorous debate on the problems of the philosophy of science. In that debate the Natural Selection theory acted as a watershed, separating empiricist Darwinians on one hand from idealistic anti-Darwinians on the other. It is quite clear that the idealistic position was much more strongly represented among the general public — we are now speaking, of course, of the educated section — than the empiricist one. Nor is any movement of opinion towards empiricist views noticeable during the short period we have studied. Perhaps even the contrary: the challenge of the Darwinian theory caused the idealistic school to close their ranks. The revival of German post-Kantian idealism in England from around 1870 onwards should be seen as part of this movement. On the whole, the idealistic counter-offensive served its purpose. The Natural Selection theory, the spearhead of the empiricist-scientist attack, was held in check. From the viewpoint of the general educated public, at least, it seemed as if the Darwinians had had to admit that Natural Selection was insufficient as an explanation of Evolution, and that a principle of predetermined development was needed to supplement it. It is not until well into the 20th century that the progress of biology, especially in the field of genetics, has made it possible to establish the Natural Selection theory on a more secure basis.

Though the actual arguments used in the Darwinian controversy ostensibly concerned scientific points, it is quite clear that the stand taken by the disputants was ultimately determined by ideological or religious considerations. One did not on the whole disagree about the facts; one disagreed about the interpretation of the facts, and preferred the interpretation which supported the ideological position one wished to maintain. Hence there is a clear correlation between the religious and ideological views of the debaters on one hand, and their attitudes towards Darwinism on the other. Nor has the importance of the ideological factors for determining the stand on Darwinism to be inferred from this general correlation alone. There were very few reviewers indeed who refrained from offering at least some remarks on the religious implications of the theory. The importance of these implications was by no means played down: in some cases the stand was squarely based on them alone.

On the popular level it was the theory’s patent contradiction of the Biblical creation story which attracted most attention when the theory’s religious consequences were discussed. On a higher educational level the debate turned on the bearing of the Evolution theory on the concept
of miracles and miraculous interference. After Newton, such interferences had been virtually abandoned for celestial phenomena; the spread of uniformitarian views in geology threatened to oust them from the terrestrial sphere as well, at any rate as regards the material world. Now Evolutionism bade fair to make them superfluous in their last stronghold: the organic world. To the religious it seemed as if God was pushed further and further away from His creation, when evolutionists admitted Him as an original Creator and Designer, and no more.

But an even more fundamental conflict was occasioned by the Natural Selection theory's bearing on that teleological interpretation of nature which lies at the root of practically any sort of religious belief, and which was of quite central importance in 19th century Britain, where Natural Theology had become almost the whole of theology. Now on the Natural Selection theory, almost any form of life, however complicated, beautiful, or adapted to its function, could be explained as due to the accumulation of purely random variations. Thanks to Darwin, the Epicurean and Lucretian picture of a fortuitous conourse of atoms giving rise to the world as we see it was changed from a patently absurd speculation to an eminently plausible hypothesis. There might indeed be room for a Creator and Designer in this theory — but there was no need for one. It was above all this consequence which caused the Natural Selection theory to be combated so insistently and, as we have said, on the whole successfully.

We meet with the same concern about the Natural Selection theory in the application of the Darwinian doctrine to man. On the popular levels one chiefly dealt with the incompatibility of the Descent theory with the Biblical account of the origin and history of man. But on the higher levels one was very much concerned with the Darwinian thesis that man's intellectual and moral nature — his soul — was a product of the natural selection of random modifications. If that theory was correct, the establishment of a religion or of a moral code would have nothing to do with the question whether the beliefs associated with it were true or not. Beliefs would be established if the community which embraced them benefited from them in the struggle for life. One of the strongest arguments in favour of an idealistic interpretation of the world — the intuitive nature of moral and religious beliefs, and the difficulty of accounting for them on the basis of individual experiences of utility, even though past experiences of the race were called in aid — lost its force. The Natural Selection theory made it possible to give a plausible empiricist-naturalistic account of the origin of religious and other beliefs: and it was obvious that this account, which was thoroughly relativistic, was irreconcilable with the idealistic-intuitionist one, which was equally thoroughly absolutistic.

Religion was an essential ingredient in the general public's reaction towards Darwinism. But it was also a very important factor in determining the attitudes of the scientists themselves. The Darwinian controversy can probably be best characterised as one engaging religious science against irreligious science — a description already applied by C. C. Gillispie to the pre-Darwinian conflict between Genesis and Geology. The antagonism, which largely coincided with the opposition between an idealistic and a positivistic-empiricist view of the world, cropped up almost at every point. It was no coincidence that the leading Darwinians of the time — Darwin, Huxley, and Hooker — were all agnostics (a term invented by Huxley), while the leading anti-Darwinians, Owen and Mivart, were decidedly religious men.

The establishment of an evolutionary view had been virtually achieved among the educated classes before the end of the first decade after the publication of the Origin of Species. That was the first and most palpable change that the Darwinian theory worked in our outlook on man and the world. But it was not necessarily the most important. Some contemporaries felt keenly, others obscurely, that the extension of purely scientific methods of reasoning to subjects which had hitherto lain outside the scope of science, was the most explosive and revolutionary element in the new doctrine. One could not foresee where this development would lead: but the threat to an established body of beliefs was apparent. One therefore felt the need to strengthen them: and this inevitably led to inquiries into their foundations. In the ensuing debate, no final solution of the problems that arose in this connection was reached: none could be expected. Some of those problems are still with us; indeed, a century during which the scientific spirit has unrelentingly advanced into wider and wider fields has made them even more pressing. Hence the Darwinian debates of a hundred years ago still has an interest for us, for though the solutions that were then suggested may perhaps often seem irrelevant and naïve to a later age, the debates ranged both widely and deeply, and above all, were carried on with an earnestness and force of conviction which commands respect.