

mathematical physics and chemistry would create in the minds of those who wielded these powerful weapons of attack a feeling of triumph and exultation, and the consequent conviction that the means were at last discovered by which all the intricacies of natural phenomena would be ultimately unravelled. The human mind felt for a moment as if it had become or would eventually become the master of nature. This mastery was indeed something quite different from that understanding of nature's ways, from that fathoming of her secrets,¹ which Goethe in the very age and in the home of some of the greatest mathematical intellects prophetically declared to be unattainable by scientific methods. To his poetical soul the mathematical aspect was not only repugnant, but unintelligible: it remained one of the few human achievements which Goethe never appreciated.

A knowledge of higher mathematics and skill in its application will, however, always remain the property of a very limited number, even among the highest intellects; nor is it likely that from this quarter a great revolution in popular thought would have emanated had it not been for the indirect influence which it exerted upon the problems of practical life. And it did this as much by enabling older and well-known modes of practice to be reformed and improved—such was, for instance, the case with the practice of medicine and agriculture,—as also by the creation of a large number

¹ "Geheimnissvoll am lichten Tag
Lässt sich Natur des Schleiers nicht berauben.
Und was sie deinem Geist nicht offenbaren mag
Das zwingst du ihr nicht ab mit Hebeln und mit Schrauben."
—'Faust,' First Part.