of Health should obtain either directly, or indirectly through the county councils, information as to the condition of all the private slaughter-houses in the country, particularly as to deficiencies in meat inspection and their cause, and secondly, that abattoir provision should be on a county basis, instead of allowing each local authority to have its own abattoir.

Ultra-Short-Wave Wireless Communication

IN his Friday evening discourse at the Royal Institution on December 2, the Marchese Marconi described the important results of his recent investigations into the properties and behaviour of very short electric waves. Numerous distance tests and a few official demonstrations have been given from time to time, and each has proved the availability and practicability of these waves for the purposes of radio communications. Soon after a duplex demonstration over a distance of twenty-three miles between Santa Margherita and Sestri Levante, the Vatican authorities decided to adopt the new system for telephonic communication between the Vatican City and the palace of the Pope at Castel Gandolfo, a distance of 20 kilometres entirely over land, and screened by intervening trees. In connexion with the establishment of this service, successful tests took place towards the end of April this year; during one of these tests waves had to pass through all the masts and aerials of the high power radio station of the Italo Radio Company at Terranuova. Following a series of experiments with waves of the order of 50 centimetres length conducted between Marconi's yacht *Elettra* and the station at Rocca di Papa, near Rome, the most outstanding result was the successful establishment of communication from Rocca di Papa to Cape Figari, Sardinia, over a distance of 168 statute miles (275 kilometres) on a wave-length of 57 centimetres. All previous distance records of communication by means of wave-lengths less than one metre were thus far surpassed, and it was effectively demonstrated that these very short waves can overcome the supposed obstacle presented by the curvature of the earth, the distance between the two stations being considerably in excess of the optical range. A new technique is thus developed which is bound to extend very considerably the already vast field of the applications of electric waves to radio communications. The new system is unaffected by fog, and offers a high degree of secrecy, by virtue, principally, of its sharp directive qualities.

Radio Equipment for Cross Channel Air Services

IN March 1931 a demonstration was given by the International Telephone and Telegraph Laboratories of radio telegraphic communication across the English Channel on a wave-length of about 17 cm. (see NATURE of April 11, 1931, p. 564.) According to a note in the *Electrician* and the *Electrical Review* for November 18, a somewhat similar equipment to that used in the above demonstration has been ordered by the Air Ministry for use in connexion with cross-Channel flying services. This equipment will be manufactured by Messrs. Standard Telephones and Cables Ltd. in their Hendon factory, and it will operate on a wave-length in the neighbourhood of 15 cm. The oscillations corresponding to this wave-length will be generated by special valves and will be led to the transmitting aerial, which is less than one inch long, situated at the focus of a circular reflector about 10 ft. in diameter. This reflector will be focused on to a similar reflector at the receiving station. The equipment ordered by the Air Ministry will be located at the Lympne air-port, near Hythe, and will operate in conjunction with a similar equipment ordered by the French Air Ministry to be situated at St. Inglevert aerodrome, nearly seven miles south-west of Calais. It will be used for announcing the arrival and departure of aeroplanes that are not fitted with radio, and for routine service messages. An interesting feature of this new service will be the use of teleprinters for both receiving and transmitting messages. In this way typewritten messages will actually be sent across the Channel by radio, thus providing a permanent record at each end. It is expected that the station will be in operation early next spring and its use will relieve the volume of traffic at Croydon and Lympne radio stations very considerably.

Scientific Expedition to Yunnan

IN the spring of 1932 a joint botanical and zoological expedition was sent to eastern Yunnan by the Fan Memorial Institute of Biology, Peiping, starting from western Szechuan and exploring the bordering regions of Szechuan, Kweichow and Yunnan. The party expects to spend the winter in Yunnanfu. The botanical staff will endeavour to explore regions formerly not thoroughly worked over and collect also specimens in the type localities. Besides collecting flowering plants, special attention will be devoted to mosses, liverworts, ferns and other cryptogams. The zoological staff will collect birds, fishes, other lower vertebrates and land shells. News has been received that the party succeeded in penetrating the forbidden territories of Ta-Liang-Shan Lolos, where probably no white man has ever entered before. These Lolos are very war-like tribes. They frequently kidnap Chinese and make them slaves. By a curious chance the present powerful chieftainess is the sister of the military governor of Yunnan, and hence much more enlightened in her view toward the purpose of scientific expeditions. The party was welcomed as honourable guests by the chieftainess. Oxen and pigs were slaughtered in their honour, and an elder of the tribe has been handed over to the district magistrate as the pledge of their safety. As two years ago the lamentable death of the eminent young Chinese palæontologist, Ya-Tseng Chao, at the hands of bandits had cost the district magistrate of Chao Tung Hsien permanent dismissal from office, such precaution is carefully taken by his successor. The party plans to explore the south-eastern part of Yunnan next year.