

erals to particulars by which these axioms are traced back into their remotest consequences, and all particular propositions deduced from them; as well those by whose immediate consideration we rose to their discovery, as those of which we had no previous knowledge. In the course of this descent to particulars, we must of necessity encounter all those facts on which the arts and works that tend to the accommodation of human life depend, and acquire thereby the command of an unlimited practice, and a disposal of the powers of nature co-extensive with those powers themselves. A noble promise, indeed, and one which ought, surely, to animate us to the highest exertion of our faculties; especially since we have already such convincing proof that it is neither vain nor rash, but, on the contrary, has been, and continues to be fulfilled, with a promptness and liberality which even its illustrious author in his most sanguine mood would have hardly ventured to anticipate.

(97.) Previous to the publication of the *Novum Organum* of Bacon, natural philosophy, in any legitimate and extensive sense of the word, could hardly be said to exist. Among the Greek philosophers, of whose attainments in science alone, in the earlier ages of the world, we have any positive knowledge, and that but a very limited one, we are struck with the remarkable contrast between their powers of acute and subtle disputation, their extraordinary success in abstract reasoning, and their intimate familiarity with subjects purely intellectual, on the one hand; and, on the other, with their loose and careless consideration of external nature, their grossly illogical deductions of principles of sweeping generality from few and ill-observed facts, in some cases; and their reckless assumption of abstract principles having no foundation but in their own imaginations, in others; mere forms of words, with nothing corresponding to them in nature, from which, as from mathematical definitions, postulates, and axioms, they imagined that all phenomena could be derived, all the laws of nature deduced. Thus, for instance, having settled it in their own minds, that a circle is the most perfect of