

Eastern Mediterranean at various times, the evidence of blue eyes is certainly insufficient to establish their presence as a recognisable element in the population.

The distribution of other characters, such as the form of the nose and of the orbits, cannot at present be plotted, as the evidence is scanty. Such measurements as have been made on the face suggest that, among the Greeks at any rate, broad faces accompany broad heads, and *vice versa*.

If we sum up the evidence afforded by all the physical characters which have been measured, we find that the Greeks probably represent a very old hybrid, older than the beginnings of the Bronze age. In Cyprus the earliest skulls examined were found associated with red polished and white painted ware, and were clear examples of this hybrid. We cannot at present say whether these early Greeks formed this physical type in the island or before they reached it. Elsewhere, so far as our scanty data go, the same tale seems probable. In each little district there is a mixture; sometimes the population of widely distant spots is similar; sometimes villages close to one another differ. It must be remembered that the geography of Greek lands favours the development of local strains,

communication being often very difficult. There does seem to be a physical background to the differences between village and village in classical times, and to the struggles between Athens and Sparta. Most of the inhabitants of the Eastern Mediterranean, however, are also of this hybrid stock, and so Aristotle's dictum seems unjustified. There is no physical background for Hellas as a whole. Our present evidence suggests that the degree of mixture is fairly uniform throughout, though the results of the mixing may be different. Lycia, however, presents a far greater degree of heterogeneity; this heterogeneity did not escape the notice of Herodotus, who says that the Lycians were Cretan immigrants into a country with a previous Minyan population, with a third element from Attica.

There is little reason to doubt the generally accepted statement that the two stocks which have formed this hybrid are Mediterranean and Armenoid. The former is found in a comparatively pure state to the west and south of the Greek world, the latter sporadically in a pure state among the Greeks of Anatolia, and may even occur, though we have no evidence at present, in the Balkan Peninsula itself.

### Obituary.

ALFRED E. FLETCHER.

**B**Y the death of Alfred E. Fletcher, at the great age of ninety-four, the country has lost a scientific worker who, in his particular sphere, exercised on chemical manufacture a powerful and healthful influence. Born in 1826, Fletcher completed his school education in Berlin, and was employed for a time on railway surveying. He relinquished his career as an engineer in order to attend the science classes at University College, London (being debarred as a Nonconformist from attending the older universities), where he studied mathematics and chemistry, for which he received the gold medal in 1851. In the following year he was elected a fellow of the Chemical Society, and afterwards began a series of researches on artificial colouring matters, a field of inquiry which had been developed by Perkin's discovery of mauve in 1856, and greatly stimulated by the work of Hofmann and his pupils at the Royal College of Chemistry. Discouraged by prolonged litigation on the subject of a patent for a new colour process in which he was interested, Fletcher accepted in 1863 the post of assistant to Dr. Angus Smith, the first Chief Alkali Inspector. The origin of this department, which played so large a part in Fletcher's subsequent career, was the numerous complaints from farmers owing to the fumes from alkali and other chemical works. These fumes arose mainly from the discharge of hydrochloric acid in the manufacture of salt-cake. These and other acid vapours destroyed vegetation over large areas.

Under the Alkali Act of 1863 trained chemists were appointed to control this industry. The

result of such inspection was soon apparent. The acid, which has since become a staple and profitable product of the process, was absorbed in towers by passing the gases through a descending stream of water. This is not by any means the only example whereby the alkali inspectors have helped the chemical manufacturer to utilise his noxious by-products to his own advantage and to that of the public.

As assistant, Fletcher devised an ingenious aspirator for extracting flue gases for analysis, and also invented an anemometer for determining their rate of flow. In 1884, on the death of Dr. Smith, he succeeded him as Chief Inspector, and continued in that office until his retirement in 1895.

Fletcher's activities were not confined to clearing the atmosphere from noxious fumes. He entered upon a campaign against the smoke nuisance, which he continued for thirty years, embodying his views in a series of articles, addresses, and pamphlets. He was, so far as the writer remembers, a strong advocate of a centralised inspectorate of all factory chimneys on the lines of the Alkali Act, and set an example of domestic heating without smoke by installing a central warm air system in his own house, details of which he published in the Press and technical journals. He also assisted the Scottish Office in the administration of the Rivers Pollution Act.

Fletcher married in 1858 Sarah Elizabeth, eldest daughter of Richard Morley, of Leeds, and is survived by his wife, six sons, and three daughters.

J. B. C.