

one or other of their chief tenets. The socialist has grasped the all-importance of the spirit of service, of the subordination of the individual to the community. The aristocrat, in theory at any rate, would emphasize the necessity of placing the ruling power in the hands of the individuals most highly endowed with intelligence and with experience in the affairs of nations. He also appreciates the necessity of complete control of all parts by the central government, though in many cases the sense organs which he uses for guidance are the traditions of past experience rather than the science of to-day. The liberal or individualist asserts the necessity of giving to each individual equal opportunities, so that there may be a free fight between all individuals in which only the most highly gifted will survive. It might be possible for another Darwin to give us a politic which would combine what is true in each of these rival theories, and would be in strict accord with our knowledge of the history of the race and of mankind. As a matter of fact the affairs of our states are not determined according to any of these theories, but by politicians, whose measures for the conduct of the community depend in the last resort on the suffrages of their electors—*i. e.*, on the favor of the people as a whole. It has been rightly said that every nation has the government which it deserves. Hence it is all-important that the people themselves should realize the meaning of the message which Darwin delivered fifty years ago. On the choice of the people, not of its politicians, on its power to foresee and to realize the laws which determine success in the struggle for existence, depends the future of our race. It is the people that must elect men as rulers in virtue of their wisdom rather than of their promises. It is the people that must insist on the provision of

the organs of foresight, the workshops of exact knowledge. It is the individual who must be prepared to give up his own freedom and ease for the welfare of the community.

Whether our type is the one that will give birth to the super-man it is impossible to foresee. There are, however, two alternatives before us. As incoherent units we may acquiesce in an existence subordinate to or parasitic on any type which may happen to achieve success, or as members of a great organized community we may make a bid for determining the future of the world and for securing the dominance of our race, our thoughts and ideals.

E. H. STARLING

VACCINE THERAPY AND IMMUNIZATION.

Two of the great hospitals of London, as we learn from the *London Times*, St. Mary's, at Paddington, and the Mount Vernon Hospital for Consumption, at Hampstead and Northwood, have recently issued appeals on behalf of their special funds for the study and practise of vaccine therapy and for the further development of immunization.

At the Mount Vernon Hospital the direction of the department has been committed to Dr. R. W. Allen, who has been directing his attention largely to affording protection against catarrh and influenza, and who will be applying the same principles to the treatment and, it may reasonably be hoped, to the cure of the forms of tuberculosis of the lung which are still confined to a somewhat limited area. In these, as in tuberculosis of the joints, there is every reason to expect the ultimate subjugation of the invading bacilli by the natural forces evoked through the agency of inoculations; but, in the one case as in the other, the demand for special resources arises from the fact that the application of the principle involved has not yet been brought within the scope of merely bedside observation, and must still be guided by laboratory work of a kind which occupies much time and

requires very special training and skill for its performance.

At St. Mary's Hospital the new department is being controlled and financed by a special committee, separate from and independent of that of the hospital itself, and many members of this committee have guaranteed large contributions for a period of seven years. Sir Ernest Cassel gives £1,000 a year for this period, besides having contributed over £800 towards the equipment of the laboratory. Mr. William Bonn gives £500 a year for two years and £250 a year for five years more. Lord Justice Fletcher Moulton gives £250 a year for seven years. Lord Iveagh and Major Henry Davis have each contributed £1,000 to equipment expenses, and many donations of smaller amounts have been received; but there is still room for more if the objects of the department are to be completely secured. The appeal from Mount Vernon is also for money, which will be carried to a separate fund as a provision for the totally new class of expense which will be incurred; but we have not yet been informed of the character of the response which has been made to it. The methods and principles concerned are practically the same in both cases; and it is probable that the form of disease which attacks the lung will not be left without many sympathizing contributors to an effort which seems to hold out renewed hope to a considerable proportion of those who suffer from it.

THE NUMBER OF STUDENTS IN THE RUSSIAN UNIVERSITIES

PROFESSOR B. MENSCHUTKIN, of St. Petersburg, writes to *Nature* in regard to the number of Russian students given by Professor Guido H. Marx in *SCIENCE* (May 14, 1909) as 23,000. He states that this number of students was reached some fifteen years ago, but at present the students of the higher colleges number at least 77,000, as can be seen from the following data, showing how many students there were in the different institutions in 1908 (in some cases, as for St. Petersburg, the numbers refer to the present year): *St. Petersburg* (University 9,800, Academy of Law 350, Philological Institute 150, Medical

Academy 800, Technological Institute 2,000, Polytechnic Institute 4,200, Institute of Ways of Communication 1,200, Institute for Engineers 700, Electrotechnical Institute 650, Mining Institute 650, Institute of Forestry 550, the three higher colleges for women 6,000, Lyceum and three Military and two Nautical Academies 1,200, Academy of Theology 300), 28,550; *Moscow* (University 9,000, Institute of Oriental Languages 150, Academy of Theology 200, Technical Institute 2,500, Agricultural Institute 850, Engineering Institute 550), 13,250; *Kharkov* (University 5,300, Technological Institute 1,200, Veterinary Institute 500), 7,000; *Kiev* (University 3,200, Academy of Theology 200, Polytechnic Institute 2,500), 5,900; *Kazan* (University 3,000, Academy of Theology 170, Veterinary Institute 430), 3,600; *Tomsk* (University 800, Technological Institute 1,900), 2,700; *Warsaw* (University and Polytechnic Institute), 1,500; *Odessa* (University), 3,300; *Novocherkassk* (Polytechnic Institute), 700; *Yuryev* (Dorpat) (University 3,000, Veterinary Institute 350), 3,350; *Helsingfors* (University 2,400, Technical College 350), 2,750; *Riga* (Polytechnicum), 1,700; *Novaya Alexandria* (Agricultural Institute), 400; *Yaroslavl* (Lyceum), 1,050; *Yekaterinoslav* (Mining Institute), 500; *Néžin* (Philological Institute), 150; *Saratov* (University, established this year), 200; *Vladivostock* (Institute of Oriental Languages), 300. The total number is therefore 76,900. There are also many private higher colleges in different towns, the number of students of which it is impossible to ascertain; it is surmised that this number is about 20,000.

SCIENTIFIC NOTES AND NEWS

ON the occasion of the recent Leipzig celebration Dr. Wilhelm Wundt, the eminent psychologist, who made the principal address, was given the title of excellency. He was also made an honorary citizen of the city of Leipzig.

THE University of Birmingham will confer on October 20 a considerable number of doctorates of laws to commemorate the recent visit of King Edward. Among the scientific men to receive the degree are Sir William