

much more clear, if we consider what it excludes and denies. It rejects altogether all conception of a plan and purpose in the organs of animals, as a principle which has determined their forms, or can be of use in directing our reasonings. "I take care," says Geoffroy, "not to ascribe to God any intention."⁹ And when Cuvier speaks of the combination of organs in such order that they may be in consistence with the part which the animal *has to play* in nature; his rival rejoins,¹⁰ I "know nothing of animals which *have to play* a part in nature." Such a notion is, he holds, unphilosophical and dangerous. It is an abuse of final causes which makes the cause to be engendered by the effect. And to illustrate still further, his own view, he says, "I have read concerning fishes, that because they live in a medium which resists more than air, their motive forces are calculated so as to give them the power of progression under those circumstances. By this mode of reasoning, you would say of a man who makes use of crutches, that he was originally destined to the misfortune of having a leg paralysed or amputated."

How far this doctrine of unity in the plan in animals, is admissible or probable in physiology when kept within proper limits, that is, when not put in opposition to the doctrine of a purpose involved in the plan of animals, I do not pretend even to conjecture. The question is one which appears to be at present deeply occupying the minds of the most learned and profound physiologists; and such persons alone, adding to their knowledge and zeal, judicial sagacity and impartiality, can tell us what is the general tendency of the best researches on this subject.¹¹ But when the anatomist expresses such opinions, and defends them by such illustrations as those which I have just quoted,¹² we perceive that he quits the entrenchments of his superior science, in which he might

⁹ "Je me garde de prêter à Dieu aucune intention." *Phil. Zool.* 10.

¹⁰ "Je ne connais point d'animal qui doit jouer un rôle dans la nature." p. 65.

¹¹ So far as this doctrine is generally accepted among the best physiologists, we cannot doubt the propriety of Meckel's remark, (*Comparative Anatomy*, 1821, Pref. p. xi.) that it cannot be truly asserted either to be new, or to be peculiarly due to Geoffroy Saint-Hilaire.

¹² It is hardly worth while answering such illustrations, but I may remark, that the one quoted above, irrelevant and unbecoming as it is, tells altogether against its author. The fact that the wooden leg is of the same length as the other, proves, and would satisfy the most incredulous man, that it was *intended* for walking.