

a human product. Nature is neither good nor evil, but the theatre of unbroken law which man disobeys at his peril.

EDWARD CLODD.\*

### Is there Purpose in Nature?

FOR proofs of an organising mind much space is given in Dr. A. R. Wallace's latest work, *The World of Life*, to "the marvel and mystery" of feathers. Their structure truly commands the admiration and wonder of the most prosaic; nor are these lessened by the fact that, when the growth of the wing is completed, it becomes only a mechanical appendage to the body of the bird. But is there less foundation for wonder in a few scarcely visible specks which, under the microscope, reveal the exquisite symmetry of diatoms that, æons ere man appeared and until now, have secreted their lovely shells in the deep waters?

Dr. Wallace passes from the wing of the bird to that of the mosquito, the "directive" purpose of which pest he discovers in the fact that it is one of the numerous class of venomous insects which, as food for birds, minister to the existence of song and plumage whereby the eye and ear of man are charmed. But what contribution to "ultimate purpose" is there in the blood-parasites that slay their thousands by the appalling "sleeping sickness"; in the Californian poison-vine which, brushed against, produces eczema on the whole body; and in the mucuna bean of Zambesia, whose trodden-on spines exude such a skin-maddening powder that the tortured natives will jump into a crocodile-haunted river to relieve the agony. Dr. Wallace's teleology is a reversion to the smug lessons of boyhood, when we are told, for example, that the use of the gadfly was to make wild cattle move from spot to spot, thus preventing the flocks and herds from getting too indolent. By parity of reasoning, fleas and bugs are providential instruments for making sluggards early risers!

Neither can we follow Dr. Wallace in the extension of his argument to the totality of living things as ministering in their variety and development to the "ultimate purpose." Why was it necessary for "the growth and evolution of man's spiritual nature" that there should have been a succession of huge, stupid, because small-brained, vertebrates, dominant in the Age of Reptiles, as forerunners of the vertebrates Plato and Shakespeare? Why was there so tentative and tortuous a process as the life-record of the globe reveals, when a short cut to the larger issues was possible? And why, as Dr. Wallace asks, is man, "the roof and crown of things," still at his work of "wholesale defacement of the earth, and, in his greed, the virtual murderer of millions of defenceless toilers"?

The purposeful involves the ethical, and the ethical is solely

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