1926.

NEW ZEALAND.

MANDATED TERRITORY OF WESTERN SAMOA.

ANNUAL REPORT OF THE DEPARTMENT OF HEALTH FOR THE YEAR ENDED 31ST MARCH, 1926.

Presented to both Houses of the General Assembly by Command of His Excellency.

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REPORT.

THE CHIEF MEDICAL OFFICER, TO HIS EXCELLENCY THE ADMINISTRATOR OF WESTERN SAMOA.

I HAVE the honour to submit the annual report of the Department of Health for the year ended 31st March, 1926. As appendices will be found a short summary of meteorological conditions; a note by Dr. Armstrong in continuation of his article on the treatment of yaws which appeared in last annual report; an article on child welfare by Dr. Mabel Christie; and some notes on the census of 1st January, 1926.

T. RUSSELL RITCHIE,
Chief Medical Officer.

Public Health.

Infectious Diseases.

The return given below does not include all cases of infectious diseases occurring in the Territory, but only those which have been reported by European Medical Officers. These, however, give an indication of the relative frequency of the various diseases enumerated, with the exception of whooping-cough, which was prevalent for the greater part of the year.

Tetanus	4	Enteric (Para. B.)	6
Gonorrhœa	13	General tuberculosis	3
Leprosy	6	Tubercular peritonitis	1
Lobar pneumonia	72	Chicken-pox	11
T.B. broncho-pneumonia	1	Gastro-enteritis	2
Dysentery (shiga)	45	Pulmonary tuberculosis	14
Enteric (typhoid)	20	Influenza	4
Pertussis	168		
		Total	370

(*a.*) *Whooping-cough (Pertussis).*—This disease made its appearance at the beginning of the year 1925, and spread slowly throughout the Territory. That it did not to any appreciable extent affect the death-rate during the first six months of the year is shown by the figures given under "Vital Statistics"; but with the commencement of the unusually dry weather experienced from July onwards the number of deaths of infants markedly increased. The enteritis, which always becomes more prevalent amongst infants during dry weather, associated with whooping-cough or with debility following this condition, was, as far as can be estimated, the cause of the increased mortality. Whether whooping-cough was introduced at the end of the year 1924, or whether endemic whooping-cough became epidemic at that time, it is impossible to say definitely. Although very few cases have been seen in Samoa for some years, the disease is well known to the Natives, who call it *tale umiumi* (the long cough). That it was introduced into Fiji about the same time that it made its appearance here indicates that it was probably introduced to both countries from the same source overseas.

(*b.*) *Ankylostomiasis.*—Treatment for this condition was continued throughout the year, 15,613 treatments being given. It is now carried out at the same time as treatment for yaws, the travelling party giving treatment for yaws on the occasion of the first visit to each village, and the treatment for hookworm to those not receiving treatment for yaws, on the occasion of the second visit a week later. The third injection for yaws is given on the third visit, another week later.

The present method of treatment is the same as that outlined in last report—Oil of chenopodium, 1 part; carbon tetrachloride, 3 parts. The dose is 2 minims to the year of age, with a maximum of 35 minims.

During the year the film "Unhooking the Hookworm" was shown in every district in Samoa, and was seen by the great majority of the Natives. This was made possible by the obtaining of a small portable cinematograph outfit, a photograph of which is shown. Although the engine used was a very small one, weighing, with the generator, only 120 lb., the picture obtained was clear and large enough to be properly viewed by some hundreds of Natives each night. This year it is intended to show the life-history of the fly and of the mosquito, and so, by the eye as well as the ear, educate the Natives as to the necessity for cleanliness.

(*c.*) *Ascariasis.*—This condition is very common in Western Samoa, especially in the young. In children over three years of age the oil of chenopodium given in the treatment of hookworm deals with this condition. Under the age of three years children are given Santonin, a drug which the Natives have now come to know and appreciate. Records of such treatments are not kept separate from the general treatments given in the various dispensaries and by travelling units, but the amount of drug issued from the central dispensary indicates that several thousand children are treated for this condition each year.

(*d.*) *Yaws (Framboesia tropica).*—The systematic campaign against yaws, which was commenced at the beginning of the financial year in 1923, has resulted in a marked improvement in the general health of the Natives, especially the little children. The numbers of injections of Novarsenobillon given each year since the commencement of systematic treatment are: 1923-24, 32,366 injections; 1924–25, 21,222 injections; 1925–26, 12,012 injections.

Since the whole of the Territory was not covered during the first year, the figures given do not show the differences between each complete treatment of the whole area. This is better shown as follows: First round—April, 1923–June, 1924—36,304 injections; second round—July, 1924–March, 1925—17,284 injections; third round—April, 1925–March, 1926—12,012 injections. In Appendix B will be found a note in continuation of an article on yaws published in last annual report.

(*e.*) *Dysentery.*—In February of this year an outbreak of bacillary dysentery occurred in two villages in Savai'i, with a few cases in several other villages. Fortunately the steps taken to prevent it becoming epidemic were successful, at least for the time being, but sporadic cases are still occurring, and with the dry season approaching it will be necessary to keep careful watch to prevent it gaining a hold.

(*f.*) *Leprosy.*—During the year seven lepers were transferred from Samoa to the Leper Asylum on the island of Makogai, Fiji. These consisted of two male and three female Samoans, and two male Solomon-Islanders.

Of the fifteen lepers mentioned in last year's report as being at Makogai, one Chinaman died, and one was discharged on parole.

The numbers of lepers from Samoa under treatment at Makogai at the end of the year under review were: Samoans, seven males, four females; Chinese, three males; Half-caste Europeans, two males, one female; Solomon-Islanders, two males; Cook-Islanders, one male.

(*g.*) *Filariasis.*—The Research Expedition from the London School of Hygiene and Tropical Medicine, which arrived in Samoa in January, 1924, departed for London in December, 1925. The report of the work carried out by this Expedition is awaited with interest.

Quarantine.

During the year 102 visits of inspection were made to vessels arriving from overseas, and in one instance (the monthly mail-steamer for April, 1925), owing to the prevalence of infantile paralysis in New Zealand, quarantine was imposed.

Samoa is kept well informed as to conditions in the Pacific by regular weekly wireless messages from New Zealand, with extra messages at irregular intervals detailing any special information which may be of value to Samoa.

Food and Drugs.

The New Zealand Food and Drugs Act, 1908, with the regulations made thereunder, is in force in the Territory. During the year the following foodstuffs were condemned and destroyed under the supervision of an officer of the Department: Meat in kegs, 10,380 lb.; canned meats, 1,045 lb.; frozen meats, 1,426 lb.; canned fish, 343 lb.; frozen fish, 180 lb.; bacon and ham, 247 lb.; cheese, 6 lb.

European Sanitation.

Plumbing and drainage permits issued	62
Septic tanks installed	23
Feet of drainage laid	2,297
Water-closets connected	56
Sinks connected	20
Baths connected	5
Loads of rubbish removed to dump	1,248

Native Sanitation.

Progress has been slow but steady, except for the setback due to the storm on the 1st January. Many of the latrines built out over the sea were destroyed by the heavy seas which accompanied the storm, and naturally the Natives in some districts feel that their labour of rebuilding may be labour in vain.

Gradually, in those districts where good water-supplies are available, water-carriage disposal of excremental matter will be introduced, and properly constructed buildings will replace the present crude ones. In other districts where a water-carriage system is out of the question, drop latrines over the sea will have to remain, and in those villages where the unprotected nature of the coast-line is such as to render this type of latrine unsuitable, pit privies are the only solution.

During the past few years there has been a marked improvement in the general cleanliness of the villages, and with the education of the women's committees, which is being carried out in connection with the child-welfare campaign, the improvement should be still more rapid.

The Native Health Regulations, a draft copy of which was published on page 33 of last annual report, came into force during the year. These regulations deal with the building of Native *fales* (Samoan houses); latrines; the disposal of rubbish, refuse, and dead animals; water-supplies; the keeping of animals; and gatherings of Natives in villages.

Native Water-supplies.

These are dealt with in the general report under "Public Works."

Child Welfare.

Systematic work on child welfare was commenced at the beginning of the year by the appointment of a Child-welfare Officer. In addition to the work carried out by this officer, Dr. Roberts, wife of the American Vice-Consul, has continued to give her services voluntarily throughout the year, and has taken charge of the district lying between Apia and Falefa—nearly twenty miles away. That the work carried out by these two ladies is bearing fruit is obvious, but no marked improvement in a short time can be expected, as the conservatism of the Samoan mother has to be overcome. This will only be achieved gradually. A short article on the work, by Dr. Mabel Christie, will be found in Appendix C.

Vital Statistics (Samoan).

The first six months of the year was an exceptionally satisfactory period. The births numbered 1,015, and the deaths 303, of which 111 were of infants under one year of age. The second half of the year unfortunately did not fulfil the promise of the first half, the deaths being 554, of which 268 were of infants. The increase was due partly to the prevalence of whooping-cough, and partly to the exceptionally dry season. Although whooping-cough was prevalent during the first half of the year, it had very little effect on the death-rate. But in conjunction with the increase in enteritis amongst children, which occurred from July to November, it raised the mortality markedly. The association of the decreased rainfall and the increased mortality is clearly shown in the meteorological table given in Appendix A.

In spite of the increase in the number of deaths, the natural increase in population was greater than in any previous year, the births (2,033) exceeding the deaths (857) by 1,176.

Population.

The Native population of Western Samoa, estimated from the census of 1921, amounted to 35,976, but the census of 1st January, 1926, showed it to be 36,688. The discrepancy of 712 is due to one or more of the following causes: (*a*) The census of 1921 may not have been accurate. (*b*) The present system of registration of births and deaths only commenced in 1923, and the records previous to that date may not be accurate. (*c*) The records of arrivals from and departures for overseas showed an excess of departures over arrivals of more than 500 during the first four and a half years following the census of 1921. A more careful check for the six months ending 31st December showed no such discrepancy. The explanation of the greater part of the difference between the estimated and the census figures is probably to be found in these returns.

In the table given below the population as at 31st December, 1924, has been estimated by working back from the census of 1st January, 1926.

Notes on the census will be found in Appendix D.

Native Population, Western Samoa.

	Males.	Females.	Total.
Estimated population, 31st December, 1924	18,064	17,465	35,529
Live births during 1925	1,045	988	2,033
Arrivals from overseas, 1925	926	569	1,495
Deaths during 1925	465	392	857
Departure for overseas, 1925	929	583	1,512
Population, 31st December, 1925 ..	18,641	18,047	36,688
Net increase	577	582	1,159

Births.

The births of 2,033 living children were registered during 1925, as compared with 1,900 in 1924, and 1,701 in 1923. On only one other occasion since 1906 has the number of births exceeded 1,700: this was in 1912, when the mid-year population was 33,939, and the number of births 1,792, the birth-rate being 52·8 per thousand.

The birth-rate for 1925 was 56·30 per thousand of mid-year population, as compared with 55·38 for 1924 and 50·49 for 1923.

The total number of Samoan women, as disclosed by the census of 1st January, 1926, was 18,947. Of this total 8,304 are or have been married, and a further 2,806 have passed the age of puberty but are as yet unmarried, a total of 11,110 females above the age of puberty (puberty has been reckoned at twelve years). The birth-rate calculated on the above number of available females is 183 per thousand. No estimate of the number of females of reproductive age is available.

(Note.—Still-births, of which 37 were registered during the year, are not included either as births or deaths in the various numbers and rates given below.)

Births of Samoans, Western Samoa, 1925.

	Males.	Females.	Total.
Upolu	683	664	1,347
Savai'i	362	324	686
Total, Western Samoa	1,045	988	2,033

Births by Months.

—	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Males ..	85	68	90	83	101	101	94	94	88	86	83	72	1,045
Females	73	62	102	71	96	83	87	77	86	100	85	66	988
Total	158	130	192	154	197	184	181	171	174	186	168	138	2,033

Deaths.

The number of deaths registered during the year was 857, as compared with 766 in 1924 and 1,398 in 1923. The death-rate was 23·75 per thousand of mid-year population, the rates for 1923 and 1924 being respectively 41·50 and 22·29.

Deaths of Samoans, Western Samoa, 1925.

	Males.	Females.	Total.
Upolu	316	264	580
Savai'i	149	128	277
Total, Western Samoa	465	392	857

Deaths by Months.

—	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Males ..	27	24	28	24	41	30	37	46	64	67	40	37	465
Females	15	22	13	34	24	21	31	57	65	50	38	22	592
Total	42	46	41	58	65	51	68	103	129	117	78	59	857

Table showing Age at Death, Samoans, 1925.

—	Under 1 Week.							Under 1 Month.					Under 1 Year.								
	0–1 Day.	1–2 Days.	2–3 Days.	3–4 Days.	4–5 Days.	5–6 Days.	6–7 Days.	Total 0–1 Week.	1–2 Weeks.	2–3 Weeks.	3–4 Weeks.	Total 0–1 Month.	1–3 Months.	3–6 Months.	6–12 Months.	Total under 1 Year.	1–2 Years.	2–3 Years.	3–4 Years.	4–5 Years.	5–10 Years.	Over 10 Years.	Total Deaths, 1925.
UPOLU—																							
Males	6	6	1	3	3	..	2	21	8	4	5	38	19	38	56	151	35	10	5	2	7	106	316
Females ..	5	6	2	..	1	3	1	18	5	3	4	30	15	31	51	127	36	8	5	2	9	77	264
Total ..	11	12	3	3	4	3	3	39	13	7	9	68	34	69	107	278	71	18	10	4	16	183	580
SAVAI'I—																							
Males	1	1	2	..	..	1	1	6	..	2	1	9	8	17	18	52	12	6	4	4	5	66	149
Females ..	1	1	2	..	..	..	1	5	1	3	..	9	9	14	17	49	14	7	3	4	7	44	128
Total ..	2	2	4	..	..	1	2	11	1	5	1	18	17	31	35	101	26	13	7	8	12	110	277
TOTAL, WESTERN SAMOA—																							
Males	7	7	3	3	3	1	3	27	8	6	6	47	27	55	74	203	47	16	9	6	12	172	465
Females ..	6	7	4	..	1	3	2	23	6	6	4	39	24	45	68	176	50	15	8	6	16	121	392
Total ..	13	14	7	3	4	4	5	50	14	12	10	86	51	100	142	379	97	31	17	12	28	293	857

INFANT MORTALITY.

During the first six months of the year there were 1,015 live births, and 111 deaths of children under one year of age, an infant mortality at the rate of 109 deaths per thousand births per annum. During the second six months the births numbered 1,018 and the deaths of infants 268, giving an annual rate of 263 deaths per thousand births. The marked increase was, as already stated, due to the prevalence of whooping-cough and to the exceptionally dry season experienced, with an inevitable rise in the enteritis rate amongst infants. The rate would have been very much higher but for the work of the two lady doctors, who had the disheartening task of attempting to reduce the infant-mortality rate under such adverse conditions. The infant-mortality rate for the whole year was 186 per thousand live births (379 deaths to 2,033 births).

Percentage of Deaths at Different Ages to Total Deaths.

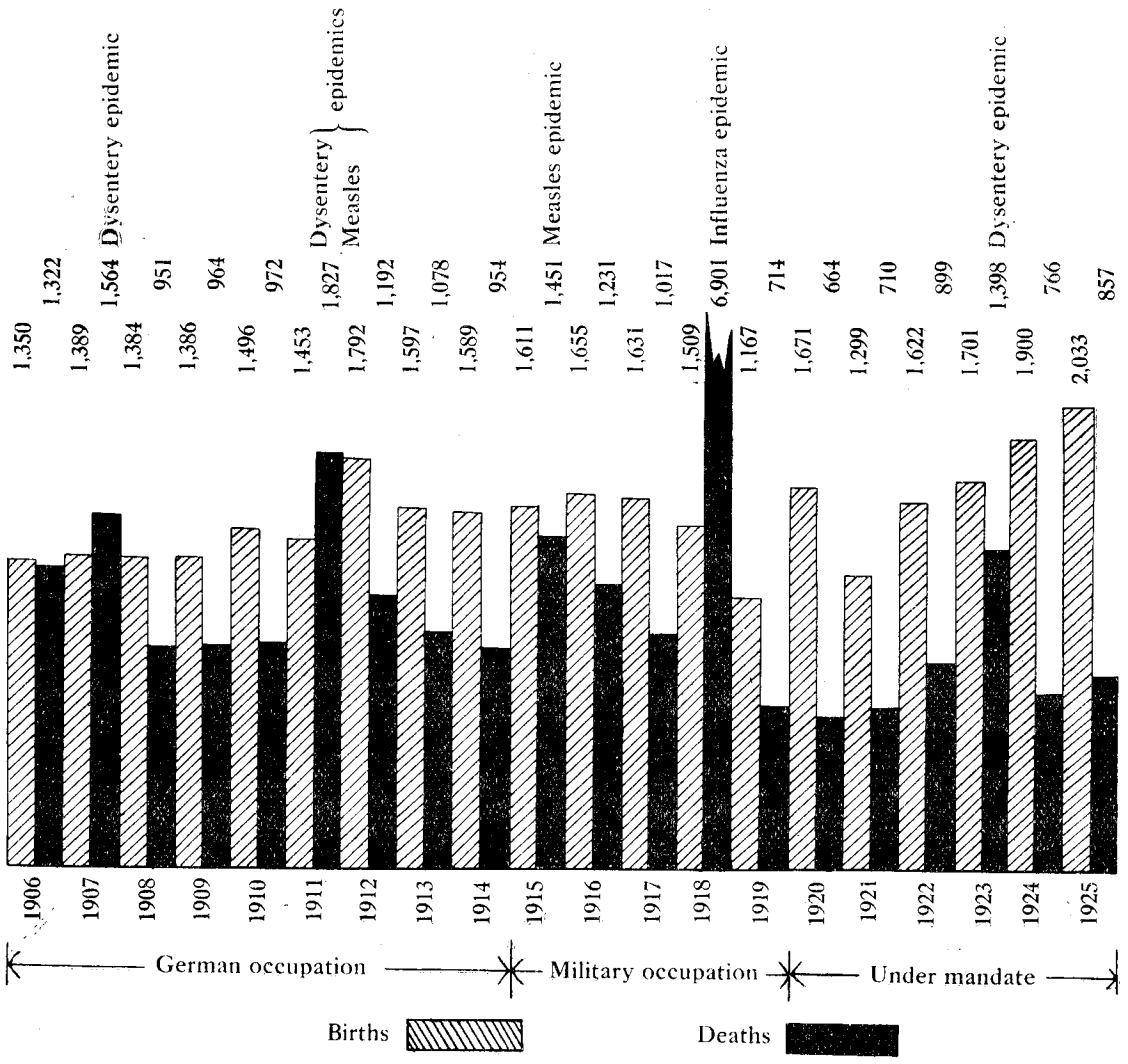
	1924.			1925.		
	Number.	Percentage of Total Deaths.		Number.	Percentage of Total Deaths.	
Under 1 week	34	4·44		50	5·83	
From 1 week to 1 month	25	3·26		36	4·20	
From 1 month to 3 months	28	3·66		51	5·95	
From 3 months to 6 months	44	5·74		100	11·67	
From 6 months to 12 months	164	21·41		142	16·57	
Total under 1 year	295	..	38·51	379	..	44·22
From 1 year to 2 years	99	12·93		97	11·32	
From 2 years to 3 years	31	4·05		31	3·62	
From 3 years to 5 years	29	3·78		29	3·38	
From 5 years to 10 years	25	3·26		28	3·27	
Total 1 year to 10 years	184	..	24·02	185	..	21·59
Over 10 years	287	37·47	37·47	293	34·19	34·19
	766	100·00	100·00	857	100·00	100·00

TABLE SHOWING BIRTH AND DEATH RATES, NATURAL INCREASE, ETC., FOR YEARS 1906–1925.

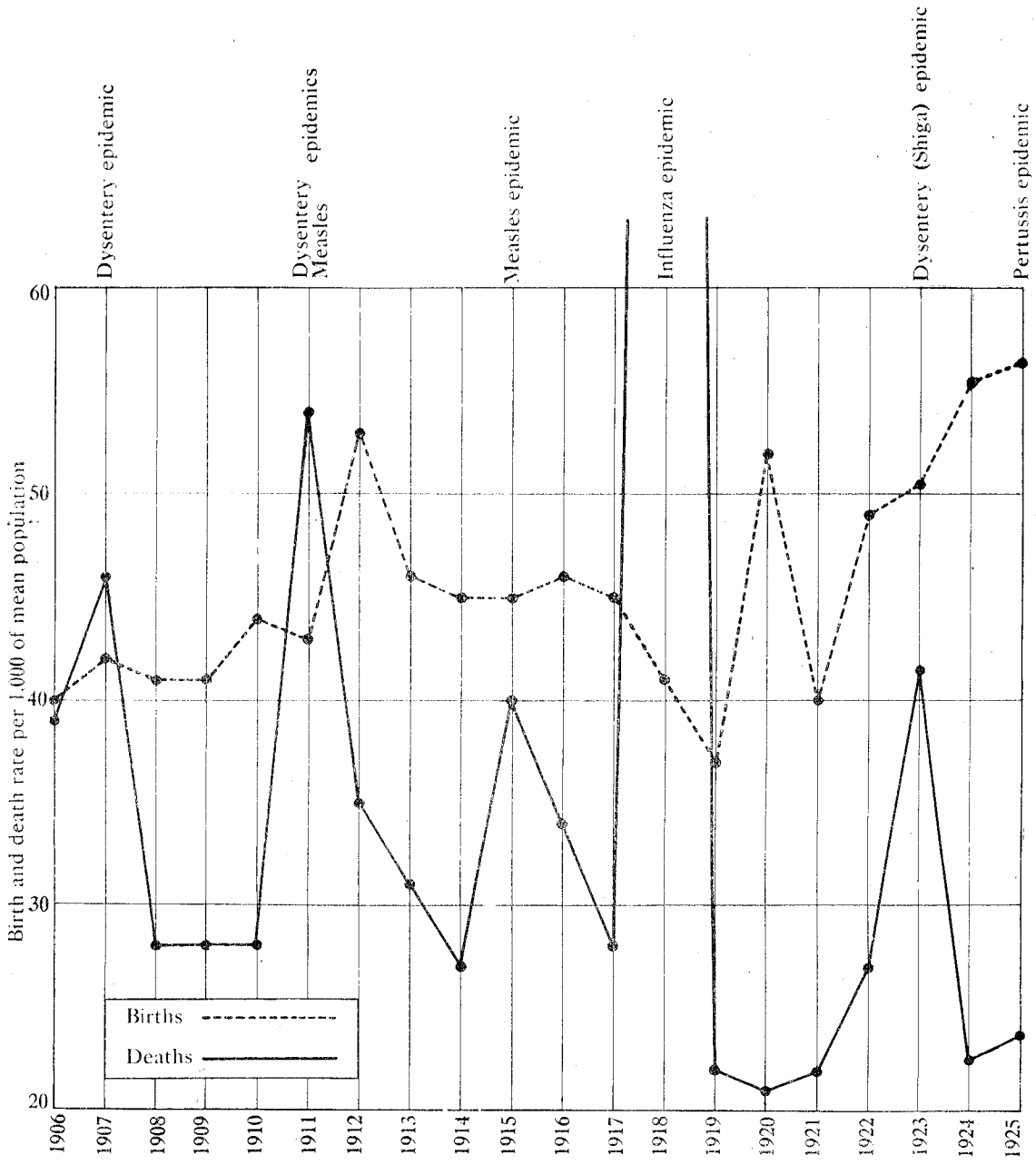
Year.	Births.	Deaths.	Birth-rate per 1,000 Mean Population.	Death-rate per 1,000 Mean Population.	Natural Increase.	Percentage Increase.	Infant-mortality Rate Per 1,000 Births.
1906 ..	1,350	1,322	40	39	28	..	..
1907 ..	1,389	1,564	42	46	—175	—0·5	..
1908 ..	1,384	951	41	28	433	1·3	..
1909 ..	1,386	964	41	28	422	1·25	..
1910 ..	1,496	972	44	28	524	1·54	..
1911 ..	1,453	1,827	43	54	—374	—1·08	..
1912 ..	1,792	1,192	53	35	600	1·78	..
1913 ..	1,597	1,078	46	31	519	1·51	..
1914 ..	1,589	954	45	27	635	1·82	..
1915 ..	1,611	1,451	45	40	160	0·45	..
1916 ..	1,655	1,231	46	34	424	1·20	..
1917 ..	1,631	1,017	45	28	614	1·70	..
1918 ..	1,509	6,901	41	187	—5,311	—14·54	..
1919 ..	1,167	714	37	22	453	1·45	..
1920 ..	1,671	664	52	21	1,007	3·20	..
1921 ..	1,299	710	40	22	589	1·83	..
1922 ..	1,622	899	49	27	723	2·19	..
1923 ..	1,701	1,398	50·5	41·5	303	0·90	200
1924 ..	1,900	766	55·4	22·5	1,134	3·35	155
1925 ..	2,033	857	56·3	23·7	1,176	3·26	186

NOTE.—In 1923 a new system of registration of births and deaths came into force, making accurate returns possible.

Infant-mortality Rate.—This could not be calculated under the old system of registration of births and deaths, but, from the high death-rate prevailing, it must also have been high.



Graph showing births and deaths of Samoans, Western Samoa, 1906–25.



Graph showing birth-rates and death-rates of Samoans, Western Samoa, 1906–25.

Regulations providing for the Registration of Births and Deaths of Samoans.

These regulations were brought into force on 1st January, 1923, and have proved very satisfactory during the past three years.

1. These regulations may be cited as the Board of Health Regulation No. 3.

2. (1.) The Administrator may from time to time appoint such persons as he thinks fit to act as Registrars of the Births and Deaths of Samoans.

(2.) Until such time as the Administrator may determine, the Pulenu'u in each village and the Fa'amasino in each district will act as Registrars of the births and deaths of Samoans.

Registration of Births of Samoans.

3. (1.) Within seven days after the birth of any Samoan child born on or after the 1st day of April, 1922, the following particulars shall be furnished to the Pulenu'u of the village and to the Fa'amasino of the district in which the child was born:—

(*a.*) Date of birth.
(*b.*) Place of birth.
(*c.*) Christian or first name.
(*d.*) Sex of the child.
(*e.*) Condition of child (whether alive or dead when born).
(*f.*) Name of father.
(*g.*) Residence of father (village or district in which father resides).
(*h.*) Name of mother.
(*i.*) Residence of mother (village or district in which mother resides).
(*j.*) Signature of informant.
(*k.*) Residence of informant.
(*l.*) Date of registration.
(*m.*) Signature of official registering the birth.

(2.) The father and the mother of the child shall be responsible for duly furnishing to the Pulenu'u and to the Fa'amasino the particulars hereinbefore referred to in respect of the birth of any Samoan child.

4. (1.) On receipt of the particulars of the birth of any Samoan child as aforesaid, the Pulenu'u and the Fa'amasino shall enter the same in the Register of Births and on a duplicate sheet to be supplied for the purpose by the Native Affairs Department.

(2.) On receipt of any particulars of the birth of any Samoan child, notwithstanding that the full particulars required by these regulations have not been furnished, the Pulenu'u and the Fa'amasino shall enter the particulars furnished in the Register of Births and on the duplicate sheet as aforesaid.

(3.) The said register shall be in the form No. 1 in the First Schedule hereto, or to the effect thereof.

(4.) Upon completing the entries in the register and on the duplicate sheet aforesaid the Pulenu'u and the Fa'amasino shall request the informant to sign the same.

REGISTRATION OF DEATHS OF SAMOANS.

5. (1.) Within seven days from the date of the death of any Samoan occurring on or after the 1st day of April, 1922, the following particulars shall be furnished to the Pulenu'u of the village and to the Fa'amasino of the district in which the death occurred :—

(*a.*) Date of death.
(*b.*) Place of death.
(*c.*) Name of deceased.
(*d.*) Residence of deceased (village and district in which deceased resided).
(*e.*) Age of the deceased (if known).
(*f.*) Sex of the deceased.
(*g.*) The name of the father of the deceased.
(*h.*) Residence of the father of the deceased.
(*i.*) The name of the mother of the deceased.
(*j.*) Residence of the mother of the deceased.
(*k.*) If deceased married, name of husband or wife.
(*l.*) Number and sex of children living (if any).
(*m.*) Cause of death.
(*n.*) Signature of informant.
(*o.*) Residence of informant.
(*p.*) Such other particulars as the Administrator may from time to time determine.

(2.) Every person present at the death is responsible for the notification of such death, and they shall choose one of their number to furnish to the Pulenu'u of the village and to the Fa'amasino of the district the particulars hereinbefore referred to.

6. (1.) On receipt of the particulars of the death of any Samoan as aforesaid the Pulenu'u and the Fa'amasino shall enter the name in the Register of Deaths and on a duplicate sheet to be supplied for the purpose by the Native Affairs Department.

(2.) On receipt of any particulars as to the death of any Samoan, notwithstanding that the full particulars as required by these regulations have not been furnished, the Pulenu'u and the Fa'amasino shall enter the particulars furnished in the Register of Deaths and on the duplicate sheet aforesaid.

(3.) The said register shall be in the form No. 2 in the First Schedule hereto or to the effect thereof.

(4.) Upon completing the entries in the register and on the duplicate sheet aforesaid the Pulenu'u and the Fa'amasino shall request the informant to sign the same.

7. (1.) On the death of any Samoan who has been attended in his last illness by a registered medical practitioner, that practitioner shall sign and deliver or cause to be delivered to the Secretary for Native Affairs a certificate on a form to be provided for the purpose by the Secretary for Native Affairs, stating to the best of his knowledge and belief the causes of death (both primary and secondary), the duration of the last illness of the deceased, and such other particulars as may be required by the Secretary for Native Affairs.

(2.) The immediately preceding subclause of this regulation does not absolve any persons mentioned in subclause (2), clause 5, of these regulations from the duty of reporting such death to the Pulenu'u of the village and the Fa'amasino of the district in which the death occurred.

(3.) The particulars set forth in the certificate required under subclause (1) of this regulation shall be entered, together with the name of the certifying medical practitioner, in the Register of Deaths kept by the Secretary for Native Affairs.

GENERAL.

8. (1.) Every Pulenu'u shall forward at once to the Fa'amasino the duplicate sheets of all registrations of the births and deaths of Samoans effected by him.

(2.) Every Fa'amasino shall forward by the first available Government messenger the duplicate sheets of all registrations of the births and deaths of Samoans effected by him, and by the Pulenu'u of his district, to the official mentioned below :—

Savai'i—The Resident Commissioner, Fagamalo ;
Aleipata—The Resident Commissioner, Aleipata ;
Upolu (other than Aleipata)—The Secretary for Native Affairs, Apia ;

who will forward such duplicate sheets to the Secretary for Native Affairs at monthly intervals.

9. The registers kept in pursuance of these regulations by the Secretary for Native Affairs shall at all reasonable times be open to the public on payment of the search fee set forth in the Second Schedule hereto, and the Secretary for Native Affairs shall, on application by any person, and on payment of the fees set forth in the said schedule, issue certificates of any entries in the said registers.

10. Every person required by these regulations to furnish particulars in respect of any matter who without sufficient cause fails to furnish such particulars, and every Pulenu'u and Fa'amasino who fails to comply with the requirements of these regulations, shall be liable for a first offence to a fine not exceeding £2, and for a second offence to a fine not exceeding £5 ; and any person who knowingly furnishes false particulars shall be liable to a fine not exceeding £20.

11. The fees set out in the Second Schedule hereto shall be payable to the Secretary for Native Affairs in respect of the matters therein specified, and shall be accounted for by him to the Treasury in Apia.

REMARKS ON SYSTEM OF REGISTRATION OF BIRTHS AND DEATHS OF SAMOANS.

The present system of registration was brought into force on the 1st January, 1923. At first much extra work was thrown on the Native Department, as all forms sent in with incomplete particulars were sent back to the Native officials for completion. These officials very quickly fell into line, and after a few months the system worked smoothly.

The regulations at first sight appear to demand unnecessary duplication of the work of reporting, but the extra accuracy resulting from notification to two officials is worth the trouble. In addition we have in each village a record of all births and deaths occurring in that village, on the duplicate forms in the village birth and death books, and also complete district registers in the Fa'amasino's books.

These local registers are of considerable value, especially to the Medical Department, in checking the children brought for inspection under our new child-welfare scheme. Other departments find, or in future will find, them useful for their purposes.

The forms used by the Pulenu'u (the head man of the village) are of a pale pink colour for births and a pale blue for deaths. These forms are made up into books each containing twenty-five coloured forms, with perforated edges. The coloured forms are interleaved with white, non-perforated duplicate forms. As there are 150 Pulenu'us in Western Samoa, and the number of births is about two thousand a year, a book of this size lasts on an average for about two years.

The Fa'amasino (the District Judge) has similar books, with one hundred coloured forms in each, interleaved with white duplicates. The coloured forms are of a deeper shade than those used by the Pulenu'u, and this obviates any confusion when the forms are received in the Native Office in Apia.

When the forms are received in the office of the Native Department, Apia, they are numbered consecutively, and particulars entered in (*a*) the card index village registers, and (*b*) the alphabetical registers. The death of every child born since the 1st January, 1923, is also entered in the "Remarks" column of the alphabetical Birth Register, and the date of birth is written in red ink on the form sent in by the Pulenu'u. At the end of each quarter the original forms sent in by the Pulenu'us are forwarded by the Native Department to the Chief Medical Officer, and it is from these that the particulars of vital statistics are prepared for the annual report of the Department of Health.

The cross-checking of deaths against the Births Register not only shows the exact age at death, but, where no record of birth can be found for a child believed to have been born since the 1st January, 1923, indicates the necessity for special inquiries to be made. So far, in nearly every instance such inquiries have shown that a change of name has been overlooked by the parents or the Pulenu'u when the death certificate was filled in. To obviate such difficulties in future it is intended to alter the death-certificate by substituting for "First name" the words "Name under which the child was registered at birth," and, to facilitate inquiries, to add to the certificate the question, "In what village was the child born?"

At the end of each calendar year the consecutively numbered forms received from the Pulenu'us are bound, and thus form a serial index. The forms received from the Fa'amasino in charge of districts are arranged in alphabetical order and bound.

At present the Administration is having attractive birth-certificates printed. These the Natives will be encouraged to keep as permanent records. On these certificates provision is made for the addition of any new names (baptismal name), and any title received later on in life.

The very satisfactory results obtained under the new system of registration are due to the work of the Native Department. Where incomplete forms are received, one, either the Pulenu'u's or the Fa'amasino's, is retained in the office and the other returned to the village official concerned, for correction. At first many forms had to be thus dealt with, but now, except by newly appointed officials, very few are sent in incomplete.

In the annual report of the Department of Health no claim is made that the table showing age at death is accurate except in the case of those born since the 1st January, 1923. But each year the accuracy extends by one year. Thus in the last report accuracy was only claimed for ages up to two years; this year the age will be three years.

HOSPITAL STATISTICS FOR PERIOD 1ST APRIL, 1925, TO 31ST MARCH, 1926.

—	Hospitals.			Dispensaries.									Totals.
	Apia.	Tuasivi.	Aleipata.	Mulifanua.*	Safotu.	Gagaemalae.	Satupaitea.	Malua.	Lufi Lufi.	Vaiala.	Fusi.	Travelling Units.	
In hospital on 1st April, 1925 ..	30	6	2	..	2	..	..	..	..	..	..	..	40
Admitted during nine months ..	1,156	117	215	5	140	..	..	..	..	..	..	..	1,633
Discharged during nine months ..	1,058	113	203	5	138	..	..	..	..	..	..	..	1,517
Died during nine months ..	69	9	11	..	..	..	..	..	..	..	..	..	89
Remaining, 31st December, 1925	59	1	3	..	4	..	..	..	..	..	..	..	67
Out-patients: Attendances, including dressings	22,578	8,032	9,733	665	11,573	5,412	4,346	5,480	5,582	4,333	534	561	78,829†
Treatments for hookworm ..	49	1,863	1,992	..	1,012	..	..	..	..	3,106	..	7,591	15,613
Treatment for yaws (injections of N.A.B.)	3,260	2,537	1,128	..	1,573	..	..	..	..	..	..	3,514	12,012
Operations—													
Major	80	2	14	..	..	..	..	..	..	..	..	..	96
Minor	172	76	190	..	239	..	..	..	..	..	..	..	677

* Dispensary closed for three months, due to illness and subsequent death of dispenser. Returns incomplete.
† Includes 368 Chinese out-patients attendances.

Nationality of In-patients.

	Europeans.	Samoans.	Chinese.
In hospital on 1st April, 1925	9	23	8
Admitted during nine months	133	1,199	301
Discharged during nine months	129	1,102	286
Died during nine months	6	73	10
Remaining, 31st December, 1925	7	47	13

This table does not include visits made to patients in their homes, nor does it include the large number of children seen by the lady Medical Officers in connection with their child-welfare work.

REVENUE AND EXPENDITURE OF DEPARTMENT OF HEALTH FOR YEAR ENDED 31ST MARCH, 1926.

Financial Year (1st April to 31st March).	Total Expenditure of Department of Health.*	Percentage of Total Revenue of Territory.	Expenditure per Head of Population†	Gross Revenue (Costs of Collection not deducted).					Amount required from Revenue other than that of the Department, to cover Expenditure.	Amount per Head required to balance Expenditure.
				Subsidy from the New Zealand Government.	Native Medical Levy.	European Fees.	Chinese Fees.	Total Revenue of Department of Health.		
	£		s. d.	£	£		£	£	£	s. d.
1922–23‡ ..	25,715	19·6	14 1·2	12,500	2,790		4,299	19,589	6,127	3 4·3
1923–24 ..	23,995	17·9	12 10·4	12,500	7,327	2,814	2,023	24,664	—670§	—0 4·3
1924–25 ..	24,425	18·7	13 0·2	14,000	7,705	1,461	1,140	24,306	119	0 0·8
1925–26 ..	25,700‖	..	13 0·0	14,000	9,188¶	1,700	1,512	26,400‖	—700	—0 4·2

* Expenditure shown does not include interest and sinking fund on capital expenditure, cost of repairs to buildings, and miscellaneous expenditure under head XV of general estimates, such as travelling-expenses of officers to and from New Zealand, &c.; expenditure under these heads does not come under the control of the Department of Health.

† Average population taken as the population as at 30th September each year.

‡ Medical levy not in force. It was during this year that the Natives brought forward the proposal that a medical levy be enforced and free treatment instituted. This was agreed to, and came into force on the 1st April, 1923.

§ Surplus of revenue over expenditure.

‖ Figures not final, as Treasury return not yet received, but final figures will be very close to the amounts stated.

¶ Includes some taxes paid too late to be shown in the previous year's returns.

REPORT OF THE RESIDENT MEDICAL OFFICER OF THE APIA HOSPITAL, 1925–26.

ADMINISTRATION.

During the past year several welcome improvements in the hospital buildings and equipment have been effected. A new maternity *fale* for Samoan patients has been built, and is now ready for occupation. It is situated beyond and parallel to the Samoan Ward, its dimensions being 51 ft. by 28 ft., so that it is considerably larger than any of the other *fales*. It has been well and solidly built by the Public Works Department, and is divided by a 6 ft. wooden partition into two parts, 20 ft. and 31 ft. respectively, with a concrete floor. The smaller end is reserved entirely as a labour-room, and is well fitted with cupboards, sink, &c. The stove-house is specially built of galvanized iron, and, being quite detached from the *fale*, is practically fireproof. The larger part of the *fale* will accommodate six or eight patients comfortably, as required.

It has long been felt that our nurses should receive practical instruction in the conduct of normal labour, but so far, owing to lack of accommodation, we have only been able to admit abnormal cases, most of which require instrumental or other assistance, and are not of any great value from the teaching point of view. We now hope to encourage Samoan women to look upon our new *fale* in the light of a maternity hospital, and to come to us for their confinements instead of trusting to Native midwives. There is no doubt but that a knowledge of midwifery, supplemented as it will be by practical demonstration, must prove of great value to our nurses in their work in out-stations.

We sincerely hope to see the new *fale* made good use of by the women of Samoa, and, if so, we propose to bring in our certificated nurses from the out-stations in rotation and give them also a post-graduate course in midwifery.

It seems hardly necessary to point out that this *fale*, if properly used, will serve a double purpose—on the one hand ensuring good treatment for the mothers, with instruction in the correct way to feed and manage their babies, and on the other adding largely to the usefulness of our nurses to the Samoan community.

The end of the year saw the European hospital and kitchen, and the Samoan ward, electrically lighted; and although at first we were only able to supply current for three hours—from 6 to 9 p.m.—the change has been much appreciated. At the time of writing the work of wiring the rest of the hospital is steadily proceeding—the Sisters' Home, Medical Officers' residence opposite the hospital gates, the new maternity *fale*, and Chinese wards being already lit up—and the current is available from 6 to 11 p.m. At the present time our power is generated by a small plant installed under the second Chinese ward, but when all wiring is completed we expect to be connected up to the Apia supply, and to be able to use the current all night if required. We are already finding the electric light a great boon, the chief difficulties in the past having been the effective lighting of the main entrances to the hospital.

The New Zealand Government has generously presented us with an X-ray apparatus which, on arrival, will be installed in the lecture-room, and this should prove a very valuable aid in diagnosis.

STATISTICS.

In accordance with the plan adopted in last year's report, the analysed hospital statistics are given for the calendar year 1925.

TREATMENT—MEDICAL.

With the exception of whooping-cough, which was indirectly responsible for fourteen deaths among children—due to intercurrent pneumonia and broncho-pneumonia—the past year has been free from any epidemic. Gastro-enteritis has again been very prevalent, causing seven deaths in sixty-one admissions, practically all of which were moribund on arrival at the hospital, and it is difficult to refrain from reiterating that probably all of these might have been saved if admitted earlier.

Lobar pneumonia and broncho-pneumonia between them supplied 108 cases, though the mortality of the former is far less than that of the latter. Many of our cases of broncho-pneumonia have been prolonged by undue delay in resolution of the inflammatory patches in the lungs, and this condition would appear from outside reports to have been prevalent in many parts of England as well.

The admissions in the enteric-fever group are about the same as last year, the two fatal cases in the Europeans being entirely due to delay in seeking treatment, an ulcer in one of them having actually perforated some days before admission. Amongst Samoans these cases are practically mild.

Yaws injections still show a marked decrease—over one thousand less than last year—whilst, on the other hand, a marked increase in the number of third injections given still further proves the efficacy of our system.

Treatment—Surgical.

Major operations have fallen off considerably. As in previous years, filarial abscesses head the list, though they too are diminishing in number, many more being now treated in the wards than formerly.

Gynecological work is increasing, and there is still much to be done in this direction, it being evident that Samoan women suffer considerably from the diseases peculiar to women. The difficulty lies in persuading them to undergo the necessary treatment. Two hysterectomies have been performed, one for fibroid disease of the uterus, which apparently is not uncommon, and the other for malignant disease.

Chinese Coolies.

The admissions show a marked increase on last year's figures. Septic wounds and sores figure largely, whilst infectious diseases are negligible.

Apia Hospital—Attendance, Operations, etc., for the Year 1925–26.

General attendance (includes out-patient attendance, out-patient dressings, N.A.B. injections, and injections for elephantoid fever)		27,799
Out-patient attendance (Europeans and Samoans)		11,467
Out-patient dressings (European and Samoans)		11,537
N.A.B. injections—		
First injections	2,157	
Second injections	1,214	
Third injections	768	
		4,139
Injections for elephantoid fever		373
European in-patients		144
Samoan in-patients		688
Chinese and Melanesian in-patients		315
Chinese and Melanesian out-patients		293
Operations—		
Major	111	
Minor	266	
		377

Report on the Laboratory, Government Hospital, Apia, 1925–26.

By V. J. Hawke, Bacteriologist.

Early in December, 1925, Dr. P. A. Buxton and his assistant, Mr. G. H. E. Hopkins, of the London School of Tropical Medicine, left for England.

This summary of work done in the laboratory cannot be considered complete, as it deals only with the routine specimens and does not include any of the specimens done in the course of the research work. The number of routine specimens recorded is 661, comprised as follows:—

Blood specimens: Widals—positive, 14; negative, 17. Blood cultures—positive, 1 (*B. typhosus*); negative, 15. Cell counts, 22; differential counts, 19. Malaria—negative, 5. Micro-filaria—positive, 2; negative, 13. Blood-sugar estimations, 5. A considerable amount of blood-typing has also been done.

Sputa, for T.B.: Positive, 4; negative, 38.

Sputa, for organisms: Number examined, 18. A number of sputa are noted which showed slight hæmoptysis, but in which no T.B. or bronchial spirochætes were found. These will be further investigated.

Fæces: Total specimens examined for ova, 102, of which 30 were positive for hookworm, 14 were positive for ascaris, 20 were positive for trichuris; 72 were completely negative.

For dysentery bacilli: Positive, nil; negative, 27.

For enteric group: Positive, 1; negative, 16.

For amœbæ: Number examined, 4; positive, 1 (*Entamœba hystolytica*); negative, 1 (*Entamœba coli*). (N.B.—One specimen of fæces yielded a good growth of hæmolytic *Staphylococcus aureus*.)

Urine examinations: Number examined, 170: positive for sugar, 24; positive for casts, 5. For T.B.: Number examined, 3—all negative. For other organisms: Number examined, 15; positive, 3 (all showing streptococci).

Puncture fluids: Positive, 3 (2 streptococcal, 1 staphylococcal); negative, 2.

Cerebro-spinal fluids: 2 negative for organisms.

Venereal disease (gonococcal): Urethral smears—positive, 15; negative, 8. Cervical swabs—positive, 7; negative, 14.

Pus: For organisms—24 staphylococcal, 1 negative, 2 streptococcal.
Sections of tissue, 5. Alcohol testing, 36.
Leprosy: Nasal swabs—positive, 2; negative, 11. Scrapings from skin—positive, 2; negative, 7. Swabs, sundry, 10.
One Native boy has now been allotted to the laboratory, and it is hoped to familiarize him with the simple routine procedures and elementary microscopical work.

APIA HOSPITAL.—CLASSIFIED ADMISSIONS TO EUROPEAN WARDS, 1925.

—	Remaining in Hospital, 31/12/24.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.	Deaths.
Alimentary System.															
Appendicitis	..	..	..	..	..	..	..	..	..	1	..	1	..	2	..
Colitis (post dysenteric ulcerative)	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Constipation	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..
Dental extractions	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gastritis	..	..	..	..	..	..	..	..	..	1	1	..	..	2	..
Gastro-enteritis	..	1	1	..	..	..	..	1	1	2	1	..	..	7	2*
Hepatitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Jaundice	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Peritonitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Parotitis (suppurative unilateral)	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..
Tabes mesenterica	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Circulatory System.															
Adenitis	..	..	..	1	..	..	..	..	..	..	..	..	1	2	..
Hæmorrhage (epitaxis)	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Lymphangitis	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..
Genito-Urinary System.															
Abortion	..	..	1	1	..	..	1	2	..	..	1	..	..	6	..
Circumcision	..	..	1	1	..	..	..	1	1	..	..	..	..	4	..
Confinements	..	1	4	2	..	..	..	4	..	1	3	..	3	18	..
Curettage	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Cystitis	..	..	..	..	..	..	..	..	..	..	1	1	..	2	..
Displacement of uterus	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..
Hydrocele	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Parametritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal fever	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Pyelitis	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Retention of urine	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Stricture	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Nervous System.															
Concussion	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Neuritis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Respiratory System.															
Bronchitis	..	..	..	..	..	..	1	..	..	..	..	..	1	2	..
Hæmoptysis	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Pneumonia, bronchial	..	..	..	..	..	1	..	..	..	1	..	1	..	3	1†
Pneumonia, lobar	..	..	..	1	..	..	..	..	..	..	1	..	..	2	..
Phthisis	..	..	..	..	..	..	..	..	2	..	1	..	..	3	..
Pleurodynia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sinus, septic	..	..	..	..	1	..	..	..	..	..	..	..	1	2	..
Tonsils and adenoids	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Tonsilitis	..	..	..	..	..	..	1	..	..	..	..	..	1	2	..
Skin and Subcutaneous Tissues.															
Burns	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Carbuncle	..	..	..	..	..	..	..	..	..	2	..	..	..	2	..
Cellulitis	..	..	2	..	..	..	2	1	..	..	..	..	..	5	..
Dermatitis	..	..	1	..	1	1	..	..	..	..	1	..	..	4	..
Excision of scar	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Furunculosis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ulcers	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Supporting Structures.															
Abscess	..	1	..	..	1	3	2	..	1	3	..	..	2	13	1‡
Bursitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fractures	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Injuries (cuts)	..	..	..	..	2	1	..	2	..	..	2	..	1	8	..
Whitlow (tendon)	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
Special-sense Organs.															
Cataract	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..
Conjunctivitis	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..
Evisceration of eye	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Glaucoma	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Injury to eye	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Otitis externa	..	..	..	..	..	..	..	1	..	..	1	..	..	2	..
Pterygium	..	..	1	..	..	..	..	..	..	1	..	..	..	2	..

* One moribund on admission. † From intercurrent pyæmia. ‡ Pyæmia.

APIA HOSPITAL.—CLASSIFIED ADMISSIONS TO EUROPEAN WARDS, 1925—*continued.*

——	Remaining in Hospital, 31/12/24.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.	Deaths.
Infectious Diseases.															
Chicken-pox	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..
Dysentery, amœbic (see also colitis)	..	..	..	1	..	..	..	..	..	..	..	..	1	2	..
Dysentery, bacillary	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Enteric-fever group	..	..	..	2	..	1	..	..	1	..	..	..	..	4	2*
Influenza	..	..	..	..	..	..	..	1	..	1	..	..	..	2	..
Pyæmia	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1†
Tetanus	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
Yaws	..	..	..	1	..	..	..	..	..	..	..	1	..	2	..
Parasites.															
Ascariasis	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..
Filariasis	..	1	..	..	..	..	..	..	..	1	..	..	..	2	..
General.															
Diabetes	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Grave's disease	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Poisoning‡	..	..	..	1	..	1	..	..	..	..	1	1	..	4	..
Rheumatic fever	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
Tumors.															
Carcinemata (clinical)	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Fibromata	..	..	..	..	..	..	..	..	1	..	..	1	..	2	..
Sarcoma	..	..	..	..	..	..	..	1	1	1	..	..	..	3	1§
Totals	..	2	9	15	14	8	10	8	14	10	18	16	8	11	143	8

* Arrived at end of second week; perforated before admission; general peritonitis. † Intercurrent lobar pneumonia. ‡ One from candlenut-seed, two from ptomaines. § Eye primary, liver secondary: readmission.

APIA HOSPITAL.—CLASSIFIED ADMISSIONS TO THE SAMOAN WARDS, 1925.

——	Remaining in Hospital, 31/12/24.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.	Deaths.
Alimentary System.															
Ascites	..	1	1	..	..	..	..	..	..	..	..	..	..	2	..
Colic	..	..	..	..	1	..	..	1	..	..	3	..	..	5	..
Colitis	..	1	..	1	..	..	..	..	..	..	..	..	..	2	..
Constipation	..	..	2	1	1	2	..	..	1	3	..	..	1	11	..
Diarrhœa	..	..	..	1	..	2	..	..	..	..	..	1	2	6	..
Fistula-in-ano	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Gastritis	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Gastro-enteritis	..	..	2	2	..	3	1	4	9	7	13	8	4	8	61	7*
Hæmorrhoids	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Hare-lip	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Hernia	..	1	..	1	..	..	..	..	..	..	..	..	..	..	2	..
Intestinal obstruction	..	..	1	..	..	..	..	..	2	..	..	..	..	..	3	3†
Jaundice	..	1	..	..	..	..	2	..	..	..	..	..	..	1	4	2
Marasmus	..	..	..	1	..	..	1	1	2	..	3	..	2	..	10	..
Œsophageal obstruction	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
Peritonitis, tubercular	..	1	..	..	..	..	..	..	..	..	..	..	..	1	2	..
Prolapse of rectum	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..
Stomatitis	..	..	..	..	..	1	..	..	..	1	..	..	..	..	2	1
Tongue-tie	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Tuberculosis	..	..	1	..	1	..	..	..	..	2	2	..	2	..	8	2
Circulatory System.															
Adenitis	..	1	4	..	..	..	2	2	1	..	..	2	..	2	14	..
Anæmia	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Cardiac	..	..	..	..	1	..	..	..	..	..	1	..	..	..	2	..
Cerebral hæmorrhage	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Lymphangitis	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Genito-urinary System.															
Abortion	..	..	..	2	..	..	..	..	..	..	..	..	..	..	2	..
Confinements	..	..	1	..	1	1	1	..	1	..	1	2	1	..	9	..
Cystitis	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Ectopic pregnancy	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Eudometritis	..	..	..	..	..	..	..	..	1	..	1	1	..	..	3	..
Glycosuria	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Gonorrhœa	..	..	..	..	..	..	3	1	..	..	..	..	..	..	4	..
Hydrocele	..	3	3	2	..	1	1	1	..	..	..	..	..	..	11	..
Mastitis	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
Orchitis	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..
Ovarian cyst	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Parametritis	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Pyonephrosis	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Retention of urine	..	..	..	..	..	..	..	..	2	..	..	..	..	..	2	..
Uterine displacement	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Urethritis	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..

* Five within 24 hours after admission. † All inoperable: arrived too late.

APIA HOSPITAL.—CLASSIFIED ADMISSIONS TO THE SAMOAN WARDS, 1925—*continued.*

—	Remaining in Hospital, 31/12/24.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.	Deaths.
Nervous System.															
Concussion	..	..	..	1	1	1	..	..	1	..	..	..	..	4	..
Neuritis	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Meningitis	1	2	2	..	..	..	..	..	..	..	2	..	..	7	2
Paralysis agitans	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Respiratory System.															
Asthma	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..
Bronchitis	..	..	1	1	3	2	4	2	1	26	14	4	..	58	..
Broncho-pneumonia	1	..	1	..	4	4	3	10	12	..	16	6	2	59	14
Hæmoptysis	..	..	1	..	..	..	..	..	..	..	1	..	..	2	..
Laryngitis	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..
Phthisis, pulmonary	..	1	4	1	..	2	..	1	2	..	1	..	1	13	..
Pleurisy	..	..	..	..	..	1	3	..	..	1	..	..	..	5	..
Pneumonia, lobar	..	2	3	1	1	..	4	7	4	10	7	7	3	49	2
Tonsilitis	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
Neoplasms.															
Carcinoma uteri	..	..	1	1	..	..	..	..	..	..	..	..	..	2	1
Fibroma uteri	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..
Nævus of eyelid	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..
Skin and Subcutaneous Tissues.															
Burns	..	1	..	..	..	..	..	2	..	1	1	..	..	5	1
Cellulitis	..	..	..	1	..	3	1	..	2	2	2	..	1	12	..
Cysts, sebaceous	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Elephantoid scrotum	2	1	..	1	..	2	2	..	..	..	1	..	..	9	..
Furunculosis	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Herpes zoster	..	1	..	..	..	1	..	..	1	..	..	..	..	3	..
Ulcers	..	..	..	..	..	..	..	..	..	1	..	1	..	2	..
Supporting Structures.															
Abscess	4	6	8	6	8	1	4	5	8	5	1	7	4	67	1
Arthritis	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Fractures	..	..	..	..	1	1	2	..	..	..	..	..	..	4	..
Injuries (accidents)	2	4	2	6	5	2	4	6	4	5	2	3	1	46	1
Myositis	1	..	..	..	..	1	1	2	1	..	..	..	1	7	..
Periostitis	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Teno-synovitis	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Special-sense Organs.															
Conjunctivitis	..	1	1	1	1	..	1	1	..	..	..	..	..	6	..
Evisceration of eye	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Iritis	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Otorrhœa	..	..	2	..	2	..	..	..	..	..	..	1	1	6	..
Parasites.															
Ascariasis	..	2	..	1	..	..	..	1	1	1	..	..	..	6	..
Filariasis	..	..	..	..	1	..	..	..	..	..	..	..	1	2	..
Hookworm	..	1	..	..	..	..	..	..	..	1	..	..	..	2	..
Infectious Diseases.															
Chicken-pox	..	..	..	..	1	1	..	..	1	1	..	..	..	4	..
Dysentery, bacillary	..	..	..	..	..	..	3	..	..	..	..	..	..	3	..
Enteric-fever group	..	..	2	1	2	2	2	3	..	2	1	..	..	15	1
Influenza	..	..	6	6	1	3	..	4	..	..	..	..	..	20	..
Leprosy	2	1	..	1	..	1	..	1	..	..	..	1	..	7	..
Pertussis	..	..	..	..	..	..	2	3	14	3	1	1	..	24	1
Puerperal fever	1	..	2	..	..	..	..	..	..	..	..	..	..	3	..
Septicæmia and pyæmia	..	..	..	..	..	..	1	..	2	1	..	..	..	4	2
Tetanus	..	..	..	..	..	1	..	..	..	..	..	2	1	4	1
Yaws	1	1	2	..	1	1	..	..	..	..	..	..	..	6	..
General.															
Goitre	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Malingering	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..
Poisoning (bites, stings)	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poisoning (ptomaine)	..	1	..	1	..	..	..	..	..	..	1	4	2	9	2
P.U.O.	1	..	..	1	2	2	2	4	9	1	..	..	2	24	..
Premature birth	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
Abnormalities.															
Supernumerary toe	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Totals	28	45	51	38	47	45	54	75	77	86	70	49	36	701	45

APIA HOSPITAL.—CLASSIFIED ADMISSIONS TO CHINESE WARDS, 1925.

—	Remaining in Hospital, 31/12/24.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.	Deaths.
Alimentary System.															
Cirrhosis of liver	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..
Colic	..	..	..	..	..	..	1	..	..	..	..	..	1	2	..
Colitis	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Constipation	..	2	1	4	..	..	..	1	..	..	..	..	..	8	..
Diarrhœa	..	2	2	..	..	..	1	..	2	2	..	3	..	12	..
Dental caries	..	..	..	1	..	..	..	..	..	..	..	..	1	2	..
Jaundice	..	..	..	..	..	..	1	..	..	..	..	1	..	2	..
Stomatitis	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
Circulatory System.															
Adenitis	..	..	..	..	..	..	..	..	2	1	1	..	1	5	..
Anæmia	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
Cardiac	..	..	..	..	..	..	..	..	1	..	1	1	..	3	..
Mumu	..	1	..	..	..	..	..	..	..	..	2	..	..	3	..
Rheumatism	1	..	1	..	..	..	..	..	..	1	..	..	..	3	..
Genito-urinary System.															
Cystitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gonorrhœa	..	..	..	1	2	..	..	..	1	..	1	..	..	5	..
Nephritis	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..
Urethritis	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
Nervous System.															
Lumbago	..	1	1	..	1	..	..	..	..	1	..	..	1	5	..
Sciatica	1	..	..	..	..	..	..	..	..	..	1	..	1	3	..
Respiratory System.															
Bronchitis	..	..	..	1	..	..	..	2	4	2	..	2	..	11	..
Cough, U.O.	..	..	1	1	1	1	2	..	..	..	1	..	..	7	..
Phthisis, pulmonary	1	..	..	..	..	2	..	2	..	..	1	..	..	6	2
Tonsilitis	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..
Skin and Subcutaneous Tissues.															
Boils	..	..	2	2	1	1	..	2	1	..	2	..	2	13	..
Cellulitis	..	..	..	..	..	..	..	1	..	1	..	..	..	2	..
Cuts and wounds	..	7	4	1	1	6	19	6	3	4	4	1	3	59	..
Dermatitis	..	..	1	..	4	4	2	1	..	1	1	1	..	15	1
Herpes zoster	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Ringworm	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..
Ulcer	..	1	..	..	..	2	..	..	1	2	..	1	..	7	..
Supporting Structures.															
Abscess	..	..	..	1	..	1	..	2	..	1	2	1	..	8	2
Fractures	..	..	..	..	..	..	1	..	..	1	..	..	..	2	..
Injuries (accidents, &c.)	1	3	1	..	1	6	4	2	5	6	1	3	6	39	1*
Infectious Diseases.															
Beriberi	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
Enteric-fever group	..	1	..	2	..	..	..	..	..	..	..	..	..	3	2
Influenza	..	2	2	1	..	..	5	2	..	..	..	..	..	12	..
P.U.O.	..	..	..	1	..	5	2	..	1	..	..	..	..	9	..
Tetanus	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1
Yaws	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
Special-sense Organs.															
Conjunctivitis	..	1	1	2	1	1	1	..	..	1	..	..	..	8	..
Ear, external—Otitis Externa	..	..	..	..	2	..	..	..	..	..	..	..	..	2	..
Otorrhœa	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Parasites.															
Ascariasis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hookworm	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..
General.															
Malingering	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..
Opium-smoker	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Poisoning (ptomaine)	..	..	..	..	..	..	..	..	..	..	..	2	..	2	..
Tumours	..	..	..	..	..	1	..	1	..	..	..	..	..	2	1
Totals	4	22	17	22	14	33	42	23	21	26	18	18	16	276	10

* Fractured spine.

APIA HOSPITAL.—ADMISSIONS OF MELANESIAN LABOURERS, 1925.

—	Remaining in Hospital, 31/12/24.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.	Deaths.
Abscess	..	..	..	..	..	..	..	..	..	..	2	..	..	2	..
Cellulitis	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Conjunctivitis	..	1	..	..	1	1	1	..	..	..	..	..	..	4	..
Cuts and wounds	..	..	1	..	..	1	..	..	1	..	1	..	..	4	..
Elephantiasis	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..
Enteric-fever group	..	..	..	..	..	..	..	1	1	..	..	..	..	2	2
Filariasis	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..
Fracture	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Gastritis	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Influenza	..	..	1	1	..	..	..	..	..	..	..	..	..	2	..
Leprosy	..	..	..	2	..	..	..	..	..	..	..	..	..	2	..
Malaria (chronic)	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
Pneumonia, lobar	..	..	..	..	..	1	..	..	..	..	..	1	..	2	..
P.U.O.	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Tuberculous peritonitis	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Ulcer	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..
Yaws	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..
Totals	2	1	2	3	2	4	4	1	3	..	3	3	..	28	2

APIA HOSPITAL.—SURGICAL OPERATIONS PERFORMED UNDER GENERAL ANAESTHESIA, 1925.

Surgical Operations.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
On skin and cellular tissues—													
Abscess	3	3	2	3	1	3	5	5	1	1	3	2	32
Hare-lip	1	..	..	..	..	..	..	..	..	..	..	..	..
Lymphatic glands (excision)	2	..	..	..	..	..	..	..	..	..	..	..	2
Sebaceous cyst	..	..	..	..	..	..	1	..	..	..	..	..	1
Wounds sutured	1	1	1	1	..	..	..	..	..	..	..	..	4
On joints—													
Arthrotomy	1	..	..	..	..	..	..	..	..	..	..	..	1
On bones—													
Amputations	..	..	..	..	1	1	..	..	..	..	..	..	2
Fractures	..	..	..	..	..	..	..	1	1	..	..	..	2
On eye—													
Evisceration	..	1	..	..	..	..	..	..	..	..	..	..	1
Glaucoma	1	..	..	..	..	..	..	..	..	..	..	..	1
Pterygium	..	1	..	..	..	..	..	..	1	1	..	..	3
On ear, nose, and throat—													
Thyroidectomy	..	..	..	1	..	..	..	..	..	..	..	..	1
Tonsils and adenoids	1	..	..	..	..	..	..	..	..	..	..	..	1
Nostril	..	1	..	..	..	..	..	..	..	..	..	..	1
On abdomen—													
Appendicectomy	..	..	..	..	..	..	..	..	1	..	1	..	2
Laparotomy	..	..	..	..	..	..	1	..	..	..	1	..	2
Ligation of artery	..	..	..	1	..	..	..	..	..	..	..	..	1
Radical cure of hernia	1	1	..	..	..	..	..	..	..	..	..	..	2
On male organs—													
Amputation elephantoid scrotum	..	..	1	..	2	1	..	..	..	..	2	1	7
Circumcision	..	1	1	..	..	..	1	1	..	..	..	..	4
Fistula in ano	..	..	..	..	..	1	..	..	..	..	..	..	1
Hydrocele, radical cure	5	1	1	..	2	2	..	..	1	..	..	..	12
Prostatectomy	..	..	..	..	..	1	..	..	..	..	..	..	1
On female organs—													
Curettage	..	3	1	1	..	1	3	..	..	2	..	..	11
Difficult labour	1	..	1	1	1	..	1	..	1	..	..	..	6
Hysterectomy	..	..	1	..	..	..	..	..	..	..	1	..	2
Ovarian cyst	..	..	..	..	..	..	..	..	..	1	..	..	1
Perineorrhaphy	..	..	..	..	..	..	..	..	..	..	1	..	1
General													
Dental extractions	..	1	..	..	..	..	..	..	..	..	..	..	1
Removal of needle	..	..	..	1	..	..	..	..	..	..	..	..	1
Examinations under anaesthetic	..	..	..	..	..	..	1	1	1	..	..	..	3
Totals	17	14	9	9	7	10	13	8	7	5	9	3	111
Minor surgical operations—													
Chiefly under local anaesthetic	33	27	29	21	27	17	17	13	19	11	19	33	266

APPENDIX A.

METEOROLOGICAL REPORT OF APIA OBSERVATORY, 1925.

(To which has been added a column showing number of deaths per month.)

Month.	Atmospheric Pressure (in Inches of Humidity).		Temperature (° F.).						Mean Relative Humidity.			Rainfall, in Inches.		Number of Days without Rain.	Hours of Bright Sunshine daily.	Number of Deaths per Month.
	Normal over Period of 34 Years.	Mean for Month (1925).	Normal for Month, Mean of 34 Years.	Mean for Month (1925).	Absolute Maximum.	Absolute Minimum.	Greatest Daily Range.	Least Daily Range.	7 a.m.	2 p.m.	9 p.m.	Normal (over Period of 34 Years).	Total for Month.			
January ..	29·764	29·760	79·01	79·45	88·0	73·0	14·2	5·9	85·8	75·9	86·1	16·81	12·25	8	4·77	42
February ..	29·778	29·812	79·00	79·83	88·5	72·7	13·9	4·9	84·1	76·2	88·5	15·71	6·67	10	6·78	46
March ..	29·800	29·810	79·34	79·18	88·2	72·9	14·4	4·1	83·7	78·8	84·8	13·54	13·01	6	5·15	41
April ..	29·822	29·853	78·91	79·93	88·7	71·6	15·1	4·9	87·5	80·3	90·2	10·24	9·70	14	7·19	58
May ..	29·858	29·855	78·40	78·15	86·9	69·4	15·5	5·0	88·3	82·2	89·1	5·51	23·58	9	4·53	65
June ..	29·874	29·858	77·80	78·46	87·3	70·5	16·2	5·0	87·7	76·1	87·1	5·16	2·94	18	8·50	51
July ..	29·884	29·910	77·20	77·52	86·7	67·3	16·0	4·0	88·6	74·1	86·0	2·84	1·42	22	7·78	67
August ..	29·890	29·867	77·80	79·26	89·6	69·8	19·3	4·7	88·8	76·6	85·7	3·15	0·74	25	8·34	102
September ..	29·888	29·905	78·21	79·43	87·1	69·4	17·3	7·7	83·7	71·3	83·4	5·12	1·39	24	8·82	126
October ..	29·868	29·862	78·42	79·42	89·6	71·1	16·7	7·4	84·2	74·1	86·4	6·06	5·09	20	7·14	117
November ..	29·810	29·855	78·69	79·43	88·9	69·8	16·7	5·4	87·3	79·8	88·6	9·29	8·29	13	5·50	78
Devember ..	29·777	29·744	79·25	79·39	87·8	72·1	14·8	4·9	88·8	82·8	89·5	13·62	18·49	10	5·12	59

Highest temperature, 89·6° F., on 16th August and 11th October; lowest temperature, 67·3° F., on 14th July. Rainfall for year, 103·57 in.; normal over a period of thirty-four years, 107·05 in. Greatest rainfall in twenty-four hours, 6·11 in. on 1st May. Number of days without rain, 179. (Note: The normal is based on thirty-four years' observations—1890–1923 inclusive.)

APPENDIX B.

NOTES ON THE TREATMENT OF YAWS (FRAMBOESIA TROPICA) IN WESTERN SAMOA.

By JOHN S. ARMSTRONG, M.B., Ch.B.

DURING the year 1925 the campaign against yaws has been carried out throughout Western Samoa on the same lines as in previous years—that is to say, by sending round "units" to treat the cases in their own villages with a course of three injections of Novarsenobillon, the injections being given at weekly intervals, as described in the annual report of the Health Department last year.

This year the steady decrease in the number of patients requiring treatment has been maintained, with a corresponding decrease in the total number of injections given. The whole of the population of Western Samoa has had the chance of receiving treatment in their own villages as well as at the hospitals in Apia, Tuasivi, and Lalomanu.

The numbers of injections given in each of the three campaigns, and also the numbers given during the campaigns in the control district, are as follows:—

	Number.	Control.
First campaign (1923 and early 1924)	36,304	1,900
Second campaign (1924)	17,284	1,158
Third campaign (1925)	11,500	700

The proportion of the cases injected to the population of the district, in the control district, has been much the same as the proportion of the total number of cases injected is to the population of Western Samoa.

	Population (1923 Estimate).	Cases treated.	Percentage.
Control district	2,700	1,402	51·9
Western Samoa	35,000	21,307	61·0

The percentage of population injected in the control district is probably less than that for the whole of Western Samoa, because the district is an isolated one, which reduces the chance of infection being reintroduced to these villages soon after their annual treatment. The number of cases treated is also slightly incorrect, because a few will have been taken over to Tuasivi Hospital for treatment during the year. These cases are not shown in the district figures, but are shown in the figures for the whole of Western Samoa. The cases taken to the Apia Hospital, which is the hospital most easy of access from the district, have been added to the figures for the district.

The similarity of the figures for the control district with those of the rest of Western Samoa would lead one to expect that observations made in the district could equally well be applied to the rest of Western Samoa.

In the control district, where the details of every case injected have been recorded, we find that the number of fresh cases reporting for treatment is growing very much smaller, the last campaign

giving 49 per cent. of fresh cases and 51 per cent. of relapses; in the second campaign 64·2 were fresh cases and 35·8 relapses. If we apply these percentages to the figures for the whole of Western Samoa we find that—

	Fresh Cases treated.	Relapses.	Total Cases.
Second campaign	3,695	2,066	5,761
Third campaign	1,878	1,955	3,833

The large percentage of relapses in the second and third campaigns is accounted for by the fact that a good number of cases in the first campaign did not receive their full course of three injections, and others had to receive small doses of Novarsenobillon because of some intercurrent disease, these cases having all been recorded under the heading of "Relapses."

The Samoans, recognizing that to have a reasonable chance of cure one must submit to a course of at least three injections of Novarsenobillon given by the method that has already been described,* have passed a law through the Native Parliament, or Fono, in compelling all Samoans suffering from yaws to attend for treatment and to undergo a full course of three injections, if this is considered necessary by the Medical Officer. The passing of this law on the 30th March, 1924, has enabled us to give every case a thorough course of treatment, and this should markedly decrease the number of relapse cases seen in future campaigns.

During this year's campaign in the control district an individual examination of every child from six months to five years of age was made to determine what the effect of the two previous campaigns had been on the population. Five years was selected as the limit in age because every year over this age increases the liability to error in the accuracy of the history of onset of the disease, and to the statement of the child's age when it was seen at the first campaign. It was necessary to include children up to five years of age, as during the first campaign hardly any children were infected who were suffering from the early stages of the disease, but they came freely at the ages of two and three years, when they had been suffering from yaws for a year or two. During the first campaign hardly any children were brought up for injection who were suffering from the primary sore; this led to an inspection of the babies under two years of age, when it was found that none of them showed yaw-lesions under six months old, but that the percentage of the infected to the uninfected steadily increased until at the age of two years not a single baby was seen that was not suffering from active yaws, or did not show the temporary staining of a recently subsided yaw rash.

In the following table, only children of six months up to five years have been included:—

Total number of children seen in 1925 416

	Number.	Percentage.
Clean children	332	79·8
Never having been injected	117	27·9
Treated by injection two years ago	136	32·7
Treated by injection one year ago	79	18·9
Children showing evidence of yaws	84	20·2
Treated for the first time on this campaign	38	9·1
Having been treated on previous campaigns as well as this campaign	46	11·4

Approximate numbers of children in the control district that have been treated in the various campaigns:—

1923—Under the age of three years	145
1924—Under the age of four years	105
1925—Under the age of five years	84

These figures show a steady decrease in the number of fresh cases in early childhood, when the history is most likely to be reliable, and when the question of immunity due to a previous attack does not affect the results.

Immunity.

So far we can see no evidence that the immunity that an attack of yaws produces against subsequent attacks of yaws or syphilis is in any way being destroyed by our method of treatment. Only two cases have given a history suggestive of a second primary infection following the treatment by a course of injections of a previous attack of yaws. In both these cases the injections were given to babies very early in the disease, when the secondary rash had only just developed, and it is probable that the drug acted and killed out the infection before the body had produced its natural immunity.

If this immunity is only slowly produced, as is suggested by the work of Nichols†, then we will expect to see more cases of reinfection in the near future, as the Samoans now frequently bring their children for injection while the primary manifestation of the disease is still present.

So far no amount of treatment of the disease in the late secondary period has been able to remove the immunity that the body has developed against reinfection with yaws; for we have never seen a primary sore or a generalized rash in a Samoan over ten years of age. The only condition that is suggestive of a primary sore is the ulceration on a nursing mother's breast, which sometimes occurs when the baby has an extensive yaw rash round the mouth. This condition we regard as a purely local infection of the tissues, due to frequent massive infection of a wound with organisms from the lesions of the baby; for, although the ulcer has been present for months in some of the cases seen,

*'Annual Report of the Department of Health of the Mandated Territory of Western Samoa, 1925, page 17.

† H. J. Nichols, *American Journal of Tropical Medicine*, November, 1925, vol. 5, No. 6, pp. 429–437.

in only one was there any evidence of a secondary rash, and this was in the form of a small "crab tona." That the condition is due to the organism of yaws we have no doubt, as it readily clears up if the mother is injected with Novarsenobillon, but only if the baby is treated at the same time or ceases to use the breast. We regard the condition as being due to repeated massive infections with the T. pertenue, which is sufficiently virulent to cause a local manifestation, but the immunity of the mother is sufficient to prevent the infection becoming a general systemic one.

Another method of determining the effect of the treatment on the population that was used was to compare the average age of the children at the time they contracted their primary lesions, only those cases being recorded which showed an active primary lesion when the child was seen, so as to avoid inaccurate histories as far as possible.

In 1923 the Samoans did not bring their children in the earliest stages of the disease for treatment, so that the numbers seen and recorded are small; but the following year they brought all their children up, even in the primary stage, and, as there would be still plenty of acutely infective cases about the villages from the cases that had received no treatment the previous year, the average age of infection will probably be about the same. This year, with more thorough injections of the cases last year, it was difficult to find many primary sores in the control district, but the numbers have been brought up by including children reporting at the Apia Hospital for treatment while suffering from primary lesion. In the following table the average age is given in months, and is the age when the primary lesion first appeared :—

Age of primary lesion :—	Number of Cases recorded.	Average Age (Month).
First campaign	.. 12	11·2
Second campaign	.. 31	10·6
Third campaign	.. 33	15·5

This does not take into account the increasing number of children who do not contract yaws now as compared with the practically negligible number two years ago, so that the delay in primary infections is really greater than is shown by the figures.

Conclusions.

1. That we see no reason to change our belief that one attack of yaws produces an immunity against subsequent attacks of either yaws or syphilis.
2. That our method of treatment is gradually exterminating yaws from the islands, and already is producing a juvenile non-immune population.
3. That the non-immune population that is gradually growing up will not be liable to spread syphilis through the islands for at least ten to fifteen years.

APPENDIX C.

CHILD-WELFARE WORK IN WESTERN SAMOA.

By Mabel A. Christie, M.B., Ch.B., Medical Officer for Child Welfare.

The year 1925 marks the commencement of child-welfare work amongst the Samoan women and children. In the past there has been a high mortality in the first two years of life, especially in the period between six and eighteen months. Our object is by education to reduce the death-rate, which is chiefly due to the ignorance of the mothers as to the proper care and feeding of the babies at the time of weaning, and in very little to indifference on the part of the mothers.

The climatic conditions in Western Samoa are ideal for the upbringing of healthy children, as there are no extremes of heat or cold. The type of dwelling they live in, the *fale*, open on all sides except for curtains which they can let up or down according to the weather, is very healthy.

Very few of the infectious fevers are endemic in this country—any fever that becomes epidemic is usually introduced into the country, as was most probably the case with the whooping-cough epidemic which appeared during the year and, unfortunately, was the cause of a marked increase in the infant-mortality rate. At the time of writing, an outbreak of dysentery, due to the bacillus of shiga, has occurred, and spread to some districts, but is at present being controlled.

To obtain the best results in this child-welfare work it is essential to have interest and patience, with an understanding of the Samoan people, for the Samoans are in many ways still a primitive people, possessing a deep-rooted belief in their Native medicines, and the agency of their "devils" in causing sickness and death. To help to rid them of these beliefs and to teach them the correct methods of looking after and medically treating themselves and their children it is necessary to enter into their homes and lives as much as possible, and all the child-welfare work is carried on in their villages and homes.

Every village in five large districts in Western Samoa has been personally visited by the Child-welfare Officer and her Samoan nurse, who also acts as interpreter. One district, the largest and most populous, has a satisfactory motor-road, and the villages have been visited several times, with frequent inspections of the babies, children, and villages, and with many talks to the women's committees and the mothers. As the other districts have not roads suitable for a vehicle, *malagas* (trips) were made to these districts. Each of these visits took several weeks to do, and walking from village to village was the means of travel.

In every village the babies and children were gathered together and inspected, women's committees formed, medicines given to the committee with directions for their use, and talks on subjects in connection with child welfare were given to the mothers. It was necessary to sleep in the Samoan house at night, as there was no other accommodation; but a part of the *fale* screened off by a large *tapa*, or Native-made cloth, with a bed of Samoan mats, gave one a very restful night. The Samoans are very kind and courteous to their guests, and give them of their best: a little dance (*fiafia*) in the evening showed their appreciation of the work that was being done for them and their children.

Eighty-five villages have been visited in the year, and in all there are about 1,360 Samoan women of the women's committees actively engaged in assisting in the work of child welfare.

Our work aims at educating the Samoan mother, and future Samoan mothers, in the care of themselves and their children, and this is being done by enlisting the help of the Samoan women, and in the formation of a women's committee in each village. The numbers in these committees vary according to the size of the village. On an average there are about sixteen women to a committee. They are usually formed of the more enlightened class. The wives of Government Native officials and the wives of the Native pastors of all denominations are the first to be taken into the committee. Others are added according to the size of the village. These women take an active interest in the affairs of the villages in so far as they concern the cleanliness of the houses and children, the treating of any sick children and babies, and the feeding of the babies and children.

Different members of the committee have their duties assigned to them each week by the president or head of the committee. A bell is rung through the village night and morning, and all children needing medical attention have to come to the house of the president, where medicines are dispensed. Other members of the committee are responsible for the children staying indoors through the hot hours of the day, while others have to superintend the daily bathing of the children in the fresh-water bathing-pool in or adjoining each village. Once a week the members of the committee make a thorough inspection of the village, *fales*, cookhouses, &c.

The good work done by these committees, although they have been organized so short a time, can already be seen, and at the present time when there is a threatened epidemic of dysentery there is no doubt that their efforts have gone a long way in checking the disease. At the present time they go every day through the village from house to house and report to the Pulenu'u, and through him to the Medical Department, any fresh cases of dysentery that may occur.

Rules of the Women's Committees.—At the ordinary meetings of a committee the women only need be present, but when a Medical Officer is present at a meeting the Pulenu'u (headman) must be in attendance.

1. Duties: Cleanliness of buildings. All *fales*, cookhouses, and latrines to be inspected at least once a week, and any person who is not keeping such places clean and free from rubbish to be reported to the Pulenu'u.

2. Treatment of sick children night and morning at the house of the president of the committee, if such children are not confined to bed; children suffering from any sickness, other than those which the committee have the knowledge to treat, to be taken to the nearest dispensary. All cases of yaws to be reported immediately to the Pulenu'u; all parents not giving their children proper attention to be reported to the Pulenu'u.

3. The committee shall help all expectant mothers, and those who are suckling their babies.

4. The committee must see that suitable food is available for young children. They should see that children at the breast are fed regularly, and that no work on the part of the mother interferes with such regular feeding. If a mother has not sufficient natural food for the baby, the committee must try and get suitable food for such baby.

5. In the interests of the women themselves and of their babies, the committee should use its influence to discourage marriages contracted according to old Samoan custom.

6. The committee should meet at least once a week to discuss matters in connection with the cleanliness and sanitation of their villages. The medical articles in the *Savali* should be read every month, not only to the committee but to all the women of the village.

7. These are the chief duties of the women's committees, but the women can also do good work by taking an interest in such matters as the supply of good drinking-water, the provision of bathing facilities, the construction of sufficient fly-proof latrines or latrines over the sea, the provision of playing-areas for the children, the keeping of pigs out of the villages, and the instruction of boys and girls in the importance of cleanliness of themselves and their surroundings.

The *Savali*, the Government Native paper, is published in Western Samoa once a month, and several pages are devoted to medical subjects. It is through the medium of this paper that written instructions on subjects that concern child welfare in Samoa can be circulated throughout the country, as each head of a family receives a copy. The committees are instructed to read the articles at their meetings, and to call together the women of the village and read it to them too. Some of the articles written since the commencement of the work on child welfare are:—

(1.) Care of the breast-fed baby in its first twelve months.
(2.) Common diseases of the Samoans and their treatment.
(3.) Feeding and hygiene of the Samoan mother during pregnancy and lactation.
(4.) Work of Samoan mother during pregnancy and lactation.
(5.) Cleanliness of the villages—comprising *fales*, cookhouses, latrines, water-supply, and exclusion of pigs from the villages.
(6.) The medicines used by the women's committees and their application.
(7.) Rules of the women's committees.
(8.) Cleanliness of the person and clean habits.
(9.) The teeth and their care.

When a sufficient number of these articles have been written and published in the *Savali* they will be put together and printed in booklet form, for distribution amongst the Samoan women, as a help and a guide to them in the care of themselves and their children.

Ignorance on the part of the Samoan mother as to the correct feeding of the babies is undoubtedly the cause of the high infant-death rate. Many mothers start to feed their babies on taro, banana, and breadfruit at about the fifth month, although the baby is still on the breast. They seem to have the idea that the baby is getting big and needs more nourishment than the mother is giving it. Irregularity in feeding the baby is very usual with the Samoan mother, who sometimes goes on the plantation nearly all day, leaving the baby at home without any food. The weaning of a baby in countries where cow's milk can be obtained is often a critical time for a baby, but far more is it so in a tropical country like Samoa where the Native mother cannot obtain milk at all. Advice on the above matters is given to all mothers. It is impressed on them that the baby needs no other food than its mother's milk, and not only is other food unnecessary but is doing the baby a great deal of harm.

The advantages of regularity in feeding the baby and in its habits are told to the mothers: how the stomach has a rest in between meals; the mother has a rest herself, and by discontinuing the night feed the baby and mother are both better and can have an uninterrupted sleep. They are advised to feed their babies six times a day. (The Samoans have no clocks, but tell the time by the sun.)

In the matter of weaning the babies, as there is no milk to be obtained, some suitable Native food must be used. The Samoan baby does quite well if at about the ninth month it is gradually taken off the breast and put on to suitable and easily digested Native foods such as baked or boiled ripe mummy-apple; soft jelly of the young coconut; rice-water (thick); gradually working up to soft boiled rice with about two teaspoonfuls of coconut-cream in each feed; *Vaisalo*, a food prepared from the native arrowroot, with coconut-cream; chicken-broth, and soft boiled rice; with plenty of coconut-milk and boiled water to drink. The baby at sixteen to seventeen months has been gradually worked up to soft-boiled eggs, well-boiled fish, taro and yam, thus getting on to the ordinary Native foods.

Simple Treatments.—The Samoan children do not suffer from many sicknesses, with the exception of yaws, that are not amenable to simple treatments, and the aim of this work has been to teach the Samoan mothers to give these simple treatments themselves. When the children are brought for medical inspection the nature of any ailment present in a child or baby is explained to the mother and the committee present, and what treatment is necessary for its recovery. Some of the common ailments the children suffer from are:—

(1.) Acute and chronic otitis media: This is quite a common complaint amongst the Samoan children, and unless they were somewhere near the hospitals or dispensaries most of them had to go without treatment.
(2.) Eye-diseases: Simple catarrhal conjunctivitis is common amongst the Samoans; but true Samoan conjunctivitis is also present, and is a much more serious condition. It has all the symptoms of a gonorrhœal conjunctivitis, with destruction of the cornea and blindness.
(3.) Samoan scabies or itch: This is a very common condition among the Samoan children.
(4.) Diarrhœa: This is one of the great troubles with the children and babies, and is largely due to improper feeding.
(5.) Impetigo contagiosum.
(6.) Coughs and colds.
(7.) Wounds from all sources, which from neglect give rise to many septic conditions.
(8.) Tinea imbricata: This is fairly common.
(9.) Intestinal worms: The ascaris is very common, nearly every child being infected.

In order that the women's committees may be able to treat any case such as the above they are supplied from the Medical Department with various simple remedies, with advice as to how and when to use them. Full directions are given. What is aimed at is to have the children's ailments treated on their first appearance, when very little treatment is necessary.

The Samoan women's committees have taken a most intelligent interest and pride in this branch of their work, and are really doing wonderful work amongst the children. In the little while they have been doing this a marked improvement can be seen in the cleanliness of the skin and general well-being of the children.

Medicines.—The medicines given to the women's committees are few in number and simple, as too many would be confusing.

(1.) Hydrogen peroxide, 1–4, for chronic otitis media. A dropper is supplied, and sterile cotton-wool.
(2.) Eucalyptus-oil: This mixed with their own Samoan oil (coconut-oil), which they make themselves, is very healing for any itch or sores they may have.
(3.) Some cough-mixture.
(4.) Cod-liver oil, for any debilitated or marasmic children. It was much used during and after the whooping-cough epidemic.
(5.) Castor-oil, for diarrhœas or other intestinal disturbances.
(6.) Argyrol, 5 per cent., for eye-drops. A dropper is supplied.
(7.) Tincture of iodine, for cuts of all kinds and for ringworm.
(8.) A mercury and zinc-oxide ointment, for the impetigo.

These medicines are kept at the house of the president of the women's committee. The Samoan women, seeing the good results obtained from our medicines, will in time be educated to use and appreciate them, instead of their own Samoan medicines, which are usually useless, and, in fact, some are absolutely dangerous.

Advice to Expectant Mothers at the time of childbirth, and at the puerperium, enters largely into the work. The Samoan women work very hard, doing a large proportion of the work on the plantations with its consequent stooping and weeding in the hot sun, and carrying heavy loads of food and firewood. They also do a lot of fishing, being in the water for hours at a time, coming home wet and chilled. These conditions of life often bring on abortions and miscarriages, and it is endeavoured to prevent this as much as possible.

The women are given a few simple rules of living during pregnancy: (1) Good plain Samoan food, regularly taken; (2) plenty of fluid to drink—water and coconut-milk; (3) care of the bowels; (4) leave off fishing and heavy work on the plantations.

The Samoan women attend to their own women at childbirth. It is very rare indeed to call in a doctor; though, if they can be taught that there are times when a white doctor is absolutely necessary, it will go a long way in saving many mothers from bad after-effects. A Samoan maternity ward in connection with the Government hospital has just been opened, and will prove of great benefit to the Samoan mothers, especially in any case with complications. The women all over Samoa seem very anxious for advice and help at the time of labour, and, although advice has been given, it is the aim in next year's programme of work in connection with child welfare to lay particular stress on this branch of the work.

The interest shown by the Samoan women in this work of child welfare, and the willingness with which they have done all that has been asked of them, has been very encouraging indeed, and even in the short time the work has been in progress the women and children look cleaner, healthier, and happier; and not only has it given the women a big interest, but it has raised their status in the community. The women of Samoa and their work is going to be one of the biggest factors in the moral, mental, and physical progress of the Samoan people.

APPENDIX D.

NOTES ON THE SAMOAN CENSUS OF 1ST JANUARY, 1926.

INTRODUCTORY NOTES.

The Rev. J. B. Stair, who resided in Samoa from 1838 to 1845, says, in "Old Samoa": "The population of Samoa, when compared with that of other groups, is large, but there are good reasons for thinking that it was much larger formerly, before Europeans first settled amongst them. For many years before the introduction of Christianity it had been steadily decreasing, principally in consequence of the ferocious and bloody wars in which the Natives so constantly engaged. In various parts of Upolu I have often noticed traces of a much larger population, and the general testimony of the Natives confirmed this belief. Sites of deserted villages and remains of plantation-walls could often be seen in the wild bush; and in many parts of the islands places once largely populated have now very reduced numbers."

The first estimate of the population of these islands is that of Commodore Wilkes, of the United States Navy, who visited Samoa between 1838 and 1842. His estimate was 46,000. In 1845 the London Missionary Society took a census of the Natives, the result totalling 40,000. The Rev. J. B. Stair, who was resident in Samoa at that time, considers this an underestimate, but states that the population was certainly not more than 45,000. In 1849 Captain Erskine, R.N., reckoned the population at 32,000. In the *Samoan Recorder* of January, 1854, a paper published under the auspices of the London Missionary Society, the population is given as 29,237. There is no further record of the population available in Samoa until the year 1886. In that year John B. Thurston made an estimate of 29,000, practically the same figure as for 1854, thirty-two years earlier.

Censuses were taken by the German Administration in the years 1906 and 1911; by the military occupying force in 1917; and by the present Administration in 1921, and on the 1st January, 1926. The population shown at each of these periods was—1906, 33,478; 1911, 33,554; 1917, 37,196; 1921, 32,601; 1926, 36,688.

Of the two occasions on which the German Administration took a census it is not possible to make any comment as to the accuracy or otherwise of the returns, but there is little doubt that the census taken by the military authorities in 1917 was not satisfactory, and that it must be rejected as too high.

The census of 1921 may or may not have been accurate. The discrepancy of 712 between the population as estimated from the last census and the figures obtained at the recent census may be due to any of the following reasons: (*a*) The 1921 census may not have been accurate; (*b*) the present system of registration of births and deaths was only introduced in 1923, and the records to that time may be inaccurate; (*c*) the records of arrivals from and departures for overseas showed for the four and a half years following the census an average loss of over one hundred Samoans a year by emigration. A more careful check during the past six months shows no such discrepancy between numbers arriving and departing.

In order to obtain as accurate a census as possible, steps were taken on this occasion to educate the Native officials in this work, and the forms used were made as simple as possible. Two months before the date of the census all the Pulenu'us (headmen) of the villages were brought in and instructed in the filling-in of the forms, sample copies of which were issued to them. Then during December officials visited the villages and again explained the forms to the Pulenu'us. The figures obtained are as accurate as it is possible to get in the present stage of Native development.

A Native census is easier to take in Western Samoa at the present time than a European one. Many of the Europeans cannot read, write, or speak any language but Samoan, or can only do so very imperfectly. In section 4 of the Samoa Act, 1921, the terms "European" and "Samoan" are defined as follows: "European" means any person other than a Samoan. "Samoan" means a person belonging to the Polynesian race, whether by pure or mixed descent; but does not include—(*a*) Persons registered as Europeans in accordance with any regulations or Ordinances in force in Samoa; or (*b*) the legitimate children of a father who is a European either by birth or by registration as aforesaid.

It will readily be seen that in a few generations the legitimate descendants of a full European male may have very little European blood in their veins. The tables given under the section dealing with Europeans show that such a position is rapidly arising. Males tend to marry towards the Samoan, and the result is that each generation becomes more Samoan and less European.

At the present time there are a number of persons with the status of Europeans, but of only one-quarter or one-eighth European blood, with very little if any knowledge of any other language than Samoan—to all intents and purposes Samoans, living in Native houses in the villages. With the status of Europeans they have no right to the use of Native lands, nor can they take part in Native matters. Their European rights and privileges are of little if any use to them. They may be described as disinherited and landless Samoans—disinherited by their legitimacy.

This is only one aspect of the problem of the inhabitants of mixed race. Those who have been brought up as Europeans—and there are a large number of such—must be given an opportunity to develop: this is being done by offering them the training necessary to make them fit to occupy positions as artisans and clerks, and by opening up Crown lands. The whole problem is engaging the attention of the Administration.

(A.) Native Population.

The Native population on the night of the census was 36,688, including 380 other Pacific-islanders. This figure, when compared with the census return for 1921, shows that the Native population has increased 4,087 during the four and three-quarter years, an increase of 12·2 per cent.

The various Pacific races represented in Samoa are shown in the accompanying table:—

Samoans	36,308	Rotumahans	39
Tongans	69	Futuna-Islanders	8
Niueans	124	Ellice-Islanders	25
Fijians	20	Gilbert-Islanders	6
Solomon-Islanders	12	Others	5
Tokelau-Islanders	63		
Wallis-Islanders	9		36,688

Sex.

The sex constitution of the Native population shows a slight preponderance of males, a condition which has not varied to any extent during the past five years, as the accompanying table shows. The difference between the sexes would have been less but for the fact that 194 Samoan females have become Europeans by marriage, and therefore appear in the European census returns.

Census.	Males.	Females.	Females per 1,000 Males.	Excess of Males over Females.	
					Per Cent.
1921	16,596	16,005	964	591	1·8
1926	18,641	18,047	968	594	1·6

Ages.

Accurate age-grouping is impossible at the present time. Very few Samoans know their ages even approximately: it is therefore only possible to give age-groups under the crude classification adopted by the Natives themselves. In time this difficulty will be overcome, as a correct record of age is now obtained under the system of registration of births introduced on 1st January, 1923. In the table given below the terms used have the following meanings:—

Matai—the head of a family.
Taule'ale'a—a man of approximately sixteen years of age or over.
Tamaitiiti—a boy from the age of about one year until he becomes a *taule'ale'a*.

Tamameamea—a male infant.
Fafine—a married woman.
Teine muli—a young woman from the time of puberty (or approximately twelve years) until marriage.
Teineitiiti—a girl from the age of about one year until puberty (or twelve years).
Teinemeamea—a female infant.

	Upolu, Manono, and Apolima.	Savai'i.	Total, Western Samoa.
Males—			
Matai	1,873	1,112	2,985
Taule'ale'a	4,365	2,157	6,522
Tamaitiiti	5,455	2,695	8,150
Tamameamea	535	449	984
Total males	12,228	6,413	18,641
Females—			
Fafine	5,445	2,859	8,304
Teine muli	1,949	857	2,806
Teineitiiti	3,885	2,078	5,963
Teinemeamea	545	429	974
Total females	11,824	6,223	18,047
Total both sexes	24,052	12,636	36,688

The two small islands of Manono (population 668), and Apolima (population 144), lying close to the coast of Upolu, are too small to list separately, and are included with Upolu in this report.

A comparison of the above figures with those of the 1921 census may be of interest:—

	Census 1921.	Census 1926.	Increase.
Matai	2,658	2,985	327
Taule'ale'a	5,901	6,522	621
Tamaitiiti and *Tamameamea*	8,037	9,134	1,097
Total males	16,596	18,641	2,045
Fafine	7,332	8,304	972
Teine muli	2,381	2,806	425
Teineitiiti and *Teinemeamea*	6,292	6,937	645
Total females	16,005	18,047	2,042
Total Western Samoa	32,601	36,688	4,087

The subdivisions of the sexes are not comparable the one with the other. In the case of males it is possible to separate those over sixteen from those under that age with a fair degree of accuracy. A boy does not become a *taule'ale'a* until he has reached the age of approximately sixteen years. Of the 18,641 males enumerated, 9,134 had not reached that stage—that is, a percentage of 49 per cent. of the males were under sixteen years of age. In the case of females, 6,937, or 39 per cent. of the total of 18,047, had not reached the age of puberty (twelve years), and 9,743, or 34 per cent. of the total, were unmarried. On the evidence it is reasonable to assume that at least half the total Native population of Western Samoa is under the age of eighteen years.

Religions.

Five different religious bodies are represented in Samoa. The numbers of their adherents are shown below, with the figures of the 1921 census for comparison. It will be noticed that every Samoan is an adherent of one or other of these five organizations:—

	Census 1921.	Census 1926.
London Missionary Society	21,225	23,474
Wesleyan Methodist Mission	5,806	6,447
Roman Catholic Mission	5,284	5,842
Mormon Mission	634	898
Seventh-day Adventists Mission	4	27
Totals	32,953*	36,688

* Numbers slightly overestimated: total should be 32,601.

Native Population by Districts.

——	1921.	1926.	——	1921.	1926.
UPOLU.			SAVAI'I.		
Anoama'a	2,093	2,346	Faasaleleaga	3,477	3,830
Lepa and Lotofaga ..	1,068	1,192	Saleaula and Matautu ..	1,062	1,180
Aleipata	1,847	1,979	Lealatele	271	313
Vaa O Fonoti	857	937	Gagaifomauga	2,061	1,946
Falealili	1,581	1,684	Asau	923	922
Tuamasaga Saute ..	1,411	1,844	Alataua Sisifo	555	513
Sagaga	2,149	2,547	Falealupo	399	321
Vaimauga	2,345	3,776	Palauli (East)	1,076	1,347
Faleata	1,746	2,295	Palauli (West)	819	901
Mulinu'u	702	128	Satupaitea	414	504
Aana Saute	1,381	1,543	Salega	833	859
Aana Matu	2,431	2,676	District uncertain ..	86	—
Aiga i le Tai	1,014	1,105			
Totals ..	20,625	24,052	..	11,976	12,636

In the above table the figures for the two censuses are comparable except in the case of Mulinu'u, which in 1921 included some now shown under Vaimauga and Faleata. The large increase shown in the two districts just mentioned is due to the gravitation of Natives from distant villages to the chief and only town, Apia, which is included in and flanked by these two districts. This tide setting towards Apia is the chief if not the only reason for the small increase or actual decrease in population in some of the other districts. The problem of the drift of population from country to city is not a monopoly of civilized countries. This aspect of the problem involved in guiding the Native in his onward progress is receiving attention by the Administration, and steps are being taken to counteract the tendency.

In the following table are shown for each district the number of villages, the average population per village, and the population of the largest and of the smallest village :—

District.	Number of Villages.	Average Population per Village.	Largest Village.	Smallest Village.
UPOLU.				
Vaimauga	11	343	956	159
Mulinu'u	1	128	128	128
Faleata	7	328	712	130
Sagaga	7	364	535	204
Aana matu	8	334	507	69
Aiga i le Tai	7	158	292	103
Aana Saute	9	171	290	86
Tuamasaga Saute	10	184	426	80
Falealili	11	153	218	100
Lepa ma Lotofaga	7	170	359	64
Aleipata	9	220	370	64
Vaa O Fonoti	9	104	175	52
Anoamaa	12	195	423	51
	108	223	956	51
SAVAI'I.				
Lealatele	2	151	196	107
Matautu and Saleaula	6	198	253	115
Gagaifomauga	12	162	548	41
Vaisigano (Asau)	6	154	298	74
Falealupo	1	321	321	321
Alataua Sisifo	3	171	227	114
Salega	6	143	281	34
Palauli (West)	4	225	336	73
Palauli (East)	8	168	289	50
Satupaitea	1	504	504	504
Faasaleleaga	13	294	645	107
	62	204	645	34

School-children.

	Number.	Percentage of Population.
Upolu	7,158	29·8
Savai'i	4,235	33·5
Total, Western Samoa	11,393	31·0

(B.) European Population.

The total number of Europeans enumerated was 2,498, of whom 1,300 were males and 1,198 females. The accompanying table shows the European population grouped according to age, sex, and admixture of blood. Those with any Chinese blood are shown in a separate table.

Table showing Age, Sex, and Admixture of Blood of Europeans in Western Samoa (those with Chinese Blood excluded).

(E. = European; P. = Polynesian.)

Age.	Sex.	E.	⅞ E.	¾ E.	⅝ E.	½ E.	⅜ E.	¼ E.	⅛ E.	P.	Total.
0–5	M.	11	9	29	13	49	32	31	33	..	227
	F.	13	3	25	11	40	24	43	28	..	187
5–10	M.	9	4	17	8	46	16	34	14	..	148
	F.	10	1	20	9	38	18	37	17	..	150
10–15	M.	5	10	21	5	38	14	48	13	..	154
	F.	10	6	20	6	49	11	34	12	..	148
15–20	M.	2	6	18	..	29	6	31	5	..	97
	F.	3	2	17	3	44	4	25	10	10	118
20–25	M.	21	2	12	2	23	2	19	1	..	82
	F.	10	6	13	1	23	..	17	1	29	100
25–35	M.	66	1	23	3	44	..	39	..	..	176
	F.	34	..	20	2	36	1	33	3	91	220
35–45	M.	73	..	19	..	29	3	34	..	..	158
	F.	37	..	12	..	26	..	5	..	37	117
45–55	M.	54	..	6	..	11	2	9	..	..	82
	F.	14	..	11	..	11	..	8	..	18	62
55–65	M.	34	..	3	..	11	..	..	..	..	48
	F.	11	..	1	..	7	..	..	..	5	24
65–75	M.	20	..	1	..	3	..	..	..	..	24
	F.	2	..	1	..	1	..	..	..	2	6
75 and over	M.	5	..	..	..	1	..	..	..	..	6
	F.	1	..	..	..	..	..	..	..	..	1
Age not stated	M.	1	..	..	..	1	..	..	1	..	3
	F.	..	..	3	..	..	..	2	..	2	7
Totals	M.	301	32	149	31	285	75	265	67	..	1,213*
	F.	145	18	143	32	275	58	204	71	194	1,149*
Grand totals	..	446	50	292	63	560	133	469	138	194	2,362*

* Includes 8 males and 9 females not shown in table owing to incomplete information.

Table showing Europeans with Admixture of Chinese Blood.

(C. = Chinese; P. = Polynesian; E. = European.)

Age.	Sex.	C.	¾ C., ¼ P.	½ C., ½ P.	⅜ C., ⅝ P.	¼ C., ¾ P.	½ C., ⅜ P., ⅛ E.	¼ C., ⅝ P., ⅛ E.	¼ C., ½ P., ¼ E.	¼ C., ¼ P., ½ E.	Total.
0–5	M.	..	..	3	2	6	2	1	3	1	18
	F.	..	2	2	1	2	..	1	2	2	12
5–10	M.	..	1	1	..	6	2	1	6	2	19
	F.	..	1	1	..	4	2	2	1	..	11
10–15	M.	..	1	3	..	2	1	4	1	3	15
	F.	..	1	5	..	2	1	1	4	..	14
15–20	M.	..	2	2	..	2	..	3	..	1	10
	F.	..	1	1	..	2	..	1	..	..	5
20–25	M.	..	..	1	..	..	..	..	..	..	1
	F.	..	..	1	..	..	..	1	1	..	3
25–35	M.	..	1	4	..	..	..	..	..	..	5
	F.	..	..	1	..	1	..	..	..	..	2
35–45	M.	3	..	5	..	..	..	..	..	..	8
	F.	..	..	1	..	..	..	..	..	..	1
45–55	M.	5	..	1	..	..	..	..	..	..	6
	F.	..	..	1	..	..	..	..	..	..	1
55–65	M.	2	..	..	..	..	..	..	..	..	2
	F.	..	..	..	..	..	..	..	..	..	..
65–75	M.	1	..	..	..	..	..	..	..	..	1
75 and over	M.	2	..	..	..	..	..	..	..	..	2
Totals	M.	13	5	20	2	16	5	9	10	7	87
	F.	..	5	13	1	11	3	6	8	2	49
Grand totals	..	13	10	33	3	27	8	15	18	9	136

Religion.

The question regarding religion was the only optional one on the schedule, and was not answered by 350 persons. Although it was specially requested that the terms "Protestant" and "Catholic" should not be used, they were given by 216 and 155 respectively.

TABLE SHOWING RELIGIONS.

Roman Catholics	803
Catholics	155
Protestants	216
London Missionary Society (Protestant)	228
Church of England	231
Mormons (Latter-day Saints)	196
Congregationalists	85
Methodists	79
Wesleyans	20
Presbyterians	43
Lutherans (including Lutherans, Protestant, and Evangelic Lutherans)	56
Seventh-day Adventists	19
Other Christian Religions	12
Confucians	3
Freethinker (1), Agnostic (1)	2
Not stated	350
Total	2,498

Nationality.

The nationality given on the census papers cannot be relied upon as even approximately accurate. Many of those of mixed blood are uncertain as to the nationality of their European progenitor, and either left the question as to nationality unanswered or used phrases such as "Under British (or New Zealand) protection," "Protected Samoans," &c. Where a definite nationality has been given it must in many cases be taken as a claim rather than as a statement of fact.

TABLE SHOWING NATIONS OF WHICH EUROPEAN INHABITANTS ARE SUBJECTS.

Great Britain	1,327	Portugal	6
United States of America	295	China	29
Germany	349	Other	5
France	63	Not stated	285
Switzerland	33		
Sweden	29	Total	2,498
Denmark	77		

Conjugal Condition.

TABLE SHOWING CONJUGAL CONDITION.

	Males.						Females.					
	Single.	Married.	Widowed.	Divorced.	Not stated.	Total.	Single.	Married.	Widowed.	Divorced.	Not stated.	Total.
Savai'i	122	58	3	2	1	186	110	59	4	..	..	173
Upolu	724	361	16	4	9	1,114	622	344	48	5	6	1,025
Totals	846	419	19	6	10	1,300	732	403	52	5	6	1,198

In the following table are shown the 360 marriages of Europeans where both partners were alive and in Samoa on the night of the census, and where both were enumerated on the same schedule, or, if on different householders' schedules, were so described as to show the relationship.

Table showing for 360 Marriages the Amount of European Blood in each Partner.

(E. = European; P. = Polynesian.)

Husband.	Wife.					
	E.	¾ E.	½ E.	¼ E.	P.	Total.
E.	55	20	37	12	30	154
¾ E.	1	6	15	4	23	49
½ E.	..	5	13	13	32	83
¼ E.	..	..	6	14	54	74
Totals	56	31	71	43	159	360

Table showing Country of Birth of Europeans.

Country.	Male.	Female.	Total.	Country.	Male.	Female.	Total.
New Zealand ..	67	42	109	Wallis Island ..	2	1	3
Great Britain and Ireland	64	20	84	Belgium	1	1	2
				Austria	1	1	2
Australia.. ..	34	24	58	Rotuma Island ..	..	2	2
Germany.. ..	49	7	56	Hawaii	1	1	2
Fiji	29	20	49	South Africa ..	..	1	1
United States ..	28	7	35	Bohemia	1	..	1
American Samoa ..	14	21	35	Holland	1	..	1
France	12	9	21	Portugal	1	..	1
Tonga	6	14	20	Latvia	1	..	1
Tokelau Island ..	6	12	18	Barbadoes.. ..	1	..	1
Ellice Island ..	6	8	14	Thursday Island ..	..	1	1
China	14	..	14	Papua	..	1	1
Denmark ..	6	..	6	New Caledonia ..	..	1	1
India	2	2	4	Gilbert Island ..	1	..	1
Nassau Island ..	1	3	4	Hull Island ..	..	1	1
Canada	2	1	3	Samoa	926	985	1,911
Sweden	3	..	3	Not stated ..	15	11	26
Switzerland ..	3	..	3				
Tahiti	2	1	3	Totals ..	1,300	1,198	2,498

(C.) Chinese and Melanesian Labourers.

Some years previous to 1914 there were nearly 5,000 Chinese and Melanesian labourers in Western Samoa. In 1914 the number of Chinese was 2,184, and of Melanesians 900, a total of 3,084. At the time of the 1921 census these numbers had been reduced to 1,290 Chinese and 465 Melanesians. On the 1st January of this year the numbers were 890 Chinese and 155 Melanesians.

The figures for Chinese labourers given above do not include free Chinese citizens and their descendants, who are included in the European census, but do include 29 labourers who, by reason of long service in Samoa, have been permitted to remain here. The figures showing Melanesians do not include the twelve Solomon-Islanders included in the census of Samoans under the heading "Other Pacific-islanders."

Summary showing Total Population.

——	Census 1921.	Census 1926.	Increase or Decrease.
Europeans	2,066	2,498	+ 432
Samoans	32,330	36,308	+ 4,087
Other Pacific-islanders	271	380	
Chinese labourers	1,290	890	— 400
Melanesian labourers	465	155	— 310
	36,422	40,231	+ 3,809

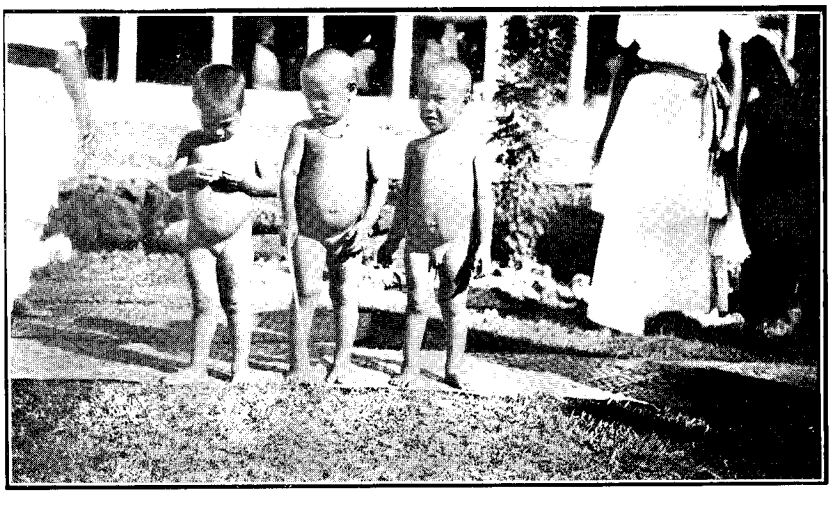
Approximate Cost of Paper.—Preparation, not given printing (1,525 copies, including plans, illustrations, &c), £110.

By Authority: W. A. G. Skinner, Government Printer, Wellington.—1926.

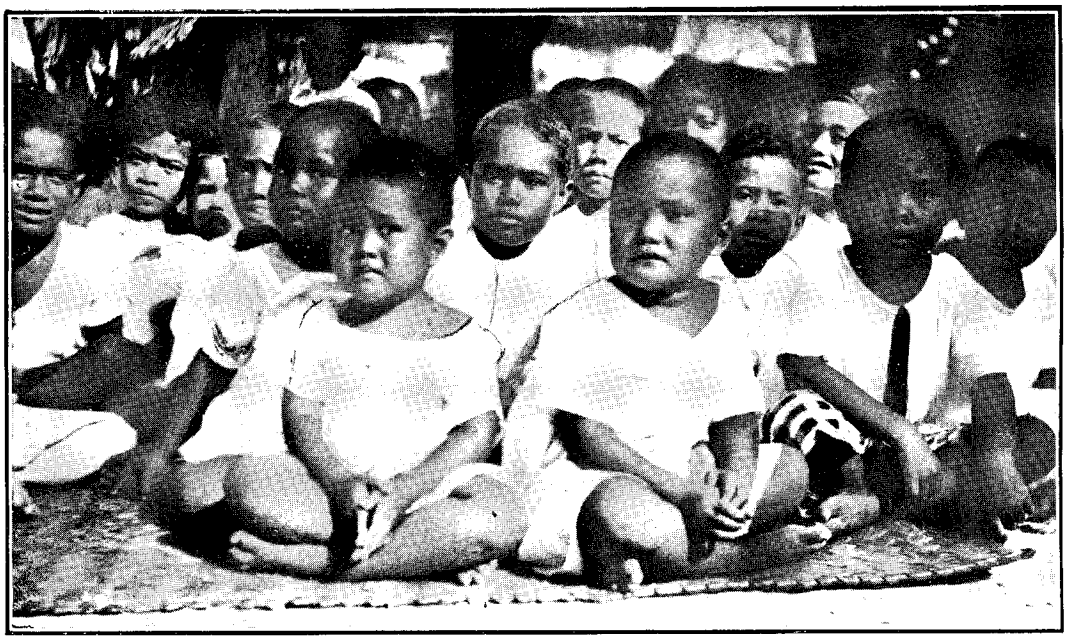
Price 1s. 3d.]

Child Welfare: A Village Women's Committee.

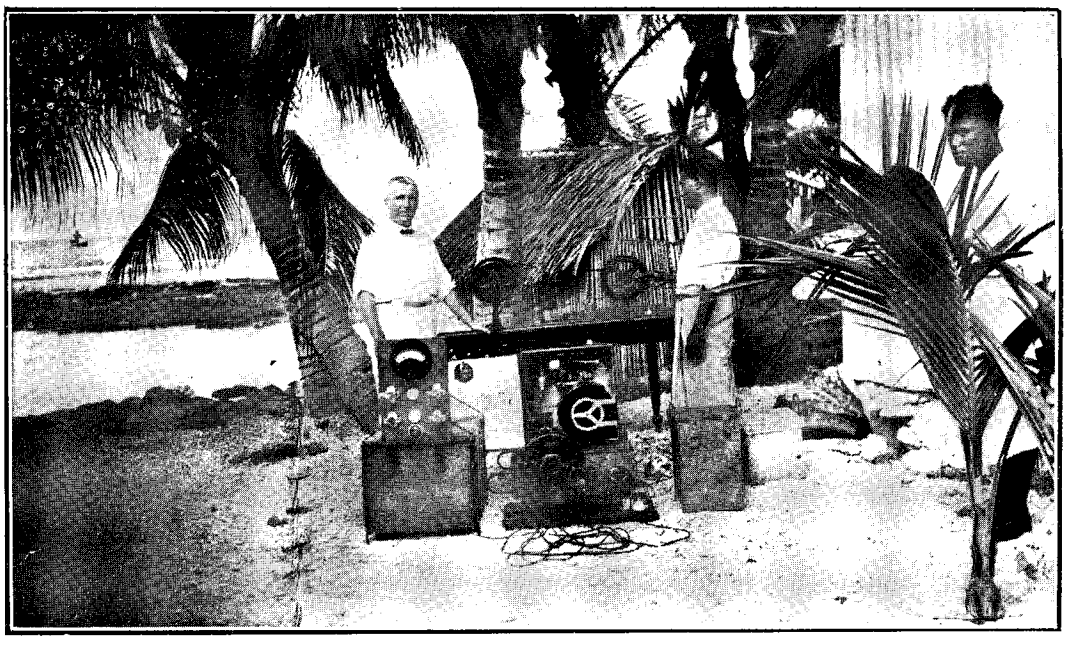
Group of Samoan Mothers and Children awaiting Attention from the Child Welfare Officer.



Three Samoan Children of Average Development, of approximately Two Years of Age.

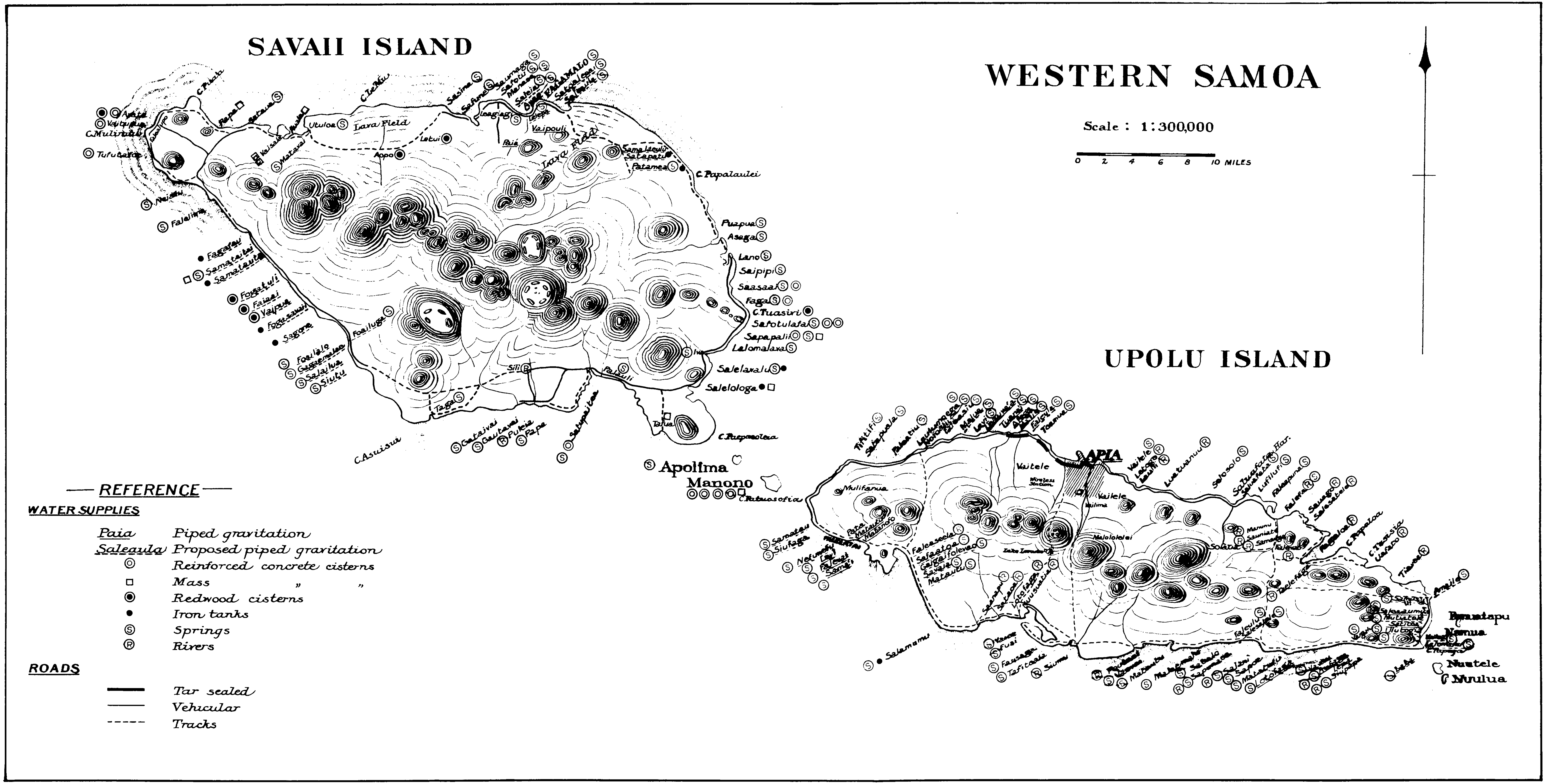


GROUP OF TOKELAU (UNION) ISLAND CHILDREN.
(The chief foods of these islanders are coconuts and fish, a diet on which the children thrive.)



PORTABLE CINEMA OUTFIT USED BY THE HEALTH DEPARTMENT FOR EDUCATIONAL PURPOSES THROUGHOUT THE TERRITORY.

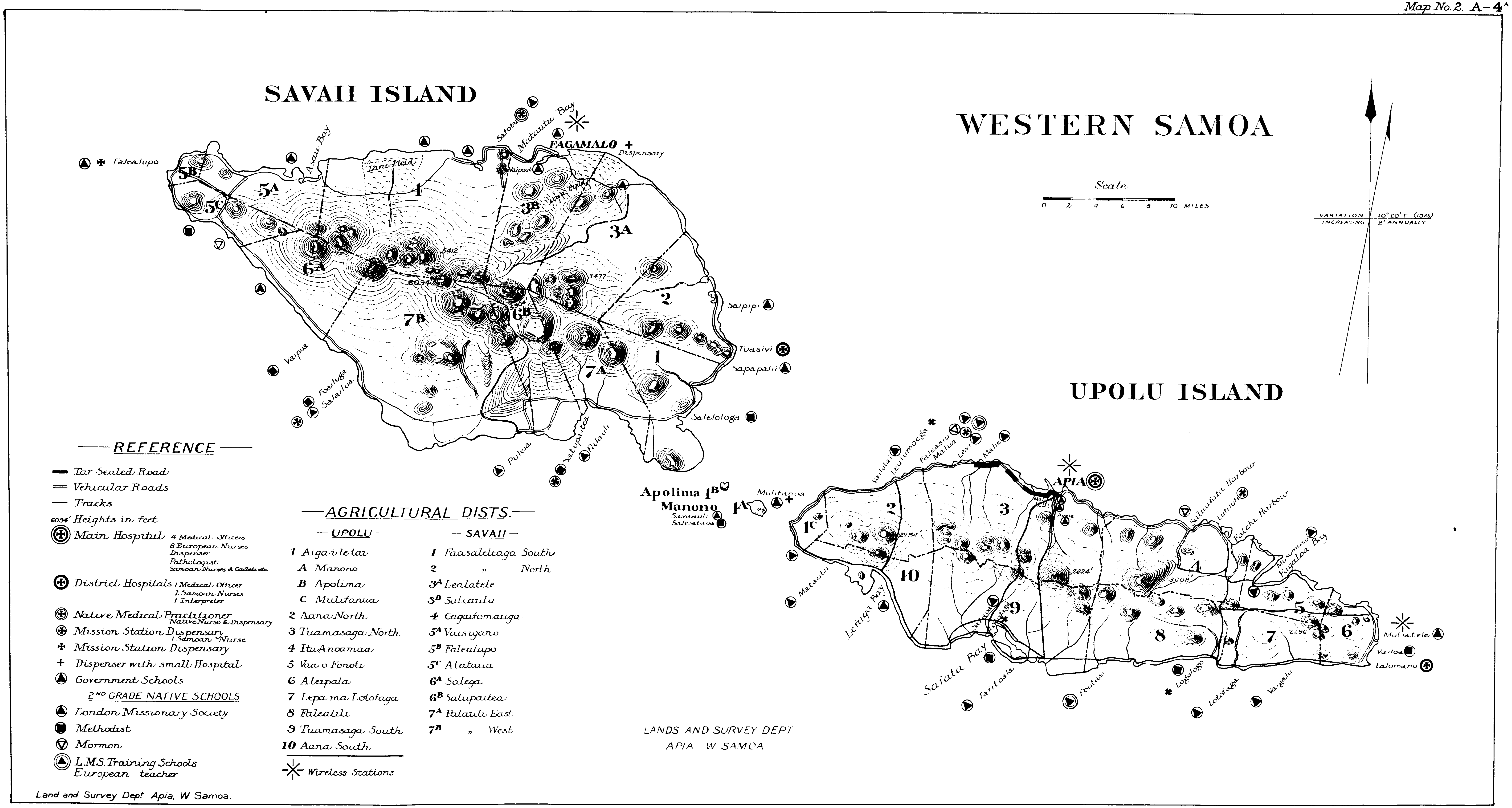
MAP SHOWING ROADS AND NATIVE WATER SUPPLY

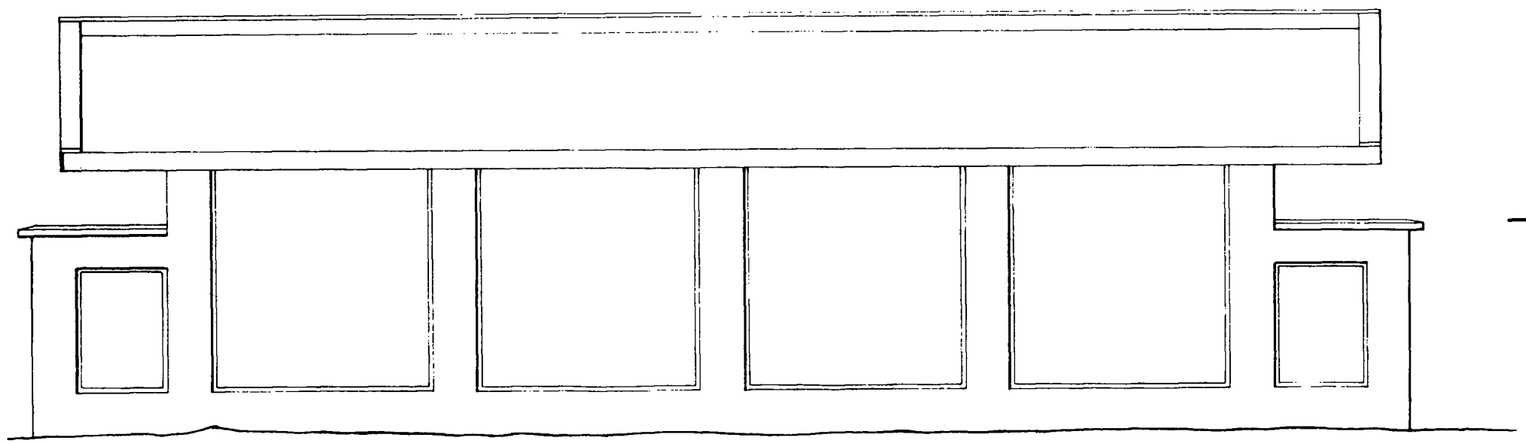


MAP SHOWING ROADS AND LATITUDINAL ZONES

ROADS

Tracks

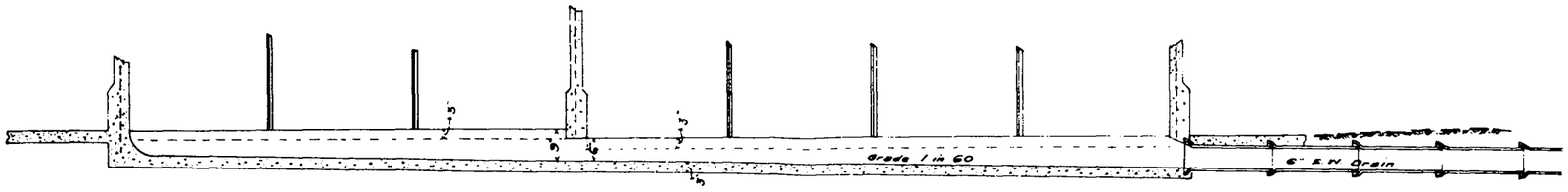

WESTERN SAMOA
SAVAII ISLAND
UPOLU ISLAND
Scale
0 2 4 6 8 10 MILES
VARIATION 10° 20' E (1925)
INCREASING 2' ANNUALLY
FAGAMALO
Dispensary
APIA
Apolima 1B
Manono 1A
Mulifanua
Safata Bay
Lefaga Bay
Saluafata Harbour
Falefa Harbour
Fagaloa Bay
Falealupo
Asau Bay
Matautu Bay
Safotu
Lava Field
Saipipi
Tuasivi
Sapapalii
Salelologa
Vaipua
Foaluga
Salailua
Puleia
Satupaitea
Palauli
Matautu
Mutiatele
Vailoa
Lalomanu
Falealili
Poutasi
Lotofaga
Vaigalu
Logologo
REFERENCE
Tar Sealed Road
Vehicular Roads
Tracks
6094' Heights in feet
Main Hospital 4 Medical Officers, 8 European Nurses, Dispenser, Pathologist, Samoan Nurses & Cadets etc.
District Hospitals 1 Medical Officer, 2 Samoan Nurses, 1 Interpreter
Native Medical Practitioner Native Nurse & Dispensary
Mission Station Dispensary 1 Samoan Nurse
Mission Station Dispensary
Dispenser with small Hospital
Government Schools
2ND GRADE NATIVE SCHOOLS
London Missionary Society
Methodist
Mormon
L.M.S. Training Schools European teacher
AGRICULTURAL DISTS.
UPOLU
1 Aiga i le tai
A Manono
B Apolima
C Mulifanua
2 Aana North
3 Tuamasaga North
4 Itu Anoamaa
5 Vaa o Fonoti
6 Aleipata
7 Lepa ma Lotofaga
8 Falealili
9 Tuamasaga South
10 Aana South
SAVAII
1 Faasaleleaga South
2 " North
3A Lealatele
3B Salcaula
4 Gagaifomauga
5A Vaisigano
5B Falealupo
5C Alataua
6A Salega
6B Salupaitea
7A Palauli East
7B " West
Wireless Stations
LANDS AND SURVEY DEPT
APIA W SAMOA
Land and Survey Dept Apia, W. Samoa.



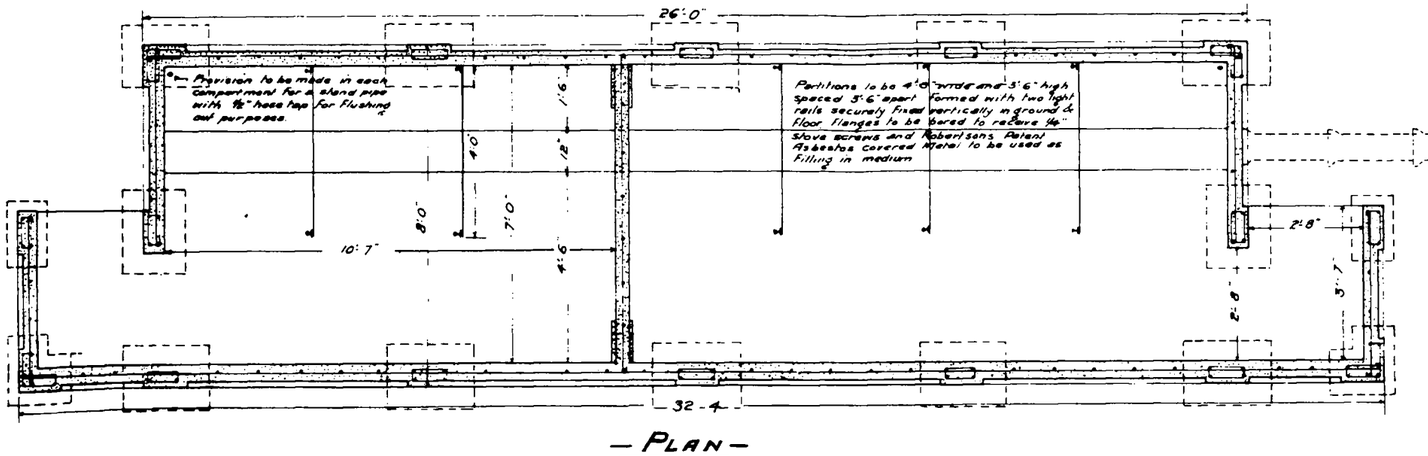
— SIDE ELEVATION —

— PROPOSED REINFORCED CONCRETE W.C. —
— FOR NATIVE VILLAGES WITH RETICULATION —
— WATER SUPPLIES —

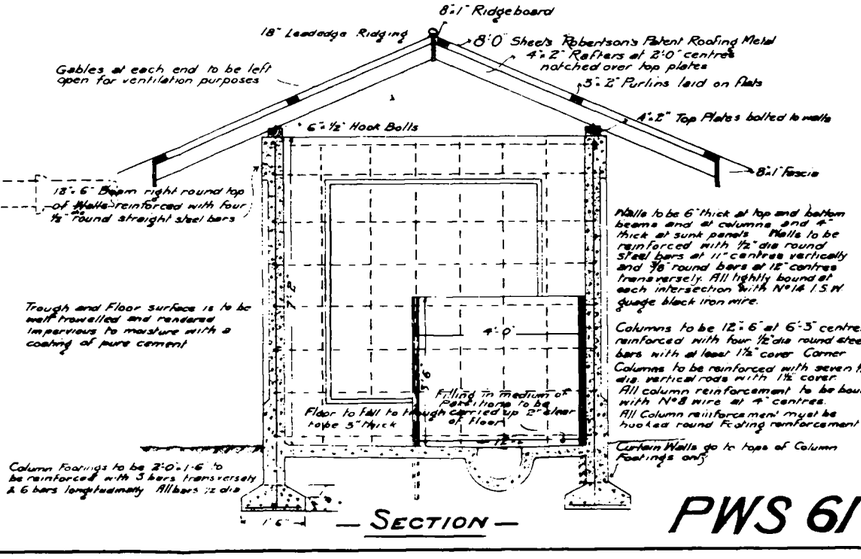
Scale
0 1 2 3 4 5 6 Feet



LONGITUDINAL SECTION OF TROUGH
Showing difference in Floor Levels

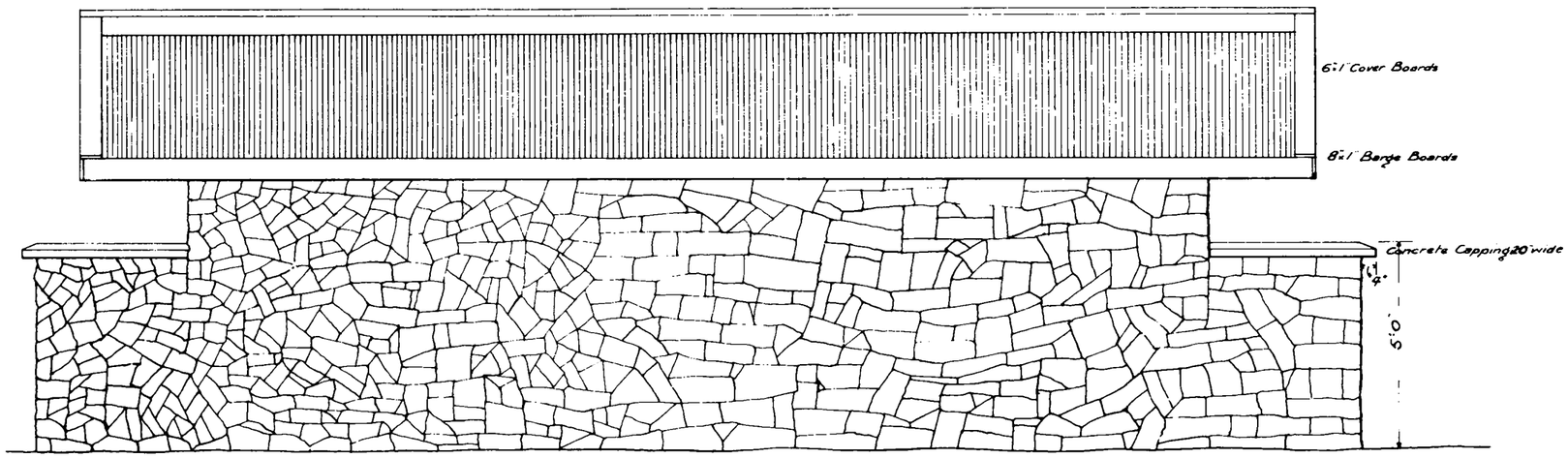


— PLAN —



— SECTION —

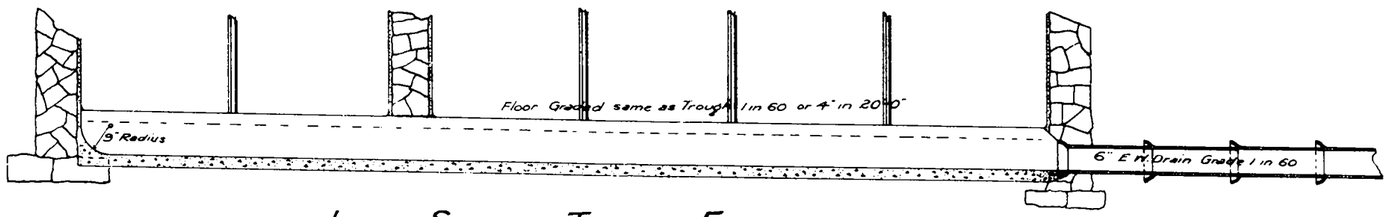
PWS 61



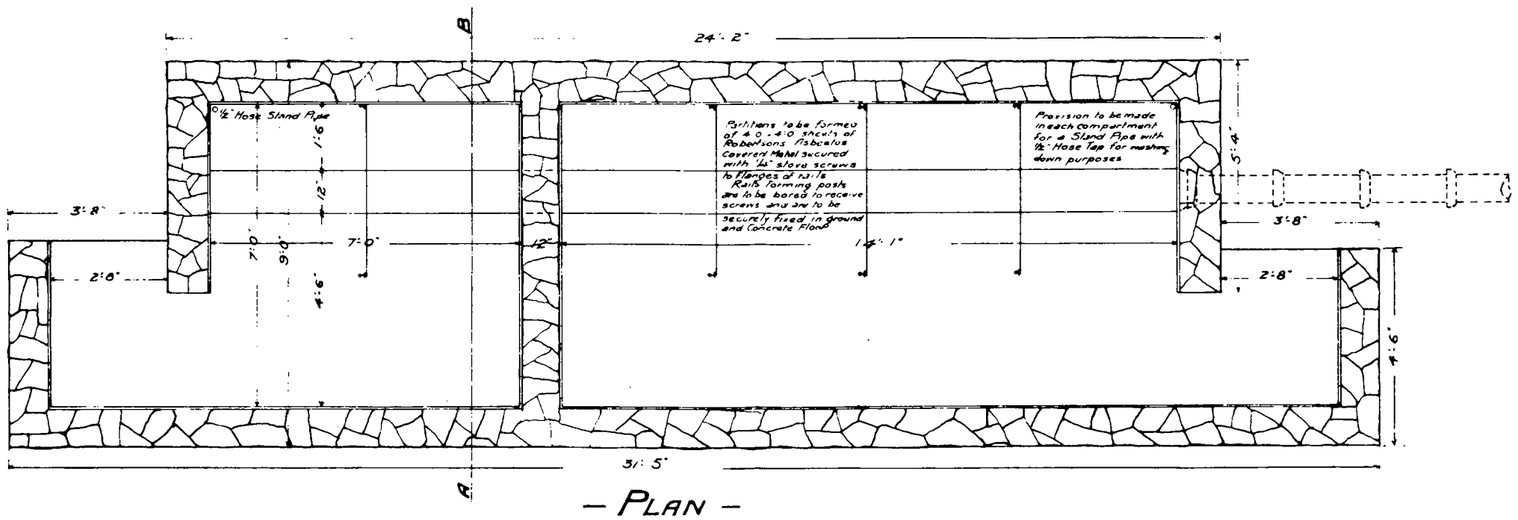
— EAST ELEVATION —

— PROPOSED NATIVE W.C. IN —
— UNDRESSED STONE FOR CUSTOMS —
— RESERVE APIA —

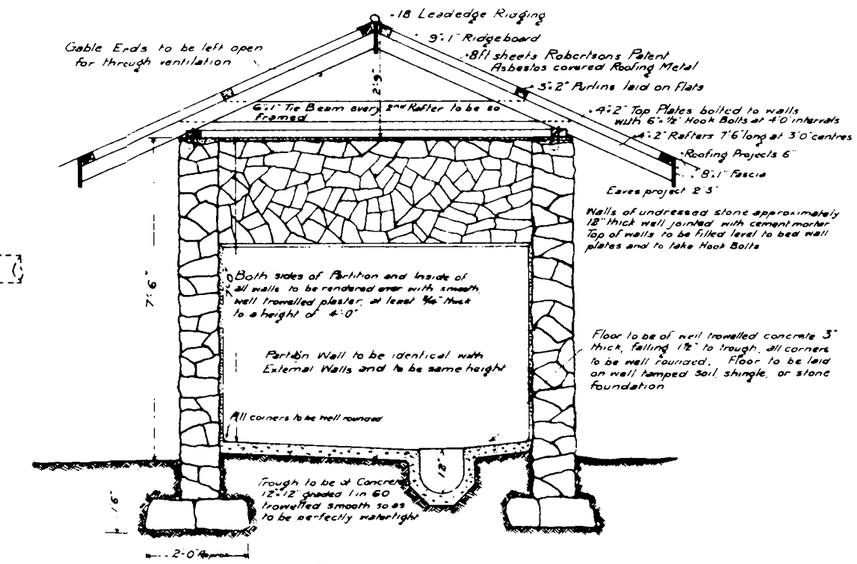
Scale
0 1 2 3 4 5 6 Feet



— LONGTDL SECTION OF TROUGH & FLOOR —



— PLAN —



— SECTION A-B —

PWS 62

Drawn & Traced by T.R. Hutton XI XII