

and other interests are at work than we have as yet been able to grasp. So long as astronomy was content to observe the orbits and motions of the heavenly bodies from a distance, it indeed appeared possible to define that science as merely "une question d'analyse"; but in astronomy even, spectroscopy has brought distant objects near to us and opened out endless vistas into a purely descriptive branch of the science, a natural history of the heavens. Still more so is this the case when we fix our gaze on the world immediately surrounding us—on the things and events in which we ourselves take an active part. Here two phenomena attract our attention—the problem of life, and the problem of consciousness or mind. The knowledge which we possess, or imagine we possess, of the latter, which is gained from a purely introspective point of view, the psychological aspect, I leave at present quite out of the question. As external observation through our senses would never have given it; as in the map of reality which we call nature, we have not even succeeded in accurately locating consciousness,—I relegate this large department of Thought to a different place in this work. At present we have to do only with the study of nature, the first condition of

16.
Life and
mind.

object was to dispel the popular conception that the accuracy and variety of the performances of the human eye could be explained by the precision and complexity of its structure, as if it were an optical instrument of a degree of perfection which could not be equalled by any optician. In the sequel Helmholtz shows how this admiration of a wrongly supposed mechanical perfection must make room for an admiration of a different kind, as

"every work of the organic formative power of nature is for us inimitable"; a remark which really supports the argument in the text ('Vorträge und Reden,' 3. Aufl. 1884, vol. i. p. 240, &c.) It is also important to note how Helmholtz traces the imperfections of the eye to its genesis—*i.e.*, its development in the embryo. The genetic supplements the purely structural examination (*ibid.*, p. 255).