

resistance than a narrow one ; but from this it might be imagined that a swift sailing vessel ought to be built as narrow as possible, that she may cut her way through the waters. There is, however, a limit to the narrowness of a floating body, that it may be the solid of smallest resistance, and to determine this limit is in itself a difficult problem, though science lends its aid and solves the question.

If civil architecture might be taken as another example, it would be easy to show that the science of construction is entirely dependant on results determined by the philosopher. Unhappily, however, the undue attention that is, in the present day, paid to the decoration of buildings, has dismembered the profession ; and all those works which require a knowledge of scientific facts, are now referred, by many architects, to a class of professional men called civil engineers. But whether the construction of harbours, bridges, canals, and railways, be under the direction of the architect or of the engineer, they cannot be properly constructed without the aid of philosophical principles.

The design of fortifications, the theory of gunnery, the art of guiding a vessel through the water, are all dependant on natural philosophy ; and to understand the construction of the human body, or the practice of surgery, some acquaintance with it is essentially required. In every civilized country except England, it is a requisite branch of medical education ; and we do not fear to state, that without an acquaintance with it, the philosophy of the animal frame cannot be understood. What are the limbs of animals but a combination of machines ? what the heart and bloodvessels but hydraulic apparatus ? and who would be acquainted with the construction of the lungs, the eye, and the ear, and yet remain ignorant of the sciences of pneumatics, optics, and acoustics ? The study of natural philosophy may, in fact, be considered as an essential branch of medical education, and the student has a peculiar motive to the pursuit, for all the mental advantages are his, with the prospect of employing his knowledge to alleviate the misfortunes and suffering to which the human frame is exposed ; while the accessions made to the efficiency of medical science by the study of physics ought to be sufficient to demand the attention of that profession, no less from philanthropic than from personal motives.

**To enumerate the public and more general advantages**