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COLONY OF THE GAMBIA.

ANNUAL MEDICAL AND SANITARY REPORT FOR THE YEAR 1918.

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1919.



MEDICAL OFFICE,

BATHURST,

GAMBIA,

22nd May, 1919.

SIR,

I have the honour to submit, for the information of His Excellency the Governor and for transmission to the Right Honourable the Secretary of State, the Medical Report on the health and sanitary condition of the Gambia for the year 1918, together with the Returns, &c., appended thereto.

I have the honour to be,

Sir,

Your obedient Servant,

R. W. ORPEN,

Acting Senior Medical Officer.

THE HONOURABLE

THE COLONIAL SECRETARY,

BATHURST.

Annual Medical and Sanitary Report

FOR THE

YEAR ENDED 31ST DECEMBER, 1918.

I. ADMINISTRATIVE.

Dr. E. C. Adams, Senior Medical Officer, was absent from the Colony from June 15th to December 5th, when he returned and resumed duty.

Dr. R. W. Orpen, Medical Officer of Health, arrived from leave and resumed duty June 11th. He acted also as Senior Medical Officer from June 15th to December 4th.

Dr. F. C. V. Thompson acted as Medical Officer of Health from 27th December, 1917, to 28th February, and was Medical Officer after that date until November 24th, when he left for England on leave.

Dr. E. F. Ward arrived February 27th; he acted as Medical Officer of Health from March 1st to June 10th, and was Medical Officer till the end of the year.

Dr. R. H. Miller was absent during the whole year on Military Service.

Dr. J. C. Watt was absent during the whole year on Military Service.

Dr. E. B. Bate was Medical Officer from the beginning of the year to April 5th, when he left for England on leave.

Miss M. M. Hall was absent on leave from March 16th, served in Sierra Leone from July 6th to October 2nd, and on October 6th she resumed as Acting Nursing Sister-in-charge.

Miss M. Thompson proceeded on leave to England on December 27th.

Miss M. C. Parsons proceeded on leave to England on October 11th.

At the end of the year the Medical Staff was reduced to the Senior Medical Officer, the Medical Officer of Health, one Medical Officer, and the Nursing Staff to one Nurse.

(b) FINANCIAL.

The total Revenue for the year under review was £349 6s. 1d., this increase over the last year (which was £182 1s. 9d.) is mostly due to increased attendances during the Influenza Epidemic in September, and also increased number of European In-Patients.

RECEIPTS.

Details.	Estimated.	Actual.
	£ s. d.	£ s. d.
Maintenance of Sick and Sale of Medicines	165 0 0	349 6 1

Considerable difficulty has been experienced during the past year owing to non-arrival of drugs and necessary dressings, and at times there has been a distinct shortage, many of the essential drugs being used up. Several items which were indented for were not sent out, and also, owing to the great rise in prices, when the indent did arrive it was found that the amount was greatly reduced.

I attach a list of drugs, &c., taken at random, showing the difference in the pre-war and present approximate prices:—

	Pre-War Prices.			Present Approximate Prices.		
	£	s.	d.	£	s.	d.
Quin. Sulph.	0	1	1	0	3	4½
Mag. Sulph.	0	7	6	1	12	6
Sodii Salicylas	0	2	2	0	9	6
Iodoform Pulv.	0	16	6	1	2	6
Pot. Iod.	0	12	0	0	15	0
Ammon. Carb.	0	0	8½	0	1	5
Hexamine	0	0	5	0	10	0
Phenacetin	0	2	9	2	0	0
Ext. Felis. Mas.	0	7	0	1	16	0
Pot. Permang.	0	0	8	0	15	0
Hyd. Subchlor.	0	3	3	0	8	6
Santonin	5	5	6	9	4	0
Cocaine Hyd.	0	5	6	2	10	0
Atropine Sulph.	1	3	6	7	10	0
Spt. Methylated	0	4	0	0	13	6
Salol	0	2	4	0	12	6
Bals. Copaiba	0	2	3	0	7	6
Vaseline	0	0	5	0	1	8
Benger's Food	0	1	6	0	2	0
Arrowroot	0	0	9	0	2	0
Ideal Milk	1	8	0	1	17	3
Champagne (24 half-bottles) ...	4	0	0	6	5	0

MEDICAL DEPARTMENT.

EXPENDITURE.

Details.	Estimated.			Actual.		
	£	s.	d.	£	s.	d.
Personal emoluments	5,267	0	0	4,312	12	5
OTHER CHARGES.						
Horse and Bicycle Allowances	140	0	0	93	12	8
Fees for Course Instructions to Medical Officers in England	100	0	0	—		
Outfit Allowance to Medical Officers	24	0	0	—		
Do. Nursing Sisters	36	0	0	12	0	0
Fees for Selection and Medical Examination of Medical Officers and Nursing Sisters	20	0	0	0	1	11
Sea Passages	388	0	0	379	11	9
Travelling Expenses for Nursing Sisters in England ...	12	0	0	5	14	0
Uniforms for Attendants	52	0	0	59	10	5
Maintenance of Sick (Dietary)	660	0	0	580	2	6
Furniture and Appliances	200	0	0	117	15	11
Bedding and Clothing	170	0	0	66	3	8
Medicines and Vaccines	580	0	0	178	2	0
Dressings	315	0	0	266	3	11
Medical Comforts	45	0	0	9	18	1
Instruments	40	0	0	91	2	10
Washing, Disinfectants and Soap	100	0	0	105	12	9
Fuel and Lighting	75	0	0	70	12	9
Laboratory Equipment	20	0	0	0	5	4
Medical Library	10	0	0	2	8	6
Infectious Diseases Prevention	50	0	0	2	0	0
Infectious Diseases Hospital	10	0	0	7	14	6
Vaccinations	600	0	0	297	9	1
Maintenance of Home for Destitutes	164	0	0	134	4	9
Expenses of Burials	30	0	0	39	17	6
Maintenance of Lunatics at Sierra Leone	342	0	0	141	15	2
Microscopes	20	0	0	4	19	0
Transport	120	0	0	83	2	3
Sundries	30	0	0	15	1	11
Temporary Medical Officer at Cape St. Mary	—			16	16	0
Leave Allowance	—			98	10	0
TOTAL	£9,620	0	0	£7,193	1	7

PUBLIC HEALTH DEPARTMENT.
EXPENDITURE.

Details.	Estimated.			Actual.		
	£	s.	d.	£	s.	d.
Personal Emoluments	1,727	0	0	1,705	11	1
OTHER CHARGES.						
Horse and Bicycle Allowances	68	0	0	33	16	5
Sea Passages	176	0	0	121	16	6
Rent of Quarters	100	0	0	44	6	8
Uniforms	65	0	0	48	4	11
Anti-mosquito Measures, Oil, Disinfectants, etc.	400	0	0	407	5	4
Upkeep of Horses and Carts	350	0	0	412	13	6
Upkeep of Street Lights	525	0	0	217	4	10
Cleaning Streets and Drains	870	0	0	869	0	6
Emptying Latrines	450	0	0	446	13	8
Cleaning Market and Slaughter Houses	50	0	0	50	0	0
Cleaning of Cemeteries	100	0	0	100	0	0
Cleaning of Government Compounds	170	0	0	169	19	0
Expenses of Working Sluice Gates	100	0	0	100	10	0
Tools	50	0	0	33	7	10
Equipment of Sanitary Station	150	0	0	104	9	0
Maintenance of Patients at Sanitary Station	100	0	0	—		
Protectorate Sanitation	250	0	0	20	14	7
Sundries	35	0	0	22	4	4
Purchase of New Latrine Pans	—			14	17	0
TOTAL	£5,736	0	0	£4,922	15	2

METEOROLOGICAL.

The Rainfall was 54·03 inches, which is greatly in excess of the average for the past ten years, which is 33·45 inches.

II. PUBLIC HEALTH.

The general health of the inhabitants of the Colony and the Protectorate has been fairly good, and a perusal of the returns will show that there has been a general reduction of cases seen at the Out-Patient Department. During the early part of the year there was very little sickness, but gradually towards the months of July and August the figures began to rise; but the year would have been a good one only for the influenza. In September the influenza appeared in Bathurst, *vide* Appendix, and also in the Protectorate, and it is now possible to come to some conclusion as to its severity there. From the returns furnished by the Commissioners it would appear that the mortality has been considerably over 7,000 :—

Upper River Province	1,656
South Bank Province	1,337
North Bank Province	1,600
Kombo and Foni Province	1,398
MacCarthy Island Province	1,822
Total deaths in the Protectorate from Influenza	7,813

These figures were obtained from the various Chiefs and Headmen by the Commissioners, and without doubt have been most carefully compiled, but at the same time, in the absence of registration, and that the information was

gathered after the epidemic, and the probability of many other diseases and deaths from other causes being included, these figures can only be considered approximate. The figures given in Table VII. are also only approximate, as no records were taken at the time.

Beri-Beri once more made its appearance in the Prison; six cases were admitted to Hospital, none of which proved fatal.

Compared with previous years there has been a slight reduction in the number of cases of Malaria seen. As has been said before, the majority of the cases are imported from the river. One case of Blackwater Fever was admitted during the year; he recovered, but the patient has since died (1919) in the Protectorate from further attack without having been seen by a medical officer.

The number of cases of affection of the respiratory and digestive systems show a diminution in numbers, as well as Helminthic diseases, of which *Tænia* and *Lumbricus* are the most common, and occasionally Guinea worm.

Small Pox, Yellow Fever and Plague were conspicuous by their absence.

There has been an increase in the number of cases of Tetanus seen; eleven with four deaths, as compared with six with two deaths in 1917.

Skin affections, 658 cases, as compared with 962 in 1917. The most common are Impetigo, Acne, Tinea, Furunculosis, Seborrhœic Eczema, Syphilis, Scabies, Craw-Craw, and the common Ulcer.

There was one case of Typhoid, in a European, which proved to be very serious and prolonged, owing to relapse.

The admissions to Hospital were 559, as compared with 507 in 1917; this increase can be explained by the Influenza Epidemic and by the admission of Ships' Crews suffering from Malaria, *vide* Sanitary Report, "Malaria."

(b) EUROPEAN OFFICIALS.

The health of the European Officials has not been favourable, owing to the epidemic of Influenza. Two were invalided for Gastritis and Debility. The case of Gastritis had been previously invalided.

TABLE SHOWING THE SICK, INVALIDING, AND DEATH RATES OF EUROPEAN OFFICIALS.

	1917.	1918.
Total number of officials resident	41	47
Average number resident	28	29
Total number on sick list	19	43
Total number of days on sick list	192	379
Average daily number on sick list	0.53	1.03
Percentage of sick to average number resident	67.85	148.24
Average number of days on sick list for each patient	10.10	8.20
Average sick time to each resident	7	13.06
Total number invalided	1	2
Percentage of invalidings to total residents	2.43	4.25
Total deaths	—	—
Percentage of deaths to total residents	—	—
Percentage of deaths to average number resident	—	—
Number of cases of sickness contracted away from residence	—	6

(c) NATIVE OFFICIALS.

The Native Officials were seriously attacked with the Influenza Epidemic and some offices were closed for want of Staff to carry on work. The following Table gives the numerical statistics :—

TABLE SHOWING THE SICK, INVALIDING, AND DEATH RATES OF NATIVE OFFICIALS.

	1917.	1918.
Total number of officials resident	141	150
Average number resident	129	141
Total number on sick list	126	186
Total number of days on sick list	468	1,442
Average daily number on sick list	1.28	3.95
Percentage of sick to average number resident	97.67	131.91
Average number of days on sick list for each patient	3.71	7.75
Average sick time to each resident	3.62	10.22
Total number invalided	1	—
Percentage of invalidings to total residents	0.70	—
Total deaths	—	2
Percentage of deaths to total residents	—	1.33
Percentage of deaths to average number resident	—	1.41
Number of cases of sickness contracted away from residence	—	—

(d) GENERAL EUROPEAN POPULATION.

TABLE SHOWING SICK, INVALIDING, AND DEATHS OF NON-OFFICIAL EUROPEANS.

	1917.	1918.
Total number resident	101	90
Total number on sick list	30	96
Total number invalided	3	2
Total deaths of residents	—	6
Total deaths from passing ships	—	—

Causes of death : Pneumonia and Influenza.

A case of Influenza, however, occurred in a resident in Bathurst, who, while on duty at Georgetown, was attacked and died there.

COMPARATIVE STATEMENT OF BIRTHS AND DEATHS FOR THE PAST TEN YEARS IN THE COLONY.

Years.	Births.	Deaths	Births in Excess.	Deaths in Excess.	Remarks.
1909	339	330	9	—	
1910	363	385	—	22	
1911	306	318	—	12	
1912	303	336	—	33	
1913	292	335	—	43	
1914	306	342	—	36	
1915	279	296	—	17	
1916	314	306	8	—	Bathurst only.
1917	337	262	75	—	Do.
1918	263	662	—	399	Do. Influenza Epidemic.

NUMBER OF DEATHS AND DEATH-RATE PER THOUSAND OF THE POPULATION FOR THE LAST TEN YEARS IN THE COLONY (*VIDE* CENSUS 1911, &c.).

Years.	Estimated Population.	Total Deaths.	Death-rate per 1,000.	Remarks.
1909	13,157	330	25·08	
1910	13,157	385	29·26	
1911	13,157	318	24·16	
1912	13,157	336	25·53	
1913	13,157	335	25·46	
1914	13,157	342	25·99	
1915	13,157	296	22·49	
1916	7,700	272	35·32	Bathurst only.
1917	8,474	262	30·09	Do.
1918	8,474	662	77·08	Do. Influenza Epidemic.

INFANTILE MORTALITY FOR THE PAST TEN YEARS IN THE COLONY.

Years.	Total Births.	Deaths over 1 year and under 5 years.	Deaths over 1 week and under 1 year.	Deaths over 1 day and under 1 week.	Deaths under 24 hours.	Still Births.	Remarks.
1909	339	23	50	11	17	24	
1910	363	40	68	34	11	27	
1911	306	29	43	15	1	28	
1912	203	42	66	6	—	26	
1913	254	20	50	22	3	29	
1914	304	27	59	16	5	27	
1915	279	40	58	18	1	30	
1916	314	46	61	10	3	22	Bathurst only.
1917	337	22	59	9	—	30	Do.
1918	263	89	121	17	—	50	Do.

The annual birth rate 1918 = 31·03 per 1,000.

BUILDINGS.

No Public works were carried out either at the Colonial Hospital, Infectious Diseases Hospital or Home for Destitutes; much needed work were deferred owing to lack of building materials.

LEGISLATION 1918.

During the year the following Rules, Regulations, etc., were passed :—

Lunatic Detention (Amendment) dated 31.7.1918.	
Influenza Order	9.9.1918.
Influenza Notification Order	9.9.1918.
Influenza Regulations	9.9.1918.
Influenza Regulations (Repealed)	25.9.1918.

PROTECTORATE SANITATION.

But little advance has been made in this direction. The area at Cape St. Mary has not had any particular attention paid to it. Georgetown, MacCarthy Island, has improved to some small extent, in that certain sections of the Public Health Ordinance, 1912, have been made applicable, and also the Medical Dispenser has been appointed an Inspector of Nuisances, with the result that the town is certainly cleaner. But there are still many points that require attention, and it is to be hoped that now a start has been made that they will eventually be taken in hand.

Basse and Kuntaur, etc., are towns on the river that are large and important, but their condition from a sanitary point of view leaves much to be desired. There are many ways in which improvement can be brought about, especially to be mentioned is the necessity of having the ground round these towns properly cleared, and, in this connection, Basse is particularly to be mentioned, and one must not forget that the whole of the Upper river is swarming with Tsetse flies. The canalization of swamps and creeks and clearing of their banks is another matter of importance. Of course the disposal of rubbish looms largely in front at all of these places, but other points, such as borrow pits, fencing, disposal of night soil, mosquito destruction, roads, markets, etc., all have their due place in the sanitary ladder. As it is at present there is absolutely no supervision or control, with the exception of Georgetown, as has been stated above.

Two of these up river towns are extending and are becoming of very considerable importance—Basse, which can be called "Emporium of the Upper River," and through which most of the trade of this part of the Protectorate passes, and Kuntaur, which owes its importance to the fact that there is deep water all along its frontage, consequently ocean-going ships can come alongside and load cargo. At both of these places there is an increasing European population, and rumour hath it that there is a possibility of still more mercantile firms starting business in the Gambia. If this is true, it will mean that more European assistants will arrive, with the result that the European population will be increased yet more. Under these circumstances it would appear necessary to try and improve the local conditions.

The sanitation of the Protectorate is under the control of the Senior Medical Officer, but owing to the amount of office work at Bathurst, it is quite impossible for him to give the necessary amount of time or attention to the Protectorate. If he is able to get away for the purpose of inspection, it is only at rare and long intervals, and then his visits are of the shortest duration.

The solution would appear to be the appointment of a full and whole-time Sanitary Officer, who would be able to pay frequent visits to these various places, and be able to control and direct general sanitary measures. It would be necessary to have at each place an Inspector of Nuisances with a gang of labourers at his disposal and under his control, who would carry out the ordinary sanitary measures, scavenging, anti-mosquito work, etc.

The application of necessary provisions of the Public Health Ordinance would also be required at each place, or it could be made applicable to all riverine ports, in order to bring them into line with Georgetown, MacCarthy Island, where, as already stated, they have been applied.

It is only by some such means that any improvement can be arrived at, and the whole problem resolves itself into the question of supervision and control.

ESTIMATES FOR PROTECTORATE SANITATION, 1918.

Estimate	...	...	...	...	...	£250	0	0
Expenditure	...	...	...	...	...	20	14	7
Unexpended Balance	...	...	...	...	...	229	5	5

H.M. NAVAL W/T STATION, CAPE ST. MARY, BATHURST,
GAMBIA.

REPORT ON THE ILLNESSES OCCURRING DURING 1918.

Complement ... 16.

Total No. dealt with ... 27.

Neurasthenia.—One case; only in the Colony 31st December to 6th February.

Chancroid.—One case; contracted at Dakar.

Heat-stroke.—One slight case.

Gastritis.—Two slight cases.

Injury.—Two cases; not serious.

Catarrh.—Five entries.

Influenza.—Four cases; none serious.

Neuralgia and Boil.—One case each.

Dysentery.—One case, but with 57 days sickness here and in Hospital.

Malaria.—Fresh cases ... 9 ... } amongst 11 men.
Relapses ... 13 amongst 5 men }

SUMMARY.

	Entries.		Patients.		Days Sickness.
Malaria	23	...	11	...	105
Dysentery	2	...	1	...	57
Influenza	4	...	4	...	34
Miscellaneous	14	...	13	...	73

(Sgd.) H. A. BROWNING,

Surg. Lieut.-Comr., R.N.

THE SENIOR MED. OFFICER,
Bathurst.

DEPARTMENTAL CHANGES.

EUROPEAN STAFF.

Office.	Officer.	Remarks.
Senior Medical Officer ...	E. C. Adams ...	Leave June 15 to December 4.
Medical Officer of Health...	R. W. Orpen ...	Acting S.M.O., and Chairman, Board of Health, June 15 to December 4.
Medical Officer ...	F. C. V. Thompson ...	Acting M.O.H. December 27, 1917, to February 28, 1918.
Medical Officer ...	E. F. Ward ...	Transferred from Sierra Leone January 28. Acted as M.O.H. March 1st to June 10.
Medical Officer ...	E. B. Bate ...	Leave April 5, and did not return to the Colony.
Nursing Sister ...	M. M. Hall ...	Leave March 10 to October 5. Acted as Nursing Sister in Charge March 6 to end of year.
Nursing Sister ...	M. Thompson ...	Acted Nursing Sister in Charge March 10 to November 5.
Nursing Sister ...	M. C. Parsons ...	Leave October 11 to end of year.

NATIVE STAFF.

Office.	Officer.	Remarks.
Fourth Grade Clerk ...	H. A. Williams ...	Leave January 2 to 18 and November 11 to 25.
Chief Dispenser and Store-keeper ...	J. F. Johnson ...	Leave March 12 to April 11.
Dispenser ...	J. S. Kennedy ...	Leave October 7 to November 6.
Dispenser ...	J. J. Thomas ...	Appointed Registrar of Births and Deaths, MacCarthy Island Province, October 28.
Dispenser ...	E. W. Johns ...	Leave November 7 to 20.
Assistant Dispenser and Dresser ...	S. B. Palmer ...	Leave February 7 to 9 and May 16 to 27.
Assistant Dispenser and Dresser ...	J. F. Jagne ...	Leave November 26 to December 10.
Ward Attendant ...	M. Jobe ...	Leave June 17 to 23.
Ward Attendant ...	A. I. Goddard ...	Leave May 30 to June 13.
Ward Attendant ...	P. E. Umayya ...	Leave May 23 to 29.
Female Attendant ...	J. Wilson ...	Confirmation of appointment July 1.
Attendant, Home for Destitutes ...	G. A. Saunders ...	Leave June 17 to July 1.
Attendant, Infectious Diseases Hospital ...	G. W. M'Carthy...	Leave November 1 to 14. Termination of service December 31.

RETURN OF VACCINATIONS, 1918.

Place.	Successful.	Failures.	Not Seen.	Total.
Bathurst	336	99	127	562
North Bank Province ...	1,284	122	125	1,531
South Bank Province ...	66	—	897	963
MacCarthy Island Province...	—	—	1,960	1,960
Georgetown	350	—	5	355
Upper River Province ...	—	—	2,079	2,079
Kombo and Foni Province ...	—	—	1,089	1,089
Total	2,036	221	6,282	8,539

RETURN OF INMATES AT THE HOME FOR DESTITUTES AND AFFLICTED PERSONS FOR THE YEAR 1918.

Sex.	Remained 31.12.17.	Admitted 1918.	Total.	Discharged.	Died.	Remaining 31.12.18.
Male	7	14	21	3	9	3
Female	2	6	8	—	5	1
Total	9	20	29	3	14	4

Causes of deaths : Syphilis and Septic Poisoning, Ascites, General Debility, Senility, Paralysis and Heart Failure, Diarrhoea; General Debility, Broncho-Pneumonia, Intestinal Obstruction, Epilepsy following Influenza, Heart Failure; Senile Decay.

INFECTIOUS DISEASES HOSPITAL.

No case was admitted in this Hospital during the year. It was kept in proper order by the Attendant in charge, whose appointment terminated on the 31st December, 1918, owing to ill health.

METEOROLOGICAL RETURN FOR THE YEAR 1918.—BATHURST.

Months.	Temperatures.				Rainfall.	Winds.
	Shade Max.	Shade Min.	Range.	Mean.	Amount in Inches.	General Directions.
January ...	94	50	44	72.0	—	North-East
February ...	93	50	43	71.5	—	Do.
March ...	97	48	49	72.5	—	Do.
April ...	101	58	43	79.5	—	Variable
May ...	101	56	45	78.5	0.05	Do.
June ...	94	60	34	77.0	3.99	Do.
July ...	91	60	31	75.5	9.47	Do.
August ...	88	61	27	74.5	16.39	Do.
September ...	91	60	31	75.5	18.89	Do.
October ...	92	60	32	76.0	5.24	Do.
November ...	90	56	34	73.0	—	North-East
December ...	90	50	40	70.0	—	Do.
Total ...	1,122	669	433	895.5	Total Inches	
Average ...	93.5	55.9	37.7	74.6	54.03	

TABLE VI.
RETURN OF DISEASES AND DEATHS (IN-PATIENTS), 1918.

Diseases.	Remaining end of 1917				Admissions, yearly total.				Deaths, yearly total.				Total cases treated.				Remaining end of 1918.				Remarks.
	Bathurst.	Prison.	Georgetown.	Total.	Bathurst.	Prison.	Georgetown.	Total.	Bathurst.	Prison.	Georgetown.	Total.	Bathurst.	Prison.	Georgetown.	Total.	Bathurst.	Prison.	Georgetown.	Total.	
Malarial fevers ...	3	—	—	3	115	—	—	115	3	—	—	3	118	—	—	118	—	—	—	—	Surgical operations included under respective diseases.
Yellow fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Typhoid fever ...	—	—	—	—	16	—	—	16	3	—	—	3	16	—	—	16	1	—	—	—	
Influenza ...	—	—	—	—	5	—	—	5	1	—	—	1	5	—	—	5	—	—	—	—	
Dysentery ...	—	—	—	—	5	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	
Sleeping sickness ...	—	—	—	—	5	—	—	5	—	—	—	—	—	—	—	—	—	—	—	—	
Gonorrhoea ...	—	—	—	—	4	—	—	4	—	—	—	—	4	—	—	4	—	—	—	—	
Parasitic disease ...	—	—	—	—	11	—	—	11	1	—	—	1	11	—	—	11	—	—	—	—	
Rheumatism ...	—	—	—	—	4	—	—	4	4	—	—	4	—	—	—	—	—	—	—	—	
Tetanus ...	—	—	—	—	4	—	—	4	4	—	—	4	—	—	—	—	—	—	—	—	
Debility ...	—	—	—	—	7	—	—	7	1	—	—	1	7	—	—	7	—	—	—	—	
Beri-beri ...	—	—	—	—	3	—	—	3	—	—	—	—	3	—	—	3	—	—	—	—	
Syphilis ...	—	—	—	—	6	—	—	6	—	—	—	—	6	—	—	6	—	—	—	—	
Appendicitis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Anemia ...	—	—	—	—	3	—	—	3	1	—	—	1	3	—	—	—	—	—	—	—	
Elephantiasis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Septicæmia ...	—	—	—	—	2	—	—	2	1	—	—	1	2	—	—	—	—	—	—	—	
Tuberculosis (Phthisis) ...	—	—	—	—	2	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	
Sunstroke ...	—	—	—	—	1	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	
Tubercular peritonitis ...	—	—	—	—	10	—	—	10	1	—	—	1	10	—	—	—	1	—	—	—	
Diseases of the nervous system ...	—	—	—	—	2	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	
" " eye ...	—	—	—	—	2	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	
" " nose ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
" " ear ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
" " circulatory system ...	—	—	—	—	6	—	—	6	1	—	—	1	6	—	—	—	—	—	—	—	
" " respiratory system ...	1	—	1	2	94	2	7	103	27	2	2	31	95	2	8	105	1	—	—	—	
" " digestive system ...	—	—	—	—	47	4	5	56	7	—	—	8	47	4	5	56	—	—	—	—	
" " lymphatic system ...	—	—	—	—	7	—	—	7	—	—	—	—	7	—	—	—	—	—	—	—	
" " urinary system ...	—	—	—	—	20	—	—	20	1	—	—	1	20	—	—	—	—	—	—	—	
" " generative system ...	—	—	—	—	15	4	1	20	—	—	—	1	15	4	1	20	—	—	—	—	
Pregnancy and parturition ...	1	—	—	1	17	—	—	17	2	—	—	2	18	—	—	—	—	—	—	—	
Female breast ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Organs of locomotion ...	—	—	—	—	1	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	
Connective tissue ...	1	—	—	1	24	—	—	24	1	—	—	1	25	—	—	—	—	—	—	—	
Cellular tissue ...	—	—	—	—	18	—	—	18	—	—	—	—	18	—	—	—	—	—	—	—	
Skin ...	1	—	1	2	13	2	3	18	—	—	—	—	14	2	4	20	1	—	—	—	
Injuries ...	1	—	1	2	32	—	—	34	3	—	—	3	33	—	—	36	1	—	—	—	
Surgical operations ...	—	—	—	—	(23)	—	—	(23)	(2)	—	—	(2)	(23)	—	—	(23)	—	—	—	—	
No appreciable disease ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
TOTAL ...	8	—	3	11	494	21	33	548	58	2	7	67	502	21	36	559	6	—	—	6	

TABLE VII.

OUT-PATIENTS.

SHOWING DETAILS OF CASES IN 1918.

Diseases.	Bathurst.	Prison Infirmary.	Georgetown.	Total
Malarial fevers	771	6	58	835
Anæmia	25	—	1	26
Gonorrhœa	12	14	41	67
Debility	21	3	21	45
Dysentery	6	—	13	19
Rheumatism	357	22	113	492
Parasitic diseases	112	8	37	157
Beri-Beri	—	3	—	3
Influenza	3,000	3	64	3,067*
Tetanus	5	—	1	6
Syphilis	7	3	15	25
Chicken-pox	—	—	3	3
Elephantiasis	—	—	1	1
Goitre	—	—	11	11
Varicocele	—	1	—	1
Diseases of the nervous system ...	63	3	5	71
" " " eye	159	—	30	189
" " " ear	47	2	9	58
" " " nose	4	—	—	4
" " " circulatory system ...	39	—	2	41
" " " respiratory system ...	915	19	123	1,057
" " " digestive system ...	1,075	106	371	1,552
" " " lymphatic system ...	100	16	17	133
" " " urinary system ...	31	8	8	47
" " " generative system ...	42	5	26	73
Affections connected with pregnancy ...	19	—	3	22
" " " parturition... ..	5	—	—	5
Diseases of female breast	3	—	—	3
" " organs of locomotion ...	49	3	1	53
" " connective tissue	112	—	4	116
" " cellular tissue	34	—	—	34
" " skin	435	20	183	638
Injuries	326	8	60	394
Undefined	24	16	29	69
TOTAL	7,798	269	1,250	9,317

* Approximate.

	Bathurst.	Georgetown.
Old cases	4,457	466

MEDICAL OFFICER OF HEALTH'S OFFICE,

BATHURST, GAMBIA,

14th March, 1919.

SIR,

I have the honour to attach herewith, in quadruplicate,
the Annual Report for the year 1918.

I have the honour to be,

Sir,

Your obedient Servant,

R. W. ORPEN,

Medical Officer of Health.

THE CHAIRMAN, BOARD OF HEALTH,

BATHURST.

THE LONDON SCHOOL OF JOURNALISM

STATIONERS' HALL, LONDON

1885

I have the honor to acknowledge the receipt of your letter of the 10th inst.

and in reply to inform you that the same has been forwarded to the proper authorities.



Yours faithfully,

H. W. GILES

Secretary of the School

The London School of Journalism

Stationers' Hall, London

Annual Sanitary Report

FOR THE

YEAR ENDED 31ST DECEMBER, 1918.

The work of the Sanitary Department has not differed in any way from that of previous years, and it must be mentioned that the amount of construction work has been reduced to a minimum owing to the war and consequent difficulty in obtaining materials. Many of the very necessary works approved of to be done in 1918 have had to be postponed until the present year.

SANITARY STAFF.

2. Dr. R. W. Orpen, M.O.H., returned from leave in the month of June, during his absence the duties of that office were carried out by Dr. E. Ward.

Mr. C. Wolfendale, Sanitary Inspector, proceeded on leave in the month of August, his duties being taken over by Mr. G. Barraclough, who was appointed Assistant Sanitary Inspector in January. There has been considerable difficulty during the past year in maintaining a full staff of Inspectors of Nuisances, owing to the resignations and dismissals, consequently the amount of work done compares badly with former years. The post of Inspector of Nuisances is one that is not sought after, and the class of candidate is not satisfactory, at the same time the pay is small.

OFFICES AND QUARTERS.

3. During the year the Government acquired the premises situated at No. 9 Buckle Street, where the B.O.H. has been in occupation as tenants for the past three years. These premises will require a very thorough overhaul before being fit to be called a departmental headquarters. The living rooms above, where the Sanitary Inspector and Assistant Sanitary Inspector are housed, will require complete renovation as well as the roof, which resembles a sieve during the height of the rains, whilst the offices below will want complete structural alteration. It is to be regretted that the original suggestion of a self-contained Sanitary Department was not adhered to, having offices, stables and stores, etc., all in the one place.

STABLES.

4. The condition of the stables is still most unsatisfactory, nothing in the way of improvement has been done in the past year. The erection of proper stables, in the proper place, is a want that has been urged for many years, and again attention is called to the Annual Report, 1917, page 18, under the head of "Government Quarters." It is proposed to commence the work in the coming year, and it is to be hoped that something will be done.

SANITARY STATION.

5. This station was equipped during the year, and is now in readiness if called upon. It has not been put into use during the year.

YELLOW FEVER AND PLAGUE.

6. No case of either Yellow Fever or Plague occurred. The following notifications were received during 1918:—

Place.	Yellow Fever and Date.	Plague and Date.	Place of Occurrence.
Nigeria, South	26/2/18	—	Forcados.
Do.	8/4/18	—	Benin.
Gold Coast	14/5/18	—	Lome.
Do.	3/9/18	—	Axim.
Do.	12/9/18	—	Saltpond.
Sierra Leone	9/1/18	—	Kunso.
Do.	20/8/18	—	Freetown.
Do.	27/8/18	—	Do.
England	—	3/6/18	London.
Do.	—	13/8/18	Do.
Dakar	—	15/7/18	St. Louis, Rufisque.

INFLUENZA.

7. The Gambia did not fail to be included in the pandemic outbreak of Influenza during 1918. It appeared in the month of September, and ran for approximately three to four weeks, with a result that 317 natives and 6 Europeans died in Bathurst. This outbreak has already been separately reported on. *Vide* Appendix.

MALARIA.

8. There appears to be a slight diminution in the amount of Malaria recorded. Certainly the amount in Bathurst has been reduced, but the river and the creeks still maintain their reputation for being the hotbeds of this disease. It is worthy of note that three ships, respectively named "North Pacific," "Falerian" and "Southport," proceeded up the river in the month of August, and not one single member of any of these crews failed to fall victims to Malaria, and no less than thirty-three of them had to be admitted to hospital. It is fortunate to be able to note that there was no fatal case. These kind of tramp steamers never have the slightest means of protection from Malaria, either mosquito gauze or a supply of quinine. To proceed up the Gambia River in the month of August without taking full precautions is to invite disaster. Some of the cases admitted to hospital were extremely severe.

MOSQUITOES.

9. There is still a steady fall to be noted in the number of specimens of larvæ taken by the Inspectors of Nuisances, as will be seen by the following table:—

LARVÆ FROM ALL SOURCES.

1912.	1913.	1914.	1915.	1916.	1917.	1918.
622	957	1,036	622	265	238	149

Mosquito indices were taken in the months of June, July, August and December, and yielded the following results:—7·3 per cent., 8·6 per cent., 2·6 per cent. and 2 per cent. The cause of the rise in the index for the first three above mentioned, as well as marked decrease in specimens taken, is attributed to shortage of staff already referred to, with consequent neglect of inspection of compounds. In the month of July there was a cloud of *Culex*. This is the only occasion when this took place during 1918, and is an improvement of the state of affairs mentioned in previous annual reports.

PROSECUTIONS.

10. PUBLIC HEALTH ORDINANCE, 1912.

Mosquito Larvæ. Sec. 35.	Swine. Sec. 26.	Not Complying. Sec. 18.
144	1	4

PUBLIC HEALTH REGULATIONS, 1917.

Bakehouses. Sec. 12.	Mosquito Breeding Places. Sec. 4.
1	5

Total Prosecutions ... 155.

Total Fines ... £56 14 0

11. It may be mentioned here that fish which have been so extensively used for the past three years, did not appear to have been so successful during the last rains. Large numbers which were caught failed to survive, and they did not appear to be in the same numbers as in previous years. In the street drains they did well, but when transferred to the lagoons rapidly died out, so that it was necessary to fall back on oil in order to keep the lagoons free. This entailed a considerable amount of extra labour, especially as the rainfall for 1918 was heavy, 54.03 inches.

BAKEHOUSES.

12. These have been under constant supervision, and it was found to be necessary to revoke the permits of six, until such a time that the places were put into proper state. On the whole, the conditions of the bakehouses, whilst being far from ideal, show a distinct improvement.

HIDE CURING.

13. This noxious trade has not given the same amount of trouble as it did in 1917, partly because the amount of hides for sale has been greatly reduced owing to the cattle plague in 1917. But it was necessary to close one hide tank for good and all, owing to the persistence of the nuisance and the constant complaints. Nothing further has occurred as to the question of removal of this noxious trade to the Oyster Creek, as suggested in the Report for 1918.

LATRINES, ETC.

14. The old wooden latrine situated at the back of the Market, and which was a source of a very distinct nuisance, owing to the silting up of sand, has been completely removed, and a new land latrine, supplied with sanitary pails, has been erected in its place. This building is made of "Winget" Cement blocks, it is quite a new type for Bathurst, and has proved to be very much more satisfactory than the old one. In connection with this land latrine there is a short jetty with a tramline running out over the sea for the purpose of adjection of nightsoil. Another new latrine has been completed at the Victoria Embankment. It has been placed well away from the road, and in its construction only cement has been used, in consequence of this there is an improvement in the state of affairs in this portion of Bathurst. It is proposed in the coming year to rebuild the public latrines situated at Box Bar and at Gloucester Street. These are old wooden structures in the last stages of dilapidation, and are thoroughly insanitary as well as unsightly. The closing of cesspits has been slowly proceeded with, and substitution of sanitary

pails; any cesspit found to be in the least waterlogged in the rains is at once closed by being first emptied of its contents and then filled in with sand. The general system of conservancy in Bathurst is not too satisfactory, but it is difficult to see in what direction the improvement can take place over the present system of dumping nightsoil in a tidal river.

MANGROVE CLEARING.

15. There has been no further clearing of mangroves during the past year, but in the coming year £200 has been allocated for this purpose.

MARKET.

16. The returns for the Market still show an upward direction, and the Market is well patronised. It is to be hoped that now it will be possible to obtain materials so that a further extension of covering in the centre of the market can be undertaken, this has already been mentioned in Report for 1917. It has been remarked that there is a distinct increase in the number of people selling vegetables, this is a move in the right direction, for Bathurst is particularly ill-found in the matter of vegetables and fruits. The returns of slaughterings in the slaughter houses show an increase in spite of the cattle plague last year, but at the time of writing a decrease in supplies is to be noted. It must be mentioned that the meat does not appear to be of the same excellent quality as it was formerly, although only two bullocks and nine swine were seized as being unfit for human consumption.

The following returns are given of animals slaughtered:—

	1914.	1915.	1916.	1917.	1918.
Bullocks ...	1,314	1,399	1,531	1,666	1,977
Sheep ...	187	253	202	120	117
Goats ...	Nil	Nil	40	16	28
Swine ...	62	149	223	402	249
Totals ...	<u>1,563</u>	<u>1,801</u>	<u>1,996</u>	<u>2,204</u>	<u>2,371</u>

Nothing has been done to the slaughter house; it is highly necessary to have the suggested improvements carried out, by having a cement floor instead of the present old wooden one, and also having a proper drain constructed for cleansing purposes. It would be of advantage to have a water supply laid on. This would be particularly useful for washing the meat before it is exposed for sale, as at times the meat is not in the condition it should be. The old pig slaughter house has been repaired, and now instead of having swine lying about attached to any convenient post a proper pen has been constructed, and they are discreetly hidden. The whole of this place is frequently washed down with lime wash.

ROADS.

17. The macadamising of the streets has not made much progress, only one short road, *i.e.*, Bungalow Road, has been attended to. The roads require attention, especially as the advent of numerous motorcars makes it necessary. When the filling in (to be mentioned later) at the back of the Bungalows on the Marine Front is completed, it will be imperative that Telegraph Road should be raised. The widening of Wellington Street and the macadamising of Clifton Road appear to be two very necessary works to be undertaken as soon as possible.

LIGHTING.

18. This remains very much *in statu quo*, as the lamps indented for did not arrive until the present year, and then only half the supply asked for. The shortage of oil caused it to become necessary to reduce the number of lamps to a minimum. One "Kitson lamp" has been received and erected at the junction of Russel and Wellington Streets; it has proved to be fairly satisfactory, but at the same time it seems to be too complicated in its mechanism for the class of men who look after the lamps. A point that has already been raised is that the lighting of the town should not be undertaken by the Board of Health, but should be run, as is usually the case, in conjunction with the water supply, and not by a Sanitary or Health Department. It is proposed to erect a proportion of the new lamps in Cotton Street and a few other dangerous places. The town to be properly lighted requires at least 100 more lamps.

SCAVENGING.

19. This has been fairly well carried out, but the Board of Health suffers from the not unusual trouble of not having sufficient transport, *i.e.*, carts. Two new carts arrived from England during the year and were immediately put into use, but more carts will be necessary if the town is to be properly scavenged. The supply of dustbins is inadequate, the last indent being cut down 50 per cent. and a large proportion of the old ones are almost useless. The disposal of all incombustible material carried as mentioned last year, and gradually the B.O.H. is reclaiming quite a large portion of ground, which may in the future be of some use. The want of an incinerator is badly needed in this portion of the town, *vide* Annual Report 1916. The burnt material from incinerators has been used for the raising of a portion of No. 2 compound; this material appears to have a distinct effect in stopping the land crabs from becoming too numerous, hence indirectly reducing the number of mosquitoes which frequent these holes "Uranotænia."

SLUICE GATES.

20. All the sluice gates with the exception of that at Box Bar have been attended to and renewed. The one situated at the outfall at Cotton Street has certainly improved matters, in that the amount of sea water seen in the open area is not nearly as much as it was, but this place will always be a nuisance until the north of Cotton Street is filled in a similar way to the south side. Box Bar sluice is about to be overhauled and put into order. As foreshadowed last year the upkeep of these sluice gates is now undertaken by the P.W.D., the B.O.H. only undertaking the working of them.

DUTTON SCHEME.

21. "Cotton Street Area."—The work at Cotton Street has been completed and the land that has been raised proved to be a considerable success during the rains, these being heavy it was possible to observe the effect. There are still a few places that will require further attention. Part of the land which was formerly a swamp is now raised two or three feet, and has dwelling houses on it. The remainder of this area lying to the north of Cotton Street is still a loathsome, dirty open space, but if the filling in is continued with, and a second wall built, thus forming a drain with its outfall at the sluice gate, the whole aspect of this part of Bathurst will be changed and more compound will be available.

"*Clifton Road Area.*"—The expropriation of the remaining houses on the north side of Clifton Road has been carried out, with the result that at last there is a definite space between the Bungalows and the native buildings. The segregation as it now is, is really not a true segregation in the strict sense of the word, but it is the best that can be done in this very confined area, and at any rate the inhabitants of the bungalows on the Marine Parade have a more peaceful time. The low lying land has been filled in; it was hoped to have had it completed by the end of the year, but owing to labour troubles and the outbreak of Influenza in the month of September, practically all work ceased. The material for this filling in was taken from the foreshore, groynes having been erected for the collection of sand, and there is now an almost unlimited amount of sand that can be utilised for filling in on this portion of the town. The houses that were removed were erected at the end of Clifton Road on sites already filled in during the year 1915.

SANITARY LABOURERS' COMPOUND.

22. This has been kept in good order and proves to be of the greatest use, as by its means the B.O.H. is enabled to keep a permanent gang. It will be necessary to have a water supply laid on. This is a matter that has been advocated for several years past, but so far nothing has evolved.

EXTENSION OF BATHURST.

23. Attention has already been drawn to this in last year's report and is a work that will have to be undertaken in the future.

GOVERNMENT QUARTERS.

24. The shortage of quarters has already been referred to in the report for 1917. During the past few years the staff of officials has been depleted owing to the war; now that this is happily over, and there is a possibility of the staff resuming its full strength, the question of housing once more crops up. As things are at present, there are not sufficient bungalows for the full staff, also there are not any suitable sites in Bathurst for the future erection of bungalows, consequently the old scheme of having the bungalows erected at the Cape revives itself. There are many things to be said in its favour, and now that motor transport has come to stay, the whole question is greatly facilitated. This is by no means a new suggestion and it has been discussed for many years, but up to the present, only a small proportion of "Dr. Dutton's Scheme" has been carried out. It is of interest to read the report of the Senior Sanitary Officer (Dr. Kenman) in his annual report for the year 1912, page 21, paragraph 12, "European Officials' Quarters." The position has now arisen, or is about to arise, where the Government will be faced with the possibility or probability of having more officials than it can provide quarters for. Attention was drawn in the last annual report to the condition of the quarters at No. 11 Wellington Street, which provides quarters for three or four officials; these quarters are in the same condition as when previously referred to. Quarters should not be provided where European Officials are asked to live over a shop occupied by Syrian traders, as it is notorious that these places have in the past, both here and in Freetown, proved to be the starting places of Yellow Fever.

A commencement could be made by the erection of one or two stone bungalows at the Cape, and gradually as the want was felt more could be constructed. It would be of benefit to the general health of the official community to have bungalows situated at Cape St. Mary.

WORKS REQUIRED.

25. (A) Reconstruction of Box Bar Sluice.
(B) Reconstructions of latrines at Box Bar and Gloucester Street.
(C) Stables, Board of Health.
(D) Alterations to No. 9 Buckle Street (Board of Health Offices).
(E) Extra Bungalows.
(F) Reconstruction of Slaughter House.
(G) Improvements to Market.
(H) Incinerator, Cotton Street area.
(I) Continuation of filling in North of Cotton Street.
(J) Extension of Bathurst.

R. W. ORPEN,
Medical Officer of Health.

13th March, 1919.

APPENDIX.

REPORT ON THE EPIDEMIC OF INFLUENZA IN BATHURST, GAMBIA COLONY, DURING THE MONTH OF SEPTEMBER, 1918.

There is no doubt but that the epidemic of influenza which prevailed in this Colony during the past month was introduced from Sierra Leone, as the following sequence of events will show :—

On the 28th August the following cable was received from the Governor of Sierra Leone :—

“ Owing to serious outbreak of influenza at Freetown all ships from United Kingdom and Sierra Leone should be considered as infected. Up to the present disease is of a mild type but on set sudden high temperature symptoms lung and throat trouble.”

On the 25th August the s.s. “ Prah ” left Freetown for Bathurst, but owing to bad weather did not reach this port until the 29th August. This ship had as passengers from Freetown three European first-class passengers and forty-nine deck passengers. On arrival all were seen, and none were found to be abnormal in any way. All were placed under surveillance, and instructed to report at the Colonial Hospital each morning for a period of four days after arrival, thus making eight days since they sailed from Freetown.

On the 30th August one of the European passengers developed symptoms of influenza, and subsequently went through a very severe attack of the disease, but unfortunately passed it on to every inmate of the house, his medical attendant, etc., etc.

Of the other European passengers both eventually developed the disease.

Of the 49 deck passengers, it was reported on the 7th of September that two of them had died from influenza, these two patients were not seen or attended by a medical man prior to their deaths ; subsequent to being released from surveillance.

On the evening of 30th August a fireman from s.s. “ Prah ” was admitted to the Colonial Hospital suffering from pneumonia. He died the same night. This man had been signed on at Freetown as a fireman, and, I am informed, developed signs of illness almost immediately after leaving port.

From this time onwards scattered cases of influenza began to appear, until at the end of the first week in September the epidemic became general.

The first place to feel the full effects of the disease was the hospital, where practically every official fell a victim.

For the next week the disease spread with alarming rapidity, so much so that all work was at a standstill both in the Government Offices and mercantile firms, as there was no one to “ carry on.”

An attempt was made to limit the disease to the Island of St. Mary by placing a guard at Denton Bridge and prohibiting any one either passing in or out of the island, and also by prohibiting canoes and cutters from leaving the island.

But in spite of this the disease gradually made its appearance in the river, where various towns were attacked in turn, and there has been a considerable mortality; Georgetown, McCarthy Island, reporting 31 deaths, Kauntaur 19, etc., etc.

These figures show the severity of the disease, as the size of the population of these towns is at present small, as the trading season has not commenced. The north bank province was also attacked, although the number of deaths reported appears to be small as far as one can ascertain.

Kombo province in its turn yielded its quota of patients and deaths.

It may be here stated that the disease appeared from all accounts to have taken on the milder type in the Protectorate, the more severe type being restricted to the crowded areas of Bathurst.

In Bathurst it is roughly estimated that more than 3,000 persons appeared at the hospital for treatment, but during the height of the epidemic no records were taken, for the simple reason that there was no one to do it. From an ordinary daily attendance of 12-20 out-patients the numbers rapidly rose to 100, 200, 300 per diem during the second week in September. The whole of the police force was placed *hors de combat*, there were two deaths amongst them. The W.A.F.F.'s were in a similar state, and recorded 6 deaths. The W.A.F.F.'s at Cape St. Mary went down to a man, including European Officer, N.C.O. and clerk, but the type in this case was mild, as has been mentioned above, and there were no deaths.

During this period there were resident in Bathurst 68 Europeans, of which 49 developed the disease, and 5 succumbed to it.

Another European died at Georgetown, McCarthy Island, making a total of European deaths 6.

Of the native population, which is estimated to be something over 8,000, there were recorded 317 deaths which could be directly attributed to influenza.

Of the native officials 3 died.

It can be here stated that this disease has proved to be most startling in its effects on the Gambian native. Individuals who prior to an attack were strong, burly, healthy persons, in a few days became emaciated wrecks of humanity, barely able to crawl, and unable to undertake the slightest amount of exertion. In fact, this has been one of the most marked symptoms of the disease amongst the native population, he but offering but little resistance, and giving in at once. The fact that influenza is a new disease among these people may in some way help to explain this very marked symptom.

The disease appeared very suddenly, ran its course, and stopped with equal abruptness; by the end of September it could be said that it was a thing of the past, the only reminder being some prolonged cases of broncho-pneumonia which were reported from time to time.

The disease appeared to be equally distributed amongst both males and females, with a slight preponderance in favour of the adult male. Both young children and old persons appeared to escape very well.

THE DISEASE.

Incubation period was short, varying from one to three days. Onset very sudden, and characterised by frontal or post orbital headache, or at times by severe backache (lumbar), vague pains of a fugitive character were also complained of.

The temperature rose rapidly and usually was to be found between 101 and 103 F. If the case was a mild one, the temperature gradually fell by lysis to normal in a few days; if, on the other hand, the case tended to be prolonged the temperature had a gradual tendency to rise to 104 or 105.

Dryness and soreness of the throat was an early and constant symptom, accompanied by a short suppressed cough. If the throat was examined it could be seen that the fauces and palate were red and injected.

Photophobia was a symptom sometimes complained of in the early stages.

As the cases progressed, in severe attacks, as already mentioned, the temperature remained high or began to get higher, and the throat symptoms gradually spread downwards until the lungs became the seat of the disease, either developing a bronchitis or in the vast majority of cases broncho-pneumonia, this being accompanied by a constant irritating suppressed cough. The amount of sputum coughed up was small, and required a considerable amount of coughing to get it up, and when this occurred it was only a small tough pellet.

In a large number of cases this sputum gradually took on a different colour becoming tinged with blood, but never having the appearances of the sputum of true crupous pneumonia.

If the lungs were auscultated fine crepitating rales could be heard chiefly over the back and bases, and deep seated tubular breathing. Pleural friction sounds could also be heard. On percussion no definite areas of dullness could be made out, even over those places where tubular breathing could be heard. In these cases a marked symptom was the great depression of the patient, he becoming dull and apathetic and not inclined to make any effort to get well.

In a large number of fatal cases, where the fatal termination was reached on the third or fourth day, the patient died from toxæmia, post-mortem examination revealing lesions that would not apparently sufficiently account for anything but this ending. Of the complications noticed, the following were the most marked:—

Sleeplessness.—This has been a most trying part of the disease, patients failing to get the proper amount of rest for days on end.

Otitis and Deafness.—This has been noticed in a few cases, but apparently clears up after a time.

Violent Epistaxis was noticed in a few cases, and all of these cases terminated fatally.

Pleural Effusion was noticed in a number of cases, both single and double.

Empyema was found in two cases (post-mortem).

Pericarditis was seen in a few cases.

There was another form of the disease which took on more of the abdominal form, the patient running the temperature, but instead of having lung trouble, diarrhoea and cholicky pains and vomiting were the chief symptoms; the majority of these appeared to be mild cases.

In pregnant women who suffered from the disease, both still-birth and miscarriage were noted in a certain number of cases. A symptom which has not as yet been referred to was the pulse rate; this has been in all cases slow, in one case it fell as low as 44 per minute, and this slow pulse is apt to continue during convalescence.

Of the 13 post-mortems done by the writer of this report the lesions found were very constant.

On opening the thorax it could be seen that pleural adhesions were present in considerable quantities, and they were usually soft and easily broken down. Pleural effusion was present in five out of the thirteen. Empyema was found twice. Pericarditis with effusion was found three times. On examining the lung it could be seen that there was a considerable amount of patchy congestion, especially towards the bases, but no real consolidation.

If a section of the lung was made and the tissue squeezed, thick mucopurulent matter could be expressed from the smaller bronchi. A piece of the lung tissue when placed in water would float. The appearance of the lungs varied from a patchy pink colour to a deep purple.

The amount of pleuritic fluid found was usually fairly considerable, as was also the amount of pericardial fluid.

A point of considerable interest has been raised, and that is the possibility of an increase in the number of cases of tuberculosis, owing to the lungs having been weakened and rendered more easy to be invaded owing to a prolonged attack of influenza. A few charts are attached showing the various forms taken by the disease:—

No. 1.—A rapid fatal case the patient dying of toxæmia.

No. 2.—An ordinary case resulting in recovery.

No. 3.—A case of influenza in which broncho-pneumonia developed with fatal termination.

No. 4.—A case of influenza in which the symptoms were abdominal, the patient recovering.

TREATMENT.

This has been purely symptomatic. For the headache, phenacetin, aspirin, salicylates were used. For the cough, the drugs that seemed to yield the best results were a mixture of Ammon. carb. and Tinc. or Infusion of senegæ. The temperature did not appear to be affected to any great degree by either quinine, aspirin or any other drug.

Strychnine and digitalis had to be used freely to combat cardiac failure, and brandy was also freely used. Rest in bed, with the maximum amount of good nourishment, was imposed. During the latter part of the epidemic, plenty of good strong beef tea was given out to the patients at the out-patient department at the hospital, also to the Police and W.A.F.F. and to labourers of the Public Health Department, and it was wonderful to see the effect of this simple remedy in causing a distinct improvement in the physical appearance of those who received it.

R. W. ORPEN,

Acting S. M. O.

MEDICAL OFFICE,

Bathurst, Gambia.

28th October, 1918.

Chart I.

DISEASE

NAME

Sept.:

DATE.		17		18		DATE.	
PULSE		45 100		64 138		PULSE	
RESPIRATION		34 110		64 126		RESPIRATION	
DAY or DISEASE		M. E.		M. E.		DAY or DISEASE	
HOUR.		3 7 11		3 7 11		HOUR.	
108°						42°	
107°						41°	
106°						40°	
105°						39°	
104°						38°	
103°						37°	
102°						36°	
101°						35°	
100°						SKIN.	
99°						URINE.	
98°						BOWELS.	
97°						WEIGHT.	
96°						SICKNESS.	
95°							

On Admission

Hypo: Morph. gr. & 9 a.m.

Hypo: Digit. gr. & 30

Strych. gr. & 30

Died 7.30.

FÄHRENNHEIT

CENTIGRADE.

[illegible]

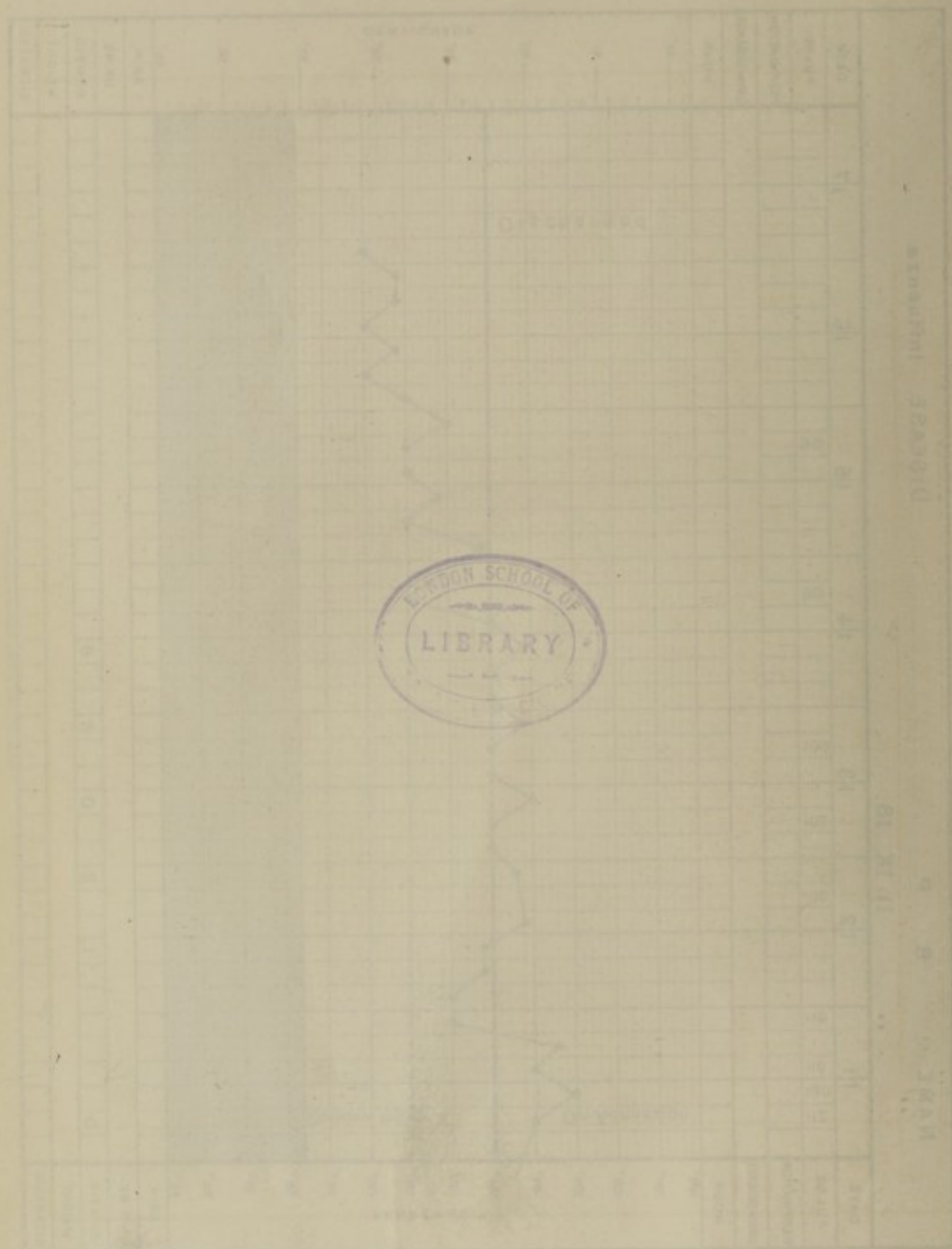
Chart II.

DISEASE Influenza

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8. 9.

NAME		B. P.		DISEASE												Influenza															
DATE.		PULSE.		RESPIRATION		DAY or DISEASE		HOUR.		TEMPERATURE																					
DATE.		PULSE.		RESPIRATION		DAY or DISEASE		HOUR.		TEMPERATURE																					
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DISEASE Pneumonia

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