

FINAL CAUSES.—THEIR BEARING ON GEOLOGIC HISTORY.

CONCLUSION.

“NATURAL History has a principle on which to reason,” says Cuvier, “which is peculiar to it, and which it employs advantageously on many occasions: it is that of the *conditions of existence*, commonly termed *final causes*.”

In Geology, which is Natural History extended over all ages, this principle has a still wider scope,—embracing not merely the characteristics and conditions of the beings which now exist, but of all, so far as we can learn regarding them, which have ever existed, and involving the consideration of not merely their peculiarities as races placed before us without relation to time, but also of the history of their rise, increase, decline, and extinction. In studying the *biography*, if I may so express myself, of an individual animal, we have to acquaint ourselves with the circumstances in which nature has placed it,—its adaptation to these, both in structure and instinct,—the points of resemblance which it presents to the individuals of other races and families, and the laws which determine its terms of development, vigorous existence, and decay. And all Natural History, when restricted to the pass-