

had exhausted itself. The fundamental unity of the organisation of living beings had been proved; how was their actual diversity to be explained? This evidently required considerations of a very different kind. What they were we shall see in the next chapter. The position of the morphologist in the middle of the century had thus become one of considerable perplexity.¹ It may be compared to that of the organic chemist about the same time. The older ideas, around which, under the great influence of Cuvier and De Candolle in zoology and botany, of Werner and Humboldt in geology, the morphological classification and description of natural objects had clustered on the Continent, had become obsolete. The doctrine of definite types, of architectonic models, or of distinct ages of creation, separated by catastrophic changes, was becoming untenable; floras and faunas of entirely different appearance had been revealed in other countries and climates in the distant past,² or in the great newly-discovered realm of living

mental biology, and that of Virchow at the origin of modern pathology, as the greatest practical application of the cellular theory. An exceedingly good record of the different and changing views referring to the cell will be found in the chapter on "Cell and Protoplasm" in J. A. Thomson's 'Science of Life,' pp. 101-117.

¹ "On comprend aisément le découragement de Robin renonçant à édifier son 'Traité d'Anatomie générale,' après avoir tenté inutilement, dans sa 'Chimie anatomique,' de pénétrer le mécanisme des phénomènes moléculaires s'accomplissant dans les corps organisés. La morphologie, pourtant, n'avait pas dit son dernier mot, et la

barrière bio-chimique était moins rapprochée que le ne croyaient les disciples de Comte et de De Blainville" (Herrmann, article "Cellule" in 'La Grande Encyclopédie,' vol. ix. p. 1060).

² Owen, in the very instructive "General Conclusions" to the third volume of the 'Anatomy of Vertebrates' (1868), clearly points out how the position of Cuvier has been made untenable by these discoveries: "As my observations and comparisons accumulated, with *pari passu* tests of observed phenomena of osteogeny, they enforced a reconsideration of Cuvier's conclusions to which I had previously yielded assent" (p. 188). "Accordingly these results of extensive,