

News and Views

Gottlieb Daimler (1834-1900)

ON March 17 the centenary occurs of the birth of Gottlieb Daimler, the distinguished German engineer, to whom we owe the introduction of the light high-speed spirit engine suitable for road vehicles. After a varied practical experience as a mechanical engineer, Daimler in 1872, at the age of thirty-eight years, became associated with Langen and Otto, who were then engaged on the improvement of the gas engine, and Daimler's own contribution to the progress of the internal combustion engine is but an illustration of how invention begets invention. His death took place thirty-four years ago, before motor-cars had ceased to be novelties in the streets, but of the millions of cars to-day every one owes something to Langen, Otto and Daimler and their collaborator, Maybach. Daimler was born at Schorndorf, Württemberg, and at the age of nineteen years began work in a machine tool factory. From 1857 until 1859 he was a student at Stuttgart Polytechnic; from 1861 until 1863 he worked in England and then held positions in works at Geislingen and Karlsruhe. The turning point in his career came when in 1872 he joined Langen and Otto as technical manager of the Gasmotorenfabrik Deutz A.-G., near Cologne. The firm had already achieved considerable success with its atmospheric gas engines and Otto was engaged on the experiments which led him to the invention of the four-stroke engine, patented on August 4, 1877, and to the manufacture of the world-famous 'Otto' gas engines.

In these developments Daimler played an important part, and visualising the possibility of applying internal combustion engines to vehicles, in 1882 he left the Deutz concern and with his friend and colleague, Wilhelm Maybach, set up an experimental workshop at Cannstatt. By August 1883 he had built a four-stroke engine using benzine, running at 900 r.p.m., and on December 16, 1883, he took out his patent. He next proceeded to fit high-speed engines to a form of bicycle, to a four-wheel carriage and to a boat. By this time, Karl Benz of Karlsruhe had also produced a motor-driven three-wheel vehicle, and it is thus to this group of German engineers that the world owes the birth of the motor-car. The Benz cars, the first to be made in any considerable numbers, were exploited in Paris by E. Roger, while the manufacture of Daimler cars was taken up by Panhard and Levassor, whose early design, with the engine in front, has been followed generally ever since. After selling the French rights to the use of his patents, Daimler in 1890 founded the Daimler-Motoren-Gesellschaft at Cannstatt, of which for a considerable time Maybach was the manager, Daimler acting chiefly in an advisory capacity. Daimler's death took place at Cannstatt on March 6, 1900. Two years later, the Württemberg branch of the Verein Deutscher Ingenieure placed a memorial to him in the gardens at Cannstatt where, in 1885, Daimler had driven his first automobile.

Sir James Hector (1834-1907)

SIR JAMES HECTOR, the first director of the Geological Survey of New Zealand, a post he held from 1865 until 1905, was born at Edinburgh a century ago on March 16. The son of a writer to the signet, he was educated at Edinburgh Academy and the University and in 1856 took the degree of M.D. After acting for short periods as assistant to Edward Forbes and Sir James Simpson, in 1857 he was, through Murchison, appointed surgeon and geologist to Capt. John Palliser's expedition to British North America. During this expedition he discovered Hector Pass in the Rocky Mountains and directed attention to the evidence of glaciation and the existence of erratic blocks. In 1860 he sailed for New Zealand to take up the appointment of geologist to the Government of Otago. The services of von Haast (1824-87) and von Hochstetter (1829-84) had already been secured by the colonial authorities, and it was by these three men, together with J. W. Hutton (1836-1905), that the geology of the Islands was first unravelled. In 1865 Hector became director of the Geological Survey and of the Colonial Museum at Wellington, which remained his headquarters for the rest of his life. He was also head of the meteorological service and Chancellor of the University of New Zealand. Elected fellow of the Royal Society in 1866, he was awarded the Lyell medal of the Geological Society in 1875 and in 1887 was made K.C.M.G. In 1891 he served as president of the Australasian Association for the Advancement of Science. He died at Wellington on November 5, 1907.

The Mentality of the African

MR. A. T. LACEY's opening statement in the discussion on "The Genius of the African" which took place at the meeting of the Education Circle of the Royal Empire Society on March 8, gave a clear view of the fundamental factors in the problem which awaits solution in the development of African peoples. As Director of Education in Nyasaland, Mr. Lacey has had an excellent opportunity of forming an estimate of the capacity of a good, but not exceptional, sample of the Bantu peoples, and his conclusions, which recognise the native's limitations without unduly stressing his failings, deserve the careful consideration due to an opinion based on an intimate knowledge of conditions and a clear perception of the forces which make the present moment a critical period for the future of the greater part of Africa. Mr. Lacey agrees with other students of present-day tendencies in Africa in diagnosing the essential element of the problem as a conflict between the mentality of a people whose whole outlook is conditioned by group consciousness and group responsibility, and the type of mentality which is produced by the individualism of a European economic and social organisation. He pointed out that with the native's traditional outlook goes a spontaneous observance of law and order; but to maintain this disciplined attitude in changing

conditions and to meet the new individualistic attitude, the group or tribe must now find a new orientation. As an educationist, he, not unnaturally, pins his faith to the individual; and he, therefore, proceeded to demonstrate the educability of the African from the degree and character of the achievement of the natives under his jurisdiction. In rating it relatively high, he is in agreement with others whose acquaintance with the African is not less than his own.

In view of Mr. Lacey's remarks on the place of the family and tribal group in promoting the maintenance of law and order, it is a disappointment to find that he anticipates little assistance from the home environment in the slow process of building up an educational tradition. The pre-European system of native education was largely left to the influence of the social environment, and if the group should attain the new orientation which is said to be a necessity of future development, it should be made to play its part in developing the social consciousness of the rising generations, co-operating with the more academic influence of the official system of education. It is evident that a grave responsibility will rest on the administration in guiding tribal development towards the new orientation along lines which avoid any sudden break with tradition and yet lead towards the full social and religious life which Mr. Lacey postulates as an inspiration for the full expression of the Bantu genius. In this connexion the article on "Kenya Cults" which appeared in the *Times* of March 10 is suggestive. The author of that article describes some of the strange cults which have arisen recently in Kavirondo and among the Kikuyu. Their appearance in Kenya is not unique, but can be paralleled by strange forms of belief which have been grafted on Christianity and have attracted a large number of followers from time to time in other parts of Africa; and it will be remembered that it was a dispute, similar to that now described, but on a much larger scale, between the followers of Roman Catholic and Protestant creeds which first led to European intervention in Uganda. It is suggested by the writer in the *Times* that the Kenya cults are matters for the anthropologist rather than the administrator; but against this view, it is a question whether, owing to the tendency of the African towards fanatical adherence to aberrant and anti-social cults, the attitude of the administration towards developments in native religion does not require fundamental revision.

24-Hour Time System

It has been announced that the British Broadcasting Corporation will adopt at an early date the 24-hour system of expressing time. The system will be used in announcements over the microphone, in the journals issued by it and in correspondence. This decision by the B.B.C. will provide the best possible opportunity of testing whether the general public is in favour of or is opposed to the 24-hour system. Though the adoption of the 24-hour system has been widely supported by transport organisations (rail, road and air), by engineers, by the mercantile marine and in scientific circles, the Government has taken

the view that there is no very strong demand for the change and that it would be wrong to impose upon the public a system of notation which might confuse rather than assist. As was announced in *NATURE* last week (p. 354), the Postmaster-General has stated that he proposes to await the result of the B.B.C. experiment before coming to a decision. It was apparently with the same desire to see what measure of support or opposition from the general public was indicated that the House of Lords on March 7 negatived a motion introduced by Lord Lamington urging that the 24-hour system should be put into operation as soon as possible, though the House on December 7, 1933, had approved a motion for the adoption of the system.

Development of the Royal Air Force

PRESENTING the air estimates to Parliament on March 8, Sir Philip Sassoon, Under-Secretary of State for Air, outlined a programme of expansion of the R.A.F. which, while modest, is probably as large as can be undertaken with efficiency at the present time, remembering that previous economies have restricted both the training of personnel, and the provision of accommodation for additional squadrons. The net amount provided is £17,561,000, an increase of £135,000 over last year's figure. If grants from India and the Admiralty in respect of R.A.F. services to them are added, these figures become £20,165,000 and £527,000 respectively. Four new squadrons are to be formed, two for home defence, one flying boat squadron, and the equivalent of one squadron for the Fleet air arm. In addition, two home defence squadrons, at present forming part of an experimental station, and consequently non-effective as fighting units, are to be reconstituted as active squadrons. The principal increased expenditures are obviously to be made under Votes 3 (technical equipment), and 4 (works, buildings, lands, etc.). It is interesting to note that Vote 2 (non-technical stores) remains stationary, in spite of the expansions, due to lower prices. Vote 8 (civil aviation) stands at the highest figure for the last ten years. This includes expenditure upon the British Government part of the route to Australia, up to Singapore, the first link of the Atlantic service, New York to Bermuda, and the usual subsidies for flying activities in Great Britain. Sir Philip also gave an interesting account of the various developments of the R.A.F., including long distance communication flights, police duties and distress relief in remote lands, air surveying, etc. The use of petrol produced from British coal has been successful, and it is hoped to maintain seven squadrons upon it exclusively during the coming year.

Elements Old and New

In a lecture with the above title given at East London College on March 8, Prof. James Kendall, of the University of Edinburgh, traced the development of fundamental ideas on the elements from the earliest times to the modern period. The four elements of the Greek philosophers—fire, air, earth and water—expanded during the nineteenth century