which were committed by the logic of these thinkers were manifold, but two of them may be singled out not only as fatal to ultimate success but also as highly dangerous, inasmuch as their seductive nature prevented them from being readily detected, and because they were extremely difficult to destroy when once the popular understanding had given them an entry.

18. Errors of this procedure.

To begin with, the terms matter and force referred to notions which might appear clear to the popular mind, inasmuch as they were in daily use in common language, and as such seemed to convey a definite meaning. It was therefore an irony of fate that just about the time when these terms were placed at the head of a new philosophy and made the foundations, as it were, of a new creed, these same terms were being discarded from strict scientific treatises, and others being introduced which were capable of rigorous definition. The term matter was to be replaced in dynamical treatises by the word mass or inertia, and the word force had to give way to the less equivocal term, energy. Both mass and energy could be mathematically defined in terms of the

perience and observation, whereas the introduction of the so-called principles or fundamental notions of physics and chemistry led rather to an abstract and contracted view of mental phenomena, to hasty generalisations, and, in the end, to purely verbal distinctions. In this country, in spite of the fact that the principles of exact science, the laws of motion, were first laid down and clearly defined in the 'Principia' of Newton, little was done to examine clearly and to define the range of applicability of these principles. Natural science was limited almost exclusively to observation and experiment. It was only through the French mathematicians, in the course of the eighteenth century, that the Newtonian principles were more clearly brought out, and only through Lavoisier that the conservation of mass, or rather the constancy of the weight of bodies, was made the foundation of modern chemistry. In Germany, on the other hand, the principles of dynamical and physical research were discussed in a philosophical spirit by Leibniz, in whom the tendency of the German mind to deal with fundamental questions was for the first time clearly exhibited.