

merous masses of mankind, in so far as they extend, on a footing independent of individual casualty. To do this with the greatest possible advantage, or indeed with any advantage at all, it is necessary to know the *laws of mortality*, or the average numbers of individuals, out of a great multitude, who die at every period of life from infancy to extreme old age. At first sight, this would seem a hopeless inquiry; to some, perhaps, a presumptuous one. But it has been made; and the result is, that, abating extraordinary causes, such as wars, pestilence, and the like, a remarkable regularity *does* obtain, quite sufficient to afford grounds not only for general estimations, but for nice calculations of risk and adventure, such as infallibly to insure the success of any such institution founded on good computations; and thus to confer such stability on the fortunes of families dependent on the exertions of one individual as to constitute an important feature in modern civilization. The only thing to be feared in such institutions is their too great multiplication and consequent competition, by which a spirit of gambling and underbidding is liable to be generated among their conductors; and the very mischief may be produced, on a scale of frightful extent, which they are especially intended to prevent.

(48.) We have hitherto considered only cases in which a knowledge of natural laws enables us to improve our condition, by counteracting evils of which, but for its possession, we must have remained for ever the helpless victims. Let us now take a similar view of those in which we are enabled to call in nature as an auxiliary to augment our actual power, and capacitate us for undertakings, which, without such aid, might seem to be hopeless. Now, to this end, it is necessary that we should form a just conception of what those hidden powers of nature *are*, which we can at pleasure call into action;—how far they transcend the measure of human force, and set at naught the efforts not only of individuals, but of whole nations of men.

(49.) It is well known to modern engineers, that *there is virtue* in a bushel of coals, properly consumed, to raise