

understood, and it has also somewhat changed through the development of these sciences themselves.

A few examples of this change and of its causes will suffice to show how the problem of knowledge has assumed a different aspect. Kant's view of nature was to a large extent comprised in that circle of notions which I have in an earlier chapter termed the astronomical view of nature. He worked with the conceptions of attraction and repulsion, of action at a distance. These notions, which are as old as philosophy itself, had received an exact definition through Newton's principle of gravitation and through the measurement of electric actions, all of which came under the same numerical relation. Accordingly not only Kant, but still more specifically Laplace and his school, made this numerical relation which obtained in all actions at a distance the fundamental principle of their natural philosophy. The warning of Newton that the principle involved could not be considered as ultimate, but itself demanded a further explanation, was forgotten till well on into the nineteenth century. Even Helmholtz, who did so much in the middle of the century to bring about the great change I am speaking of, stated, in his celebrated tract "On the Conservation of Force," that natural phenomena might be supposed to be explained if they were reduced to a combination of central forces acting at a distance. Neither can it be denied that, to the popular mind, action at a distance, attraction and repulsion, are of such common occurrence, and are met with in so many different forms, that they have, through habit, become elevated to the position of ultimate, not further analys-