

Faraday by the British mathematicians of the Cambridge school, and by the introduction of the conception of energy and the theory of its distribution in the plenum of space. In passing, it may be remarked that an absolute plenum and perfect contact present as much difficulty to the thinking mind as action at a distance does, but this does not prevent these conceptions being of great use as soon as they can be mathematically defined.

But this change in the fundamental notions with which the new school of natural philosophers, headed by Faraday, worked, not only proved extremely fruitful by opening out new vistas of research and avenues of thought leading to the discovery of many quite unexpected facts; it had also the philosophically far more important effect of shaking the confidence with which the popular mind regarded, not the results, but the processes and contrivances, of mathematical and mechanical reasoning. This was still more the case when it became increasingly difficult to construct mechanical models of those elementary motions and mechanisms through which the mathematician pictured to himself the fundamental processes of nature. The construction of such models, though only mentally, seems to the present day to be a desideratum for some of the greatest minds as often as they attempt to give mechanical explanations. But as these models grew more and more complicated, the conviction gradually dawned upon philosophical thinkers that such devices could no longer be considered as describing the real processes of nature, but that they were merely convenient and helpful means by which