

Mechanics and General Science.

BRITISH SCIENTIFIC ASSOCIATION.

The nineteenth annual meeting of the British Association for the advancement of Science took place in Birmingham in September last. The following is the concluding portion of the President's address—the Rev. T. ROMNEY ROBINSON, of the University of Dublin.

I have left myself but little space to consider how far we have fulfilled the third of our objects,—“to obtain a greater degree of national attention to the objects of Science.” Most assuredly it was needful; for nowhere in the civilized world is less honour paid by a nation to science, though nowhere is national prosperity more connected with its progress, nowhere are heavier penalties paid for its neglect. I do not now refer to the remarkable fact that in Britain only men whose scientific fame fills all Europe were seldom thought worthy of any honorary distinction by their Government. As it relates to themselves, this is of no importance; but it is of deep concern to the honour of this country. The true votary of science loves it for itself: in its possession he has a higher honour, a nobler decoration than man can give. *He* does not require to be bribed to follow it by titles or ribbons,—the baits for meaner spirits, the lure to lower achievements. But he knows that though *he* despises such gauds, those who bestow them hold them precious; and they serve him as a scale by which he finds that great men once placed a Herschel or a Brewster nearly on a level with a third-rate soldier or the annual magistrate of some town that might be honoured with a Royal visit. Nor do I refer to the miserable economy which permitted such men as Ivory and Dalton (to speak only of the dead) to waste, in the drudgery of earning a precarious subsistence, the years, the powers, the hopes which could have borne light into the remotest and darkest recesses of the realms of inquiry; though it does contrast painfully with the munificent provision which republican France and despotic Russia heap on such men when they can find them. Both these spring from the same root;—the gross ignorance in this province of the intellect which up to the beginning of this Association, and long afterwards, prevailed in the land. The industrial classes of our countrymen were wont to rely in their pursuits on the unenlightened dexterity and empirical success which resulted from experience, and to scoff at the idea of learning anything useful from a mere theorist; those whom wealth and independence permitted to choose seldom sought employment or pleasure in this unfashionable region,—their education, though the best then current, having given them very little cognizance of what it might contain. And to ascend still higher, even to the executive and legislative bodies, they “cared still less for science; the tension of political life engrossed all their faculties: they disliked philosophers as meddlers, or despised them as dreamers. The head of a great military department once

said that he *hated* scientific officers! Any one of his engineers might have told him that more money had been wasted and lives lost in that department from sheer ignorance of science than any one could think of without shame and sorrow. The question which I know to have been asked by another in “high places,” though milder in expression, was not less scornful—“Of what use is science?” He who asked it ought to have known better. Whatever tends to raise man above low and sensual pursuits,—whatever to lead him from the partial and present to the general and the future,—whatever to exalt in his mind the dominion of order and the supremacy of truth,—that must be useful to the individual, useful to the nation. Even had he been incapable of rising above the gross measure of pecuniary value; he ought to have been able to give a mighty answer to his own inquiry. There is not a single element of our commercial prosperity in which the vivifying power of science might not be felt, in which the loss arising from want of that certainty of action which mere unenlightened practice can never attain, does not reach an amount which, if stated in figures, would astound the most thoughtless. For instance, the causes which in our great cities hasten the death and debase and embitter the life of so many, have at last been forced by chemists and physiologists on the notice of the public. Look at Dr. Smith's report on the Air and Water of Towns, in this volume; and when we think that the victims of the deadly influences which are there revealed are chiefly found among the people whose industry is the foundation of our greatness,—that every year cut off from the life of each of these is so much subtracted from national wealth,—even were all moral sense or religious feeling dead in us, we must confess that the knowledge which is capable of averting them “is of use.” The ships that bear the treasures produced by this industry through the world are lost to a fearful amount,—nearly *three* daily. What are they worth,—ship, cargo, men?—and most of them perish from want of nautical science or from unscientific construction. How many men have been ruined by searching for minerals, when the merest smattering of geology would have dispelled their delusion? On the other hand, the agricultural produce of our islands might be doubled by a more perfect application of the principles of botany and chemistry. The manufacture of iron has been augmented sixfold by the use of the puddling furnace and the hot-blast,—both gifts of theory. How gigantic a result is this, without reference to the increase in the thousand arts of which this immense supply of that most precious of metals is the exponent. The splendid machinery in which we excel, the world owes its present perfection to mechanicians who are conspicuous in *our* Sections, to impulses given by philosophers like Willis or Babbage. Nay, the steam-engine itself, your immortal town's-man's great conquest,—that earthly Fate to which now seems to be committed the weaving of the world's destiny,—that itself was a pure induction of science:—and beyond *that* I need not go. But we live in better times; for no statesman