

way, the admission of a new view as to Unity of Plan will almost necessarily displace or modify some of the old views respecting Final Causes.

But though the view of Final Causes is displaced, it is not obliterated; and especially if the advocate of Purpose is also ready to admit visible correspondences which have not a discoverable object, as well as contrivances which have. And in truth, how is it possible for the student of anatomy to shut his eyes to either of these two evident aspects of nature? The arm and hand of man are made for taking and holding, the wing of the sparrow is made for flying; and each is adapted to its end with subtle and manifest contrivance. There is plainly Design. But the arm of man and the wing of the sparrow correspond to each other in the most exact manner, bone for bone. Where is the Use or the Purpose of this correspondence? If it be said that there may be a purpose though we do not see it, that is granted. But Final Causes *for us* are contrivances of which *we see* the end; and nothing is added to the evidence of Design by the perception of a unity of plan which in no way tends to promote the design.

It may be said that the design appears in the modification of the plan in special ways for special purposes;—that the vertebral plan of an animal being given, the fore limbs are modified in Man and in Sparrow, as the nature and life of each require. And this is truly said; and is indeed the truth which we are endeavoring to bring into view:—that there are in such speculations, two elements; one given, the other to be worked out from our examination of the case; the *datum* and the *problem*; the homology and the teleology.

Mr. Owen, who has done so much for the former of these portions of our knowledge, has also been constantly at the same time contributing to the other. While he has been aiding our advances towards the Unity of Nature, he has been ever alive to the perception of an Intelligence which pervades Nature. While his morphological doctrines have moved the point of view from which he sees Design, they have never obscured his view of it, but, on the contrary, have led him to present it to his readers in new and striking aspects. Thus he has pointed out the final purposes in the different centres of ossification of the long bones of the limbs of mammals, and shown how and why they differ in this respect from reptiles (*Archetype*, p. 104). And in this way he has been able to point out the insufficiency of the rule laid down both by Geoffroy St. Hilaire and Cuvier, for ascertaining the true number of bones in each species.