

of them. To subserve music, they made the psaltery, sackbut and all other kinds of instrument. As for money and instruments of credit, Mr. Wallace may think they have done more harm than good. Still he might have given credit to Socrates and his successors for the founding of logic, ethics and politics; to Descartes and Locke for introducing the empirical study of psychology; to Grotius for international law; and to Adam Smith for political economy. Huxley would have reckoned the metaphysics of Berkley and Hume amongst the useful exercises of human reason. If to this list we add religion, morals and the British Constitution, perhaps the balance may be considered to incline to the advantage of those who have gone before. In making this list, we ceased counting when the number of their marks had been brought up to twenty-five.

This is a new version of the quarrel between ancients and moderns, and another Swift might write "The Battle of the Projectors," in which Archimedes should hang Edison by an ingenious arrangement of pulleys, and some palæolithic genius with his fire-stick impale the inventor of lucifer matches. On the whole, are not we ourselves among the achievements of our forefathers, and is it not a little strange that one of the great founders of the theory of evolution should encourage a contention for pre-eminence between the acorn and the oak?

As to our failures, it is to be feared that an irreverent reader, glancing down the list of them, will be tempted to smile. Mr. Wallace is as courageous as he is veracious, and accordingly he begins with our neglect of phrenology. But in this there is really nothing to laugh at, for the modern doctrine of the localisation of cerebral functions adopts the fundamental positions of phrenology. Next comes our thick-headed opposition to hypnotism and psychical research; and then "the delusion of vaccination"—the longest chapter of all, and an extremely serious one. Moreover, instead of putting an end to war, we have devoted to its service all the resources of science and industry. Finally, our system of industry involves incalculable evils: it is wasteful and unjust; the immense increase of production has been accompanied by a distribution of wealth that, whilst scores of millionaires have been created at one end of the social scale, at the other end poverty, disease and starvation have spread and strengthened their hold upon the feeble sections of the working classes. As Mr. Wallace interprets, statistics, pauperism, lunacy, suicide, infant mortality and crime have not only increased, but have increased in a greater ratio than the population.

Whatever the precise figures in which these evils should be estimated, the magnitude of the evils and our failure to deal with them must be acknowledged. And we will not comment particularly on the "remedies for want" proposed by Mr. Wallace in an appendix, though we cannot agree with him; but, speaking generally, it is difficult to see the connexion between his biological and his social science. His biology is the greatest success of this century, his social schemes are among the failures of preceding ages. He says, justly, that our failures "will be held by the historian of the future to show that we of the nineteenth century were morally and socially unfit to possess and use the enormous powers for good or evil which the rapid advance of scientific discovery had given us." Precisely: at least one man in four is unfit to live under the conditions of modern industry. The great discoveries and inventions have been made by a very few men; even those who can understand them are not very numerous; to learn laboriously to apply them by rule of thumb is the livelihood of men of average ability: what chance have the remainder? For many of them there never was a time when they could have got their living, either before or since the glacial epoch, and according to Mr. Galton's application of the doctrine of averages to human population such failures are to be expected. The great men, men of the second rank, of the third, of the fourth (still high up in the scale of human life), are bought and paid for with an equal and opposite generation of weaklings, incorrigibles, imbeciles and idiots. In an interesting autobiographic passage on p. 139 Mr. Wallace tells us that the theory of Natural Selection

THE WONDERFUL CENTURY.

"The Wonderful Century: Its Successes and Its Failures." By Alfred Russel Wallace. London: Sonnenschein.

IF Carlyle's doctrine concerning self-consciousness is true, and true of ages as well as of individuals, this age must be the most spiritually destitute that has yet elapsed. It seems to be our maxim that the proper study of mankind is the Nineteenth Century. One man views it with exultation, another with melancholy: Mr. Wallace justifies both. According to his estimate the progress that we have made in scientific discovery and in the application of science to the arts of life exceeds that of all former centuries put together; but against this must be reckoned many shortcomings, and in fact a general failure to utilise for social purposes the astonishing powers that have fallen into our hands.

As to our successes in science and the useful arts, Mr. Wallace explains them in a series of lucid and entertaining chapters, and then, summarising the results and comparing them with the achievements of the past, finds in chap. xv. that the Nineteenth Century has made twenty-four inventions and discoveries of the highest importance, whilst all preceding ages have only made fifteen of equal rank. He does not insist upon the precise numbers, but thinks that "the difference between the lists is so large that probably no competent judge would bring them to an equality." But to us, however incompetent, it appears as if our forefathers had not been justly dealt with. We miss from the list of their works—(1) the obtaining of fire by friction; (2) the invention of clothes, probably a round-about process, but meritorious for all that; (3) the building of houses; and (4) ships. Then there are the mechanical powers: (5) lever; (6) inclined plane; (7) pulley; (8) wheel, &c. Our forefathers (9) reclaimed and cultivated the wheat plant and other vegetables; and (10) domesticated the horse, dog and other animals. They invented clocks and the measurement of time by months and years. They developed all the Fine Arts, and at one time or another could beat us at every cr-

was suggested to him at Ternate, in the Moluccas, during an attack of fever, by a reminiscence of Malthus's "Essay on Population." Yet he never seems to have remembered that essay when thinking over the problem of the unemployed. The growth of pauperism, lunacy, infant mortality and suicide seems to show that Natural Selection is still busy with mankind. But no more of this; it would be much pleasanter to agree than to disagree with our benignant and magnanimous philosopher.