

animals, of which, for thousands of years, only a few fragments have existed, and which differ widely from all existing animals; and it has given birth, or at least has given the greatest part of its importance and interest, to a science which forms one of the brightest parts of the modern progress of knowledge. It is, therefore, very far from being a vague and empty assertion, when we say that final causes are a real and indestructible element in zoological philosophy; and that the exclusion of them, as attempted by the school of which we speak, is a fundamental and most mischievous error.

3. Thus, though the physiologist may persuade himself that he ought not to refer to final causes, we find that, practically, he cannot help doing this; and that the event shows that his practical habit is right and well-founded. But he may still cling to the speculative difficulties and doubts in which such subjects may be involved by *à priori* considerations. He may say, as Saint-Hilaire does say,¹⁶ "I ascribe no intention to God, for I mistrust the feeble powers of my reason. I observe facts merely, and go no further. I only pretend to the character of the historian of *what is*." "I cannot make Nature an intelligent being who does nothing in vain, who acts by the shortest mode, who does all for the best."

I am not going to enter at any length into this subject, which, thus considered, is metaphysical and theological, rather than physiological. If any one maintain, as some have maintained, that no manifestation of means apparently used for ends in nature, *can* prove the existence of design in the Author of nature, this is not the place to refute such an opinion in its general form. But I think it may be worth while to show, that even those who incline to such an opinion, still cannot resist the necessity which compels men to assume, in organized beings, the existence of an end.

Among the philosophers who have referred our conviction of the being of God to our moral nature, and have denied the possibility of demonstration on mere physical grounds, Kant is perhaps the most eminent. Yet he has asserted the reality of such a principle of physiology as we are now maintaining in the most emphatic manner. Indeed, this assumption of an end makes his very definition of an organized being. "An organized product of nature is that in which all the parts are mutually ends and means."¹⁷ And this, he says, is a universal and necessary maxim. He adds, "It is well known that the

¹⁶ *Phil. Zool.* p. 10.

¹⁷ *Urtheilskraft*, p. 296.