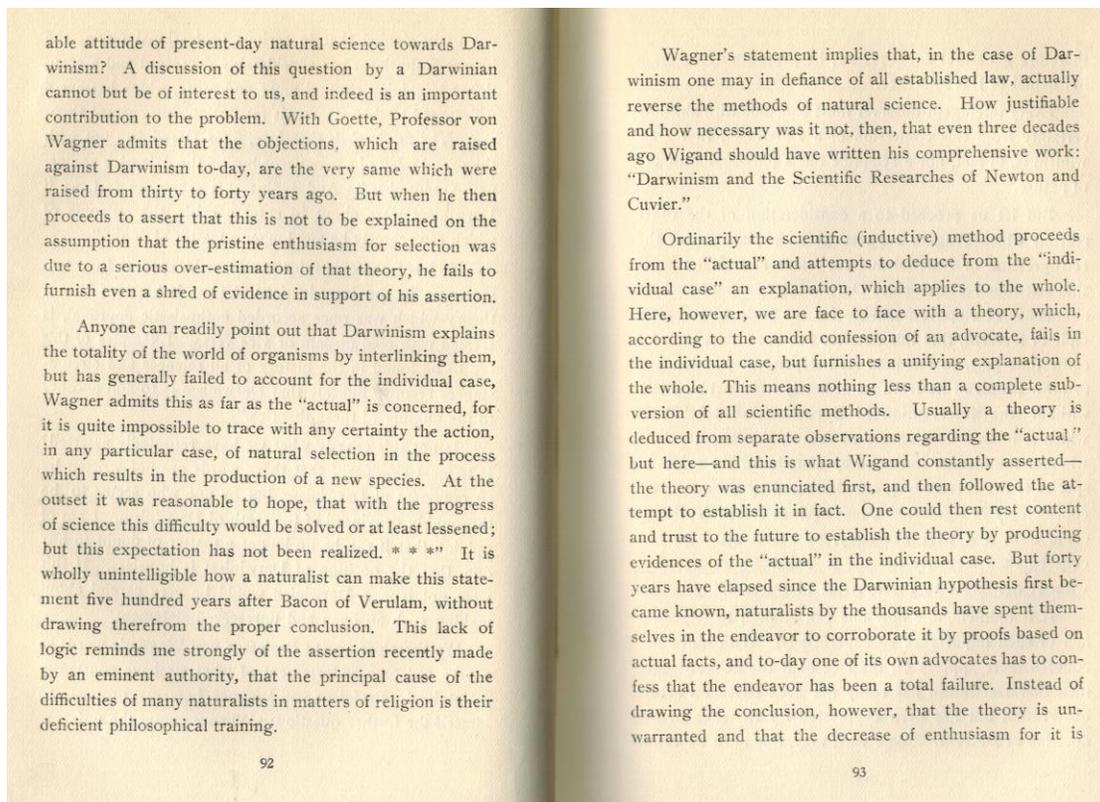
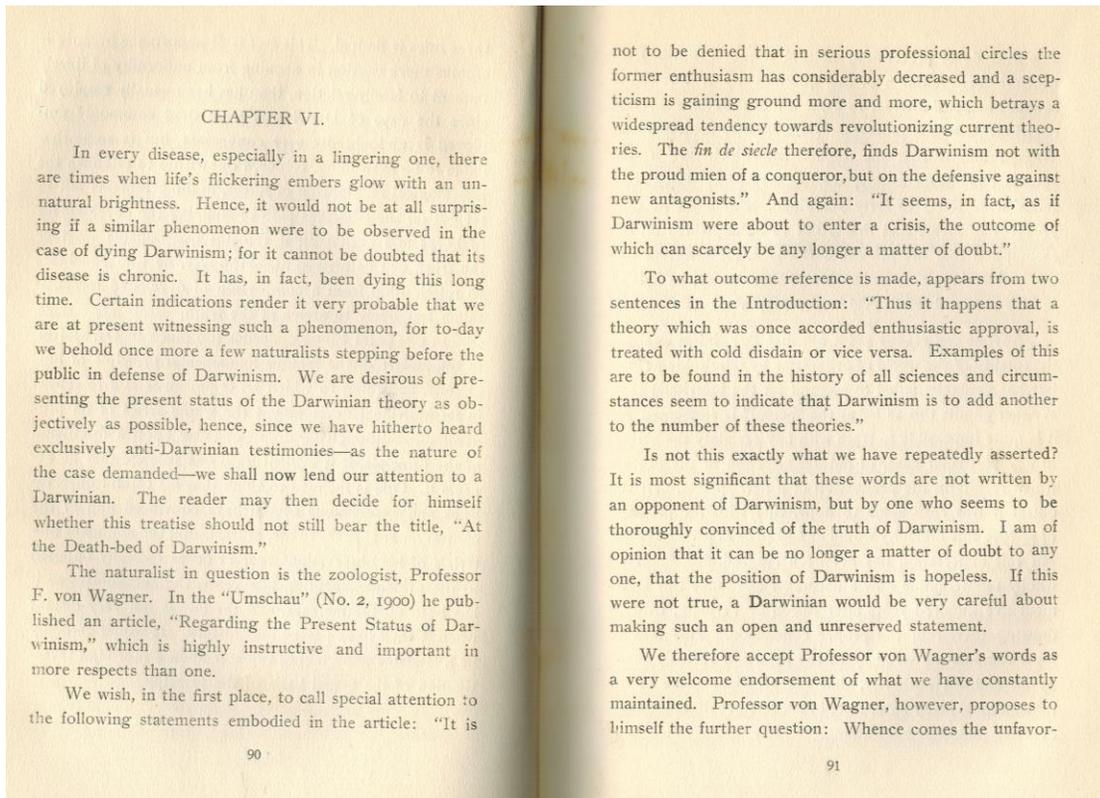


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therefore a natural consequence, he gratuitously enters a flat denial of this inference.

Every intelligent observer must conclude with absolute certainty from this confession of a Darwinian, that Darwinism is, in fact, not a scientific but a philosophic theory of nature.

But let us proceed to a consideration of the other reasons which Wagner suggests as an explanation of the retrogression of Darwinism. He states as a first reason, that scientific research since Darwin "has amassed such an abundance of empiric materials for the truth of the principle of Descent, that this doctrine has been able, even for some time past, to maintain an independent position and to draw proofs of its truth immediately from nature itself, without the intervention of Darwinism." * * * "From which it follows as a matter of course, that the question, whether the manner indicated by Darwin for the origin of species is the correct one, has decreased by no means inconsiderably in significance, inasmuch as Darwin's theory could now, if it were necessary, be abandoned with less concern than formerly because it could be relinquished without detriment to the doctrine of Descent."

It is unintelligible how one can attempt to explain a fact of such importance so superficially. With naive unconcern there appears on the face of it the acknowledgement that Darwinism has really not been based on actual observation but has been enunciated for the sake of the doctrine of Descent. Come what may, this must be vindicated.

Other means are now said to substantiate it, hence the Darwinian crutches may safely be discarded. The principle of action twenty or thirty years ago was therefore: a poor explanation is better than no explanation. I cannot understand, how Wagner dares to credit present-day naturalists with such motives.

When he then proceeds to say "that with the advance of the principle of development, new lines were entered upon, which led primarily to the corroboration and empiric demonstration of the doctrine of Descent, and not of Darwinism"—that the theory of Darwin was consequently neglected and, in fact, forced into the background—"that the labors specifically attributable to Darwinism as compared with the theory of Descent, put the former more and more into a false position to the detriment of its prestige"—when, I say, Wagner has marshalled all these considerations to explain the present aversion to Darwinism, he is guilty of a total subversion of facts. The true state of the case is the very contrary.

The credit given by Wagner to the Darwinian theory for stimulating research, is the very same as I also accorded it. The purpose of this research undoubtedly was to substantiate not only the doctrine of evolution in general, but also the Darwinian hypothesis in particular. To verify this, one need only glance over the various numbers of the "Kosmos," the periodical, which Haeckel and his associates established for that very purpose and which continued to publish good and bad indiscriminately until

some time in the eighties when lack of interest compelled its discontinuance. Wagner therefore misconstrues facts when he asserts that there have been no specifically Darwinian researches. Since the thoughts of Darwin first found expression these researches have been most abundant and their results have been consigned to the printer's ink. No doubt—and this is the salient point, which Wagner passes over in complete silence—they have been of service only to the doctrine of Descent in general, and in spite of the energetic efforts of the Darwinians, they have never led to the ardently desired proof from facts of the hypothesis of selection. This and no other is the state of the case.

In view of these vain endeavors, however, intelligent investigators have gradually become perplexed and have turned away from Darwinism, not because they have lost interest in it nor even because they no longer feel the need of it to assist the doctrine of Descent, but for the one sole reason that its insufficiency has become more and more apparent and that all experiments undertaken on its behalf have made the fact clearer and clearer that the first criticism of the great naturalists of the sixties and seventies was perfectly justified.

In forming a judgment concerning the whole question it cannot but be a matter of the utmost significance, that men have turned away from Darwinism to entirely different theories of Descent. It is a mistake to suppose, as Wagner would have us suppose, that the last decades have produced nothing but generalities regarding the doctrine of

Descent. For they have also witnessed the publication of a number of significant works, which aimed at giving a better individual explanation than was found in Darwinism. I need but recall Naegeli, Eimer, Haacke and a host of others. The most noteworthy feature of these new views regarding theories of Descent, is the constantly spreading conviction that the real determining causes of evolution are to be sought for in the constitution of the organisms themselves, hence in internal principles. This view, however, is not only absolutely and diametrically opposed to Darwinism but completely destructive of it as well.

The actual circumstances, therefore, are the very reverse of those pictured by Wagner. Darwinism has been rejected not on account of a lack of research but on account of an abundance of research, which proved its absolute insufficiency.

Besides these "general points of view," as he calls them, Wagner finds two other "considerations of no less importance" for explaining the decay of Darwinism. It is an incontrovertible fact, that the hereditary transmission of acquired characters has in no way been proved. On the contrary after it had at first received a general tacit recognition and was postulated by Lamarck, Darwin and Haeckel, it was denied by Weismann. Wagner asserts "that the number of those who have allied themselves with Weismann in this matter is obviously on the increase as is naturally the case, since, to the present day not a single incontestable case of hereditary transmission of acquired

characters has been demonstrated, where as actual facts are at hand to prove the contrary."

It is perfectly evident that the doctrine that acquired characters are not inherited is fatal to Darwinism. Hence Wagner rightly considers its ascendancy a notable factor in bringing about the decay of Darwinism.

Finally, Wagner briefly indicates that certain new theories necessarily exercised an influence on Darwinism. Haeckel and the palaeontologists of North America supplemented it with a number of Lamarckian elements without alteration of its essential principles (the Neo-Lamarckians); Eimer regards the transmission of acquired characters as an established fact, but rejects natural selection as wholly worthless; Weismann, on the contrary, denies the transmission of acquired characters, but nevertheless regards natural selection as the main factor in the formation of species (the theory of the Neo-Darwinians). Eimer speaks of the impotence of natural selection, Weismann of its omnipotence. All this has shaken men's confidence in the trustworthiness of the Darwinian principles. This fact we are in no way inclined to doubt, but we must again differ from Wagner with regard to its significance. We maintain that matters had to take this turn, since the reason why Darwinism is now meeting with such serious opposition, is to be found in its very nature. This indeed should have been recognized forty years ago instead of just beginning to dawn on men of science at the present day. For if acquired characters are not transmitted by

heredity, Darwinism is an impossibility. Forty years ago Darwinism should have recognized that its first and supreme task was to prove the hereditary transmission of acquired characters, so as to establish itself, first of all, on a sound footing.

One of the most peculiar incidents in this scientific tragi-comedy is the fact that Weismann, the mainstay of contemporary decadent Darwinism, attacks with might and main its fundamental assumption, the transmission of acquired characters, whereas Eimer, who is thoroughly convinced that he has proved that doctrine, in his turn attacks Darwinism and proves with telling effect the impotence of its principles. The amused observer can really demand nothing more. He can but rub his hands for joy and cheer on the heated combatants: Well done! On with the struggle! and the last vestige of Darwinism will soon have disappeared.

If, then, we were to summarize our strictures on the reasons which Wagner adduces to account for the decay of Darwinism, we would say this: Some of them are unwarranted, others are falsely interpreted.

There is, however, a third point which is of special interest to us, in the article under consideration; we refer to the view, which there finds expression, regarding the nature and outcome of the present crisis—a crisis, which, as a candid naturalist, Wagner is not in a position to deny.

This view rests on the entirely gratuitous assertion, "that the decline, in the esteem enjoyed by Darwinism, is

not due to a better insight arising from widened experience, but is primarily the expression of a tendency—a tendency which resulted almost as a psychological necessity from the precarious position into which Darwinism was forced under the sway of the theory of Descent." This assertion rests, as stated above, on wholly erroneous assumptions. It is a serious mistake, to speak in this connection of tendencies and even to brand them as a "psychological necessity." The decline in esteem is essentially due to experience, and indeed to experience which has made it certain that Darwinism has everywhere failed.

The importance of the present crisis in Darwinism is to be restricted even further, according to Wagner, by the fact, "that the real objections, urged against the theory of Darwin, are almost in every instance based on theoretic considerations, the validity of which can be put to the test only in fictitious cases. This manner of proceeding manifestly leads to the inevitable consequence, that the results thus obtained can claim no decisive weight against Darwinism. A decisive critique can be constructed only on the basis of experience, and in this connection it cannot be emphasized sufficiently, that, as yet, the path to it has been scarcely indicated, to say nothing of its having been actually pursued." The reason for this fact according to Wagner, is to be found "in the numerous and most extraordinary difficulties that arise in the way of the empiric investigation of the theory of selection."

After we have read all this, we instinctively ask our-

selves: do we actually live at the beginning of the 20th century? Is it possible, that even at this late day the whole structure of scientific method is to be subverted in this fashion?

Just consider for a moment, what according to these words is the actual import of the whole article: Darwinism is a unifying explanation of the origin of the totality of the world of organisms, but fails in the individual case; in any specified case it is "almost impossible" to trace with any certainty the action of natural selection in the process which results in the production of a new species; that is, Darwinism was enunciated with a complete disregard for inductive method, as an hypothesis to explain the whole, and without actual proof in the concrete—a most unscientific procedure. Immediately after, however, the adversaries of Darwinism are asked in all seriousness to produce individual facts in disproof of the theory.

In the same strain Wagner goes on to say that "from no point of view is our vision so penetrating as to be able to grasp the coherence which according to Darwin pervades the complex course of natural selection. When men of science take occasion to repudiate Darwinism because of our inability to explain satisfactorily any particular case by means of the theory of selection, this inability arises not from the theory of Darwin but from the inadequacy of our experience. For as yet the empiric prerequisites for an objective judgment regarding the validity or futility of the theory of selection are entirely lacking."

Every naturalist who believes in the inductive method must needs draw the conclusion from these naive admissions, that, as Darwinism lacks the empiric prerequisites, it should be discarded. Moreover, the demand is made in all seriousness, that, in order to refute Darwinism which has not as yet been established empirically, empiric proofs should be forthcoming.

To my mind, the scientific and logical bankruptcy of Darwinism was never announced more bluntly and ingeniously. Furthermore it must be remarked that Wagner's statement, regarding "fictitious cases," is not even pertinent. He seems to have no idea of the observations and experiments of Sachs, Haberlandt, Eimer, and a host of other investigators. The disproof of Darwinism on the basis of scientific research is an accomplished fact.

A word about the conclusion of Wagner's article, which in view of what has been already said, cannot be a matter of surprise. He maintains that the considerations which he adduces, "clearly" prove that there is no "reasonable ground for despairing of the theory of Darwin —; for a theory, which neither proceeds from questionable assumptions, nor loses itself in airy hypotheses, but rests throughout and exclusively on facts, need never fear the advance of science."

But a moment ago it was asserted that the theory of selection is lacking "entirely as yet the empiric prerequisites" and now only twenty-three lines further on, it rests "throughout and exclusively on facts." It is difficult to

know what conclusion to come to regarding a naturalist and University professor who can commit himself to such a contradiction. I shall abstain from any comment and let the reader form his own judgment.

Does this article betoken the death-bed of Darwinism? For my own part I repeat what I said above, that I consider it the most valuable contribution to the characterization of decadent Darwinism that has appeared up to the present time. The sooner a theory, which is thus treated and characterized by one of its own advocates, is stored away in the lumber-room of science, the better. In view of the sound judgment, which is to-day becoming more and more apparent in scientific circles, there is reason to hope that this article of Professor von Wagner will be additional incentive for many naturalists to break completely with Darwinism.