A Perspective on Darwinism

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Darwin is not a natural philosopher, but—in the most distinguished sense—a natural scientist. This simple observation, which does not hint at any new discovery but merely states what anyone who concerns himself with reviewing the Darwinian hypothesis can tell himself, is in our judgment well suited to remove a portion of the misunderstandings with which a fermenting public opinion seems, from many quarters, to wish to encumber an attempt that is, in its direction, magnificent.

The points around which the polemics of opinion revolve are:

1. The common descent of organisms, and in particular the origin of the human being.

2. The emergence of the first organic beings on earth—whether this is owed to a creation or merely to a distinctive co-operation of ordinary natural forces.

3. The character of Darwinism as a whole—whether it can really be reconciled with human dignity, or must be said to contain tendencies that are hostile to the spirit and dangerous to religion and morality.

For the clarification of these main points we have, as regards the last in particular, absolutely no guidance in Darwin's purely personal convictions, which are not more closely known to us and do not in any case bear on the matter; we confine ourselves exclusively to the theory as it stands before us.

1) "Whence come these legions of living beings, these almost numberless species and genera of plants and animals found in nature?" Darwin answers: "they all descend from a few simply organized forms; they constitute one coherent system, whose individual

members, increasing in fullness and perfection, have in the course of time worked their way forward in a sustained struggle for life."

It will now easily be seen that it makes a great difference whether we approach the view thus expressed from the standpoint of empirical science or from that of natural philosophy. If one applies a natural-philosophical measure, one is justified in asking for the principle from which the theory as a whole can be derived.

In this respect not only philosophers, but natural scientists as well, such as Th. L. Bischoff, have found themselves unsatisfied. "The Darwinian doctrine," says Bischoff, "is no theory; it does not rest on a principle which, because it is derived as a universally valid truth, must also be acknowledged by all as a universally valid truth. It contains many important and true thoughts and facts; but these can only be acknowledged as correct insofar as they confirm themselves as correct for objective experience and observation. But where this verification fails or has not succeeded, we shall not be able to attribute any significance to the Darwinian theory."

Froschhammer,[1] who judges Darwinism exclusively from a philosophical-critical standpoint, lays weight, among other things, on the obscurity that rests over Darwin's well-known catchword: "natural selection" (*Qualitätsvalg*). Since some of his other objections strike us as being of rather doubtful significance, we shall single out this one in particular, which is, in a natural-philosophical sense—mark this well—certainly substantially grounded.

Froschhammer takes as his example the origin and development of the eye. "Since," he says, "we must think of the primitive animal forms, simple and imperfect as they are, as lacking eyes—just as there are still animals in existence without eyes—the main question arises afresh: how did eyes originally arise or how could they arise? They must have arisen either by chance, or by an inexplicable, incomprehensible *generatio aequivoca*, or explicitly through a new act of creation. In no case could they have arisen through natural selection, since this, by its very concept, is capable only of modifying, or properly speaking only of maintaining, what is already given, and not of creating something new, something not yet given."

The perfect eye is compared with the telescope, and the operation of natural selection in perfecting the eye with the efforts of human intelligence to improve that instrument; "but," adds the philosophical critic, "surely wrongly. Unconscious nature is just as little capable of imitating or performing the purposive activity of opticians as it

is capable of imitating or replacing the activity of the artist (the painter, or even

[1] *Om Darwinismen*, translated by H. Steen. Copenhagen, 1873.

merely the watchmaker). At this point Darwin, in order not to come to a standstill in his explanation of the origin of the most perfect eyes, resorts to a thoroughgoing personification of natural selection. 'Natural selection' is supposed to 'watch closely' and 'carefully select,' and with never-failing tact to detect every improvement that can promote further perfection." "Were this to be understood literally, Darwin himself would have introduced a theological power into nature that would render all his other explanatory attempts superfluous"—"and at the same time attributed to natural selection a property that stands in flat contradiction with its otherwise avowed character. But if the expressions named are to be understood figuratively, then an explanation has been given or feigned in words, where only something is figuratively asserted that cannot in reality take place… Natural selection cannot… strive for more perfect eyes, but can only maintain and make use of them once they have in some way or other already come into being. And here, then, there appears in a striking manner the very case of which Darwin himself concedes that it could overthrow his theory."

Similar objections can be raised against the manner in which the origin of the human being (in the detailed work *The Descent of Man*) is explained. In order to prepare the reader for the coming development, a human embryo is immediately in the beginning of the first part compared with a dog embryo; from the similarity in outward appearance an inference is drawn to similarity in nature—an inferential procedure that is pervasive and characteristic of the entire subsequent argument. Should anyone wish to throw himself with critical zeal upon this point, it will scarcely be difficult for him to discover and lay bare the fundamental weaknesses, once the matter is, mark this well, treated philosophically.

But if we place ourselves at the standpoint of the researcher, the whole affair takes on a different aspect. The natural scientist does not have the task of constructing the typical peculiarities of living beings and the differences actually obtaining among them from a general principle; on the contrary! he finds the different forms given to him in nature. His first question is not a question of necessity but of possibility. If the many different species and genera were to be assumed to stand independent of one another, then as many miracles of creation would have to be presupposed as there are species; but to build on miracles is to abandon all inquiry: whenever one is at a loss to find a natural ground for a natural fact, one can in the most convenient manner break off by saying: here a miracle has occurred. "According to the ordinary view, that each individual being was the result of its own creative act, we can only say that it is so, that it has pleased the Creator to arrange all animals and plants in each great class after a uniform plan; but

this is not a scientific explanation."

These words of Darwin indicate clearly enough what it is he is aiming at. Darwin's doctrine does not come forward as any finished explanation and grounding of the peculiarity actually obtaining in organic types, but as a hypothesis. This hypothesis has the great scientific significance of leading inquiry into new tracks and indicating a new method. Positing hypotheses is an easy matter; but indicating new and fruitful methods is reserved for the

distinguished in science. What Darwin teaches us about the development and transformation of organs in the struggle for life, about natural selection, heredity, the laws of variation, and so forth, are decisive determinations of the direction in which his investigations go—that is, of his method. Instead of foisting upon him a natural-philosophical principle that he does not have, one would do better to fix one's entire attention on the distinctive character of the method, for the researcher's principle is his method.

Darwin has not been refuted because he has not yet been able to show how a mollusc has passed over to become either an arthropod or a vertebrate, and still less how an ape has with philosophical necessity become a human being; he aims, as far as we have understood his method, not at the necessity of the forms that have come to be, but at the possibility of gradual transitions and thereby at the possibility of attaining ever greater insight into the natural inner connection of organic forms with one another. As regards the individual intermediate links, there is no one who has more emphatically impressed upon us how immeasurably great our ignorance is than Darwin himself.

2) How did the first organic beings come into existence on earth? This question no natural scientist can answer, and it seems to us that Darwin has upheld the standpoint of his science in the most fitting manner by not giving any indication of wishing to answer it. "There is," he says, "grandeur in this view of life, that with its several powers, having been originally breathed by the Creator into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved."

Truly a language worthy of a natural scientist! If the Darwinian hypothesis is absolutely to be forced into a natural-philosophical system and made to submit to a "dialectical critique," it is admittedly true that the researcher will find himself embarrassed. If one has conceded one miracle, why not concede more? If the first organic beings were created, why must not all of them have been created? This is a critique that anyone can easily manage, and it is therefore no wonder that it has been heard from so many quarters.

But what is the researcher's thought, properly speaking? He sees in life an activity which, while it falls everywhere under universally valid natural laws, is nonetheless an activity that cannot be derived or explained from the interaction of elementary forces. The origin of life is a riddle, and the riddle is intimated by saying that "life with its several powers was originally breathed by the Creator into a few forms or into one." This reference to a creation fixes no determinate miracle; it is left to each person to conceive of the obscure beginning as he will: the origin and first beginning of life is no object for empirical natural science.

With Darwin, the doctrine of creation stands in the same situation as the doctrine of means and ends in nature (the teleological): creation and purpose do not belong to the categories that find fruitful application in empirical science. When the researcher finds himself occasionally compelled to employ such designations, he is in a certain embarrassment, because the words *creation*, *nature's purpose*, and the like must be taken both in a figurative and a literal sense at once: concerning actual creating as an

act, concerning a coming-into-being as "a beginning of a being after non-being," we have, says A. Humboldt, neither concept nor experience. The same must be said of "the purposive and yet naturally necessary activity" attributed by Darwin to natural selection. That such fundamental concepts as creation and purpose still bear a mystical obscurity is evidently philosophy's fault and cannot be charged against empirical natural science. This leads us to the consideration of the third main point.

3) Can Darwinism with justification be said to contain tendencies that are hostile to the spirit and dangerous to religion and morality? If it could be presupposed that the many who in the present day have an imposing impression of the great, comprehensive significance of natural science for cultural life also had a clear understanding of what natural science is and must be as a science of nature, it would be an easy matter to prove that Darwin's doctrine is neither more nor less hostile to the spirit than any other natural-historical theory.

Natural science is neither religious nor irreligious, neither ethical nor unethical; if one wishes to attack Darwinism from a religious-ethical starting-point, one simultaneously attacks the entire far-branching natural science in all its members and parts.

What is supposed to be the offensive thing about Darwinism is that it seeks to demonstrate the natural descent of higher species from lower, because this is taken to be aimed at a demonstration of the natural descent of the human being from some unknown animal form. It is, one says, an affront to human dignity. Quite right!—when one reads into it the religious idea of a supernatural act of creation and wants the presuppositions

of faith to be confirmed in science. Such a confirmation one will admittedly not obtain from Darwin; but, one is then to tell us, from which natural scientist one does expect to obtain it.

Louis Agassiz, Darwin's declared adversary, describes his doctrine of descent roundly as a scientific blunder, as untrue in its facts, unscientific in its method, and pernicious in its tendency; Agassiz holds strictly to the immutable limits of species and genera—can his theory perhaps then be more religious than Darwin's? Agassiz proceeds from zoogeography and draws from it consequences for the origin of the human being. He speaks of creations and centres of creation and arrives at no fewer than eight centres of creation with eight great zoological realms: the Arctic, the Mongolian, the European, the American, the Negro realm, the Hottentot realm, the Malayan, and the Australian realm. Each of these realms has its characteristic fauna produced by a local force, and its characteristic human race likewise produced by the local force. Here then are creations enough. Far from coming into ambiguous contact with animal transitional forms, the human being stands independently over against the animal; for the human being was created not merely once but eight times—that can count for something. But that the eight-times-repeated creation, owed to the "local force" present in eight places, has nothing to do with the religious faith in the creation of the human being in God's image is obvious: Agassiz's theory is just as little religious as Darwin's.

It is settled that natural science as a whole is neither religious nor irreligious, neither pagan nor Christian, neither ethical nor unethical; it is what it alone can and should be: objectively inquiring science.

There are complaints, and not without grounds, that the cultivators of science all too often misuse the results of inquiry to attack the highest and most sacred truths of religion, and therewith of life; we answer: when that is so, it is not science but the cultivators of science that one must hold to account.

And what is it, then, that tempts the cultivators of science—whether they be Darwinians or anti-Darwinians—to overreach? It is precisely the old ingrained prejudice that religion's supernatural facts ought to be capable of being grounded in science, that there really exists a science built on miracles, a true miracle-science, which searches out nature and history, the formation of the earth, the emergence of living generations, the origin of the human being, and so forth, with a quite different, deeper scientific gaze by means of miracles than ordinary inquiry can manage without miracles. Whenever the alleged miracle-science puts on its scientific air and sets out to correct the researchers, its hollowness is exposed; and as it is sharply repulsed, it not infrequently happens,

unfortunately, that the higher truth whose defence is conducted with false weapons is misjudged. So long as one stubbornly insists on the old demand that science be religious and religion scientific, the turning away from everything supernatural and the denial of the word of revelation will continue to advance steadily, for the mode of thinking of inquiry is as contrary as possible to that of the Gospel.

Only when it is fully understood that religion has and must have its own domain of knowledge, independent of science, and science its own domains of investigation

independent of religion; only when, by the path of dearly bought experiences, one has at last learned to see that it is just as confounding to the spirit to wish to draw religious conclusions from scientific premises as scientific conclusions from religious premises, can there be any question of peace and conciliation between religion and science. The only grounded objection that can be made against a purported scientific theory is that it is unscientific. If Darwin's method has scientific deficiencies, it will be corrected within science, and natural scientists are the only proper, competent judges. Whether it prevails or is defeated in the controversy has no essential influence on the doctrine of the spirit.

The religious concept of creation is not a concept of knowledge but a concept of faith. Darwinism does not harm religion, does not move within faith's domain, does not resolve the problem of creation, does not refute the revealed word: that the human being was created in God's image.

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