

And, besides this, it is well to remember that Newton was condemned by some of his contemporaries on the basis of the philosophy of Bacon; Fresnel and Young were condemned on the ground of Bacon and Newton combined. In like manner the novel line of reasoning adopted or largely cultivated by Darwin has been attacked as being opposed to Bacon, Newton, and other great thinkers before him. In all these cases it is the results, and not the theory, of the process of reasoning which have justified its continued employment. Without attempting to elaborate the parallel too minutely, we may say that as Newton created Natural Philosophy and took one brilliant step in fixing for all time one of the great laws of the material universe, so Darwin has founded the study of nature as distinguished from that of the objects and processes of nature, and has enunciated one of the great factors which obtain in the living portion of nature: through him a history of nature, the genetic view of nature on a large scale as distinguished from the older natural history, has for the first time become conceivable. The word history indeed suggests other analogies. Political history, what we ordinarily term history proper, has in the course of our century undergone changes and developments similar to those in the history of nature. Confined once to a casual, unmethodical, uncritical, and incomplete record of isolated

which rests on something more than the two purely statistical or numerical facts of overcrowding and of variation—*i.e.*, the fact that no two individuals are absolutely alike. The importance of the phenomenon of sex in the economy of living nature has been studied,

and given rise to many theories. A very good account of these will be found in P. Geddes and J. A. Thomson, 'The Evolution of Sex,' 1889. In the following chapter, where I deal with the various attempts to define "Life," I shall revert to this subject.