

Administration has been exhausted. Among the more successful investigations is the exploration of two Indian village sites on the shores of the dry Buena Vista Lake, Kern County, California. Of these villages, one was entirely prehistoric and may go so far back as the beginning of the Christian era. It is hoped to check the dating by the ring marks of wooden posts recovered from the site. The second village was occupied by Yokut Indians as late as 1772, when it was visited by Spanish missions; but by 1825 it had entirely disappeared. It had evidently been occupied for a long time as no less than seven distinct lake terraces were uncovered in the course of the excavation. From a cemetery on the near-by hillside, 350 skeletons were obtained. In the earlier village, bodies were buried under the floors of the houses. The flint points found here were cruder than those of the later village settlement. Among the results obtained under this scheme of exploration in other States, mention may be made of a mound near Bradenton in Florida, which revealed for the first time the character of a Florida mortuary temple, the identification of a village of the Hitchiti Indians of the Creek Confederacy in mounds near Macon, Georgia, the identification of Guasili, visited by de Soto in North Carolina, and the discovery of house structures and much pottery in the Shiloh National Park, Tennessee.

#### Excavations at Gaza, 1933-34

OWING to the operation of the Antiquities Law of Palestine, none of the objects excavated at Gaza during the last season by the British School of Archaeology in Egypt has been allowed to leave the country. Sir Flinders Petrie accordingly announces that the usual exhibition of antiquities at University College, London, will not take place this year. Lantern lectures on the year's work of the School were delivered at the College on June 14, 16 and 19. The main work of the expedition, of which a preliminary account was given in a letter from Sir Flinders Petrie in the *Times* of June 14, was directed to clearing an area of about four acres along the river side, from which a large number of objects was recovered. One of the most noteworthy results was the large number of gold ornaments obtained from burials and from goldsmiths' hoards. These included ear-rings of granular goldwork of unique type. The prominence of Irish goldsmiths' work is again obvious. On the other hand, in a burial of a little girl, the gold-work is on the Egyptian weights standard and it included pendants of hippopotamus and of Horus. The most marked feature of the finds as a whole is their varied provenance, pointing to the importance of this ancient port, to which the presence of more than 200 hæmatite weights testified. Persian trade is indicated not only by a dagger from Lauristan, but also by an abundance of Persian weights, in number half as many as those from Egypt. Relations with the Caucasus are indicated by daggers of bronze, while the use of the toggle pin, of which specimens were found in all the deposits, belongs to the Caspian. The most considerable building unearthed is of middle Hyksos age and may be a temple.

#### Infra-Red Lights and Aviation

HOPES that infra-red light might be usefully employed by aviation in foggy weather have, according to Science Service, of Washington, D.C., not been fulfilled. Dr. Irving Langmuir, at a recent meeting of scientific workers and engineers called by the U.S. Bureau of Aeronautics, said that there is no known source of infra-red radiation of the wave-lengths necessary for penetrating fog. The discovery of a way to produce such radiation would be a stroke of genius, and is not likely to occur in the course of routine experimentation. The scientific workers present also discouraged experiments by the Government on proposed schemes for the dissipation of fog by the use of a Tesla coil or other apparatus. Similar plans have been often suggested, and it is now known that it is theoretically impossible for them to work well enough to be of practical value. Dr. W. J. Humphreys said that methods based on scientific principles are much too expensive to be used in aviation. Two possible solutions of the problem of fog landings were approved by the meeting and intensive research was urged along these lines. The first solution was to use radio signals. By the use of suitable instruments, his position with reference to the flying field can easily be found by the aviator. It is now possible to use radio signals the wave-lengths of which are not greater than ten metres, and this is the possible error of the method. It is not necessary to wait until shorter wave-lengths are available. The other solution favoured was a device similar to that used by ships to determine the depth of the sea beneath them. It is quite possible for a suitable instrument to pick up an echo from the ground and show on a dial the height in feet of the plane above it.

#### Refrigeration

IN connexion with the Refrigeration Exhibition now being held at the Science Museum, South Kensington, a guide has been prepared by Messrs. T. C. Crawhall and B. Lentaigne, which, in addition to describing the exhibits, gives accounts of the scientific principles which underlie refrigeration and of its historical development (pp. 28+2 plates. London: H.M. Stationery Office, 1934. 6d. net). A further publication which will be welcomed by all those engaged in the refrigerating industry is the "Five Year Bibliography" of the subject which has been prepared by Mr. H. T. Pledge, of the Science Library (pp. 97. London: H.M. Stationery Office, 1934. 2s. net). It is a foolscap pamphlet of 97 pages with the typed entries in two columns under the decimal classification numbers 621.56 to 58, with a short section on air conditioning under 697.9. Under "Refrigerants" 621.564 there are 8 pages of entries which include between eighty and ninety dealing with 'dry ice' or solid carbonic acid—621.564.23—under its various names of neige carbonique, trockeneis, ghiaccio secco, droog Ijs, glace sèche, Cold, Kold-Trol, Cardice, Drikold and others. The fact that the Science Library has prepared more than 120 bibliographies of this type on subjects varying from