

which devastated the village of A'ana in 1830, and the survivors were scattered among other villages. Disease also did its part towards the depopulation of the islands, since the remedies of the people were few, and their habits and mode of life favoured its progress.

"Of the population in 1845 it is possible to speak with tolerable accuracy, since a successful census was made at that time. But even then, through Native prejudices, it was difficult to obtain correct returns from some of the districts. It was considered that the population at that time was about 40,000—an underestimate, probably, but it certainly did not exceed 45,000."

The Rev. George Turner, in "Nineteen Years in Polynesia" (London, 1861), states: "Influenza is a new disease to the Natives. They say that the first attack of it ever known in Samoa was during the A'ana War in 1830, just as the missionaries Williams and Barth first reached their shores. Ever since there have been returns of the disease almost annually. They have a tradition of an epidemic answering to the description of cholera, which raged with fearful violence many years ago. In 1849 whooping-cough made its appearance, and prevailed for several months, among adults as well as children. A good many of the children died. In 1851 another new disease surprised the natives—viz., the mumps."

Fiji experienced a devastating epidemic of dysentery about the year 1800, and it is probable that the epidemic mentioned by Rev. G. Brown was of a similar nature.

Sufficient has been written to show that the population of Samoa was decreasing, and decreasing rapidly, during the first half of the nineteenth century. Whether the decrease continued after 1854 or not there are no records available in Samoa to show, but in 1886 the population was estimated to be 29,000 (John B. Thurston, "Correspondence respecting the Affairs of Samoa, 1885-1889," Blue-book, Samoa No. 1, 1889), practically the same figure as for 1854.

The increase in the population from that date onwards must have been fairly rapid, as, despite a serious setback in 1893, when measles were first introduced, the population, according to the German census of 1906, was 33,478. From that date the state of the population is shown in the graph (Fig. 15).

On the graph there are several points of interest. The drop shown in 1907 was due to an epidemic of dysentery. That in 1911 was, to the extent of 354, due to measles and dysentery, but the rest of the decrease was due to the census returns showing a smaller population than the estimates based on the first census. This indicates a more careful checking of returns than probably took place at the time of the 1906 census, with the elimination of those cases of duplication which have to be guarded against in Samoa. The Samoans do a great deal of travelling from district to district, and when the census is taken the travellers are more than likely listed in the returns from two villages, the *pulemu'u* of their home village including their names in his returns in order to show the true size of his village—this in spite of instructions to the contrary. Thus the danger in Samoa is not that the population will be underestimated, but rather that it will be overestimated by approximately the number of Natives who are on *malaga* at the time of the census. That this is so is shown by our experience in the 1921 census. The first count of the returns showed a population of 33,336, but a careful rechecking of the returns during the succeeding twelve months showed duplications to the number of 735, the final return thus showing a population of 32,601. The same care was not shown in checking the census of 1917, taken during military occupation, and therefore the estimate of the population of Samoa at that date must be rejected as too high.

In the graph the population as at 31st December each year is given, and for 1917 the population as calculated from the census (37,572), and also as estimated by calculating from the previous census in 1911 (36,592).

In 1918 the population was estimated, calculating from the 1917 census, to have increased to 38,093 by the 1st October. During the quarter October-December, influenza caused an estimated decrease of the population from that figure to 30,738. But, as already pointed out, the population was estimated at too high a figure, and therefore the calculated number of deaths must be reduced by approximately the difference between the estimated population and the population as calculated from the previous census.

Again, by calculating back from the 1921 census, taking into account the births and deaths, arrivals from and departures for overseas, the population on the 31st December, 1918, is found to have been 31,200—not 30,738, as estimated at the time.

The fact that returns totalling 7,542 deaths were sent in by Native officials does not mean that that number actually died. The time was one of great disorganization; numbers of the Native officials had died, and their work was being carried out by untrained men; and, in addition, no careful checking of the returns to eliminate duplications was carried out. It is now impossible (and it is doubtful if it was ever possible with the information available) to obtain accurate information as to the actual death-roll of Samoans, but, as the above figures indicate, it is reasonable to assume that it has been markedly overestimated.

#### LEPROSY IN WESTERN SAMOA.

The navigators and missionaries who visited the South Pacific in the early years of last century mention leprosy, or a disease resembling leprosy, as being common amongst the various islanders. The Rev. George Turner, who lived in Samoa from 1841 to 1861, includes, in his book "Nineteen Years in Polynesia," published in 1861, "a species of leprosy" in his list of the principal diseases of Samoa. He continues, "Leprosy has greatly abated. The Natives say that formerly many had it and suffered from its ulcerous sores until all the fingers of a hand or the toes of a foot had fallen off." The Rev. George Brown, who lived in Samoa from 1860 to 1874, in "Melanesians and Polynesians," published 1910, says, "I knew of one very bad case of leprosy which I had under constant observation until the man died. He remained in the house with his wife and children, but none of them ever showed any signs of the disease."

As even medical men were at that time inclined to confuse ulcerative tertiary yaws with leprosy, evidence such as the above as to the presence of leprosy in these islands cannot be accepted as definite.