

those viceregal powers, if I may so call them, that rule under him, whatever name we give them; I say, if we duly consider what these powers actually effect, it will require no great stretch of faith to believe that they may be the *inter-agents* by which the Deity acts upon animal organizations and structures to produce all their varied instincts.

An eminent French zoologist\* has illustrated the change of instincts, resulting from the modification of the nervous system, which takes place in a butterfly, in the transit to its perfect or imago state from the caterpillar, by a novel and striking simile. He compares the animal to a portable or hand-organ, in which, on a cylinder that can be made to revolve, several tunes are noted; turn the cylinder, and the tune for which it is set is played; draw it out a notch, and it gives a second; and so you may go on, till the whole number of tunes noted on it have had their turn. This, happily enough, represents the change which appears to take place in the vertebral chord and its ganglions on the metamorphosis of the caterpillar into the butterfly, and the sequence of new instincts which result from the change. But if we extend the comparison, we may illustrate by it the two spheres of organized beings that we find on our globe, and their several instinctive changes and operations. We may suppose each kingdom of nature to be represented by a separate cylinder, having noted upon it as many tunes; as there are species differing in their respective instincts—for plants may be regarded, in some sense, as having their instincts as well as animals—and that the constant impulse of an invisible agent causes each cylinder to play in a certain order all the tunes noted upon it: this will represent, not unaptly, what takes place, with regard to the development of instincts, in the vegetable and animal kingdoms; and our simile will terminate in the

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