

## News and Views

### A Founder of the Institution of Electrical Engineers

ON September 5 occurs the centenary of the birth of Major-General Charles Edmund Webber, who in 1871, with Colonel Sir Francis John Bolton (1831-87), was instrumental in founding the Society of Telegraph Engineers and Electricians, since 1889 the Institution of Electrical Engineers. Webber, who was the son of an Irish clergyman, passed through Woolwich Academy and in 1855 received a commission in the Royal Engineers. After service in India, he became an instructor in military surveying at Woolwich, and in 1866 was attached to the Prussian Army to report on engineering operations and military telegraphs. His knowledge of the latter led to his being lent to the British Post Office in connexion with the organization of the telegraph service, and it was while engaged on this service in 1871 that with Bolton he founded the Society of Telegraph Engineers, of which Sir William Siemens became the first president. Bolton was for some time the honorary secretary, while Webber was elected to the presidential chair in 1882. He had just previously, in 1879-80, been through the Zulu War, and in 1881 had served as British Commissioner at the Electrical Exhibition. In 1882 and 1884 he again saw active service, this time in Egypt, and in 1885 retired from the army with the rank of major-general. He was afterwards connected with several electricity supply undertakings and was elected a member of the Institution of Civil Engineers, being, it is said, the first military officer to qualify for election. He died at Margate on September 23, 1904.

### Protection from Air Raids

THE scheme of air raid protection prepared by a committee of scientific workers, including Profs. J. B. S. Haldane, J. R. Marrack and J. B. Bernal, working in conjunction with engineers and medical men, and recently submitted to the Home Office, presents what may be regarded as a scientific and technical view of the best preparation against the eventuality of air raids. The scheme, which is also being placed before the L.C.C. and all the London Borough Councils, has been prepared at the instance of the Science Commission of the International Peace Campaign and might with advantage be studied by all who take an interest in this matter. Because it combines an important strategic centre containing three main line railway termini, a better-class residential district with many open spaces, and a densely packed working-class area, the Borough of St. Pancras was chosen as typical of the conditions to be dealt with and has been made the basis of a typical scheme worked out in broad details. Experience in Spain and China shows that air raids now are of a very different character from those of the Great War and that the civilian population has become a definite objective. The scheme is based on

the assumption that all four types of attack—machine guns, gas, incendiary bombs, and high explosive bombs—may be used either separately or in conjunction, and figures are quoted as to the destructive and penetrative powers of these weapons.

THE Commission proposes the evacuation to the country of children up to fourteen years of age, the mothers of infants, people over seventy years of age and the sick and infirm. For the rest of the population shelters are proposed, and these take the form of tunnels in the London clay 50 ft. below the surface, of inverted U section and lined with steel sheeting. In the design of these, provision has been made for every necessity which it is possible to foresee. Some of the suggestions made deserve consideration on the broader ground of their intrinsic value in times of peace; for example, that hospitals should now be built in the country, and that school camps be prepared for children of school age. Such a scheme as is here proposed is necessarily of a tentative nature, but the work of the Committee has reached the stage at which its publication is of value to the public and the details of the scheme are sufficiently clear-cut to stimulate criticism, suggestion and discussion which will lead to modifications and improvements. Copies of the memorandum can be obtained (price 3*d.*) from F. J. Sander, 85 Beechwood Road, Sanderstead, Surrey.

### Radcliffe Observatory, Pretoria

News has recently been received from the Corning Glass Co. that it has been successful in the third attempt to make a Pyrex disk for the 74-in. reflector of the new Radcliffe Observatory, Pretoria. The glass is now being shipped to Newcastle, where grinding and polishing will be commenced immediately by Sir Howard Grubb, Parsons and Co. Meanwhile, work on the site at Pretoria is proceeding satisfactorily, and erection of the turret and the telescope mounting should be completed by the end of this month. The turret steelwork is all assembled, including the shutters, and the outer sheeting has been fixed in position. The telescope itself is practically entirely erected, despite some difficulty which was encountered in procuring lifting tackle sufficient for handling the heavier parts, especially for the polar axis, which when fitted with its circles, etc., weighs 16 tons. The tasks now remaining are concerned chiefly with the electrical equipment. Subsidiary apparatus, all of new design, is still under construction in Great Britain. A measuring machine for spectrograms has been finished and has passed thorough tests, a micro-photometer is near completion, and work is in active progress on a Cassegrain spectrograph. Dr. T. Dunham, jun., of the Mount Wilson Observatory, is preparing plans in conjunction with the Radcliffe