confirming the worth of the treasure which lay hidden in the experimental researches of Faraday. Next to the handbook of Thomson and Tait, no writings probably have done more—especially outside of England, on the Continent and in America—than those of Maxwell to revolutionise the teaching of natural philosophy.

I must now revert to what I said in the last chapter regarding Maxwell's attempt to put the ideas of Faraday on the communication of electric and magnetic phenomena through space into mathematical language—*i.e.*, into measurable terms. I there related how Maxwell's earliest treatment of the subject was an attempt to construct a mechanical model of the dielectric that would be capable of exhibiting and transmitting the properties of stress—*i.e.*, of tension and pressure—which the experimental researches of Faraday had partly demonstrated and partly suggested. In the sequel, as was said, he desisted from this attempt, which has since been taken up and further elaborated by others, and resorted to a different train of reasoning. This line had been suggested by the introduction of the doctrine of energy into all physical research. As the work of scientific chemists was for a long time exclusively governed by the application of the principle of the constancy of weight or conservation of matter, so, when once the mathematical expression of the various forms of energy had been correctly established, it became possible to arrive at a multitude of relations of physical quantities merely by applying the principle of the constancy of the quantity of energy. In this way the principle of energy is a kind of regulative

32. Clerk Maxwell.