

Annual report of the Medical Department / Colony of the Gambia.

Contributors

Gambia. Medical Department.

Publication/Creation

London : printed by Waterlow, [1916]

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COLONY OF THE GAMBIA.

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ANNUAL MEDICAL AND SANITARY REPORT FOR THE YEAR 1916.

PRINTED BY
—WATERLOW & SONS LIMITED, LONDON WALL, LONDON.—
1917.

CONSTITUTION OF THE COLONY

ANNUAL REPORT



PRINTED BY
HARRISON & SONS, LTD., LONDON

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MEDICAL OFFICE,

BATHURST,

GAMBIA,

23rd April, 1917.

SIR,

I have the honour to submit, for the information of His Excellency the Governor and transmission to the Right Honourable the Secretary of State for the Colonies, the Medical and Sanitary Report for the Colony of the Gambia for the year ended 31st December, 1916.

I have the honour to be,

Sir,

Your obedient servant,

R. W. ORPEN,

Acting Senior Medical Officer.

THE HONOURABLE

THE ACTING COLONIAL SECRETARY,

BATHURST, GAMBIA.

Annual Medical and Sanitary Report

FOR THE

YEAR ENDING 31ST DECEMBER, 1916.

I. ADMINISTRATIVE.

(a) STAFF.

Dr. A. E. Horn, Senior Medical Officer, in charge of the Medical Department, was on duty from the latter part of 1915 until the 11th September, 1916, when he proceeded on leave up to the end of the year. He visited the MacCarthy Island Hospital and some parts of the Protectorate during January to May.

Dr. F. C. V. Thompson, Medical Officer, returned from active service in the Cameroons on April 4th with the West African Frontier Force, and was appointed Acting Medical Officer of Health. He was also in temporary charge of the Medical Department from April 17th to May 11th, when the Senior Medical Officer was on duty in the Protectorate; he proceeded on leave May 16th, and his services were engaged temporarily by the War Office after the expiration of his leave.

Dr. R. H. Miller, Medical Officer, remained on duty in Somaliland with the troops throughout the year; his period of service in this Colony was extended by the Secretary of State, under Despatch No. 192, dated 11th September, 1916.

Dr. T. Ryan, Medical Officer, returned from leave of absence, and resumed duty February 20th. He was in temporary charge of the Medical and Board of Health Departments during Dr. Horn's visit to the Protectorate in March; and from December 6th to 31st he was in charge of the West African Frontier Force detachment travelling in the Protectorate on duty.

Dr. J. C. Watt, Medical Officer, was transferred to East Africa, for service with the troops. He left the Colony on May 5th.

Dr. E. B. Bate, Medical Officer, proceeded on leave on March 4th, and returned to duty August 16th. He was appointed Acting Medical Officer of Health from September 11th, when Dr. Orpen, Medical Officer of Health, acted as Senior Medical Officer, *vice* Dr. A. E. Horn on leave; and on December 6th he resumed the work of Medical Officer in the Victoria General Hospital.

Dr. Tom Bishop, local Medical Practitioner, was temporarily engaged on December 6th to augment the Administrative Medical Staff, which was then under-staffed, as in 1915.

Nursing Staff:—

Miss K. M. Gordon, Nursing Sister-in-charge, who had been on duty since July, 1915, proceeded on leave on August 11th; and was transferred to the Gold Coast after the expiration of her leave of absence.

Miss L. E. H. Maulton, Nursing Sister, was still serving in the Cameroons at the beginning of the year; from thence she proceeded on leave, and after its expiration resigned on February 5th.

Miss R. Roddan, Nursing Sister, proceeded on leave of absence on February 21st, and resigned from the service after the expiration of her leave.

Miss M. M. Hall, Nursing Sister, returned from active service at the Cameroons, and resumed work in the Victoria General Hospital on March 11th. She proceeded on leave on May 22nd, and returned to duty on November 7th, when she assumed the duties of Acting Nursing Sister-in-charge, *vice* Miss Gordon on leave.

Miss M. Thompson, Nursing Sister, was appointed on May 25th. She arrived and assumed duty in the Colony on June 9th, and acted as Nursing Sister-in-charge from August 11th to November 6th, on the departure of Miss K. M. Gordon, until Miss Hall's arrival.

Miss H. R. Wakefield, Nursing Sister, was appointed on June 10th, and she arrived and assumed duty in the Colony on June 22nd, serving to the end of the year.

(b) FINANCIAL.
MEDICAL DEPARTMENT.
EXPENDITURE.

Details.	Estimated.	Actual.
	£ s. d.	£ s. d.
Personal emoluments	6,020 0 0	5,244 13 8
OTHER CHARGES.		
Bush allowance to Medical Officer, MacCarthy Island, at 2s. 6d. per day	35 0 0	—
Travelling Expenses for Nurses in England	12 0 0	6 8 4
Maintenance of sick (Dietary, &c.)	550 0 0	526 5 9
Washing	70 0 0	64 6 10
Fuel	50 0 0	46 10 11
Equipment	75 0 0	206 13 9
Medicines, dressings and medical comforts	325 0 0	496 12 6
Expenses of burials	25 0 0	18 19 7
Vaccinations	600 0 0	402 2 8
Maintenance of lunatics at Sa. Leone	234 0 0	248 17 3
Infectious Diseases Hospital	10 0 0	4 10 5
Purchase and repairs to instruments	40 0 0	14 16 6
Medical library	10 0 0	2 5 8
Horse and bicycle or motor allowance	200 0 0	87 9 6
Uniforms for attendants	33 0 0	23 1 7
Sea passages for Officers and Nursing Sisters	374 0 0	339 0 2
Fees for special course of instructions to Medical Officers in England	100 0 0	—
Fees for selection and medical examination of Officers and Nursing Sisters	20 0 0	11 14 0
Outfit allowances to Medical Officers	24 0 0	—
Uniforms for Nursing Sisters	60 0 0	36 0 0
Laboratory equipment	20 0 0	15 13 6
Infectious diseases prevention	80 0 0	5 4 9
Maintenance of Home for Destitutes	164 0 0	155 13 11
Sundries	30 0 0	33 18 4
Field allowance to Medical Officers and Nurses	—	408 5 0
Ration allowance to Medical Officers	—	52 2 0
TOTAL	£9,161 0 0	£8,451 6 7

RECEIPTS

Details.	Bathurst and MacCarthy Island.	
	Estimated.	Actual.
	£ s. d.	£ s. d.
Maintenance of Sick and Sale of Medicines	100 0 0	172 12 11

FINANCIAL.

BOARD OF HEALTH DEPARTMENT.

Details.	Estimated.		Actual.	
	£	s. d.	£	s. d.
Personal Emoluments	1,016	0 0	910	3 3
Other Charges.				
Uniforms	60	0 0	27	17 9
Tools	120	0 0	0	18 0
Upkeep of Horses and Carts	350	0 0	347	12 3
Upkeep of Street Lights	350	0 0	312	10 0
Cleaning of Streets and Drains	840	0 0	844	12 7
Cleaning Market and Slaughter House	50	0 0	45	15 0
Emptying Latrines	450	0 0	373	0 5
Anti-mosquito Measures, Oil, Disinfectants and Appliances	330	0 0	318	15 10
Sea Passages for Officers	100	0 0	79	11 8
Cleaning of Cemeteries	100	0 0	100	0 0
Repair and Working of Sluice Gates	150	0 0	110	15 4
Cleaning of Government Compounds	100	0 0	99	19 9
Rent of No. 9 Buckle Street	100	0 0	82	6 8
Purchase of New Dust Bins	350	0 0	57	5 9
Sundries	35	0 0	25	15 8
	4,501	0 0	3,736	19 11
MACCARTHY SQUARE BOARD.				
Personal Emoluments	94	0 0	93	16 3
Other Charges.				
Tools	6	0 0	0	13 8
Painting and Upkeep of Railings and Seats	20	0 0	12	0 3
Sundries	5	0 0	0	17 0
Total	£4,626	0 0	£3,844	7 1

RECEIPTS.

BOARD OF HEALTH DEPARTMENT.

	Estimated.		Actual.	
	£	s. d.	£	s. d.
Payments of Rates, etc.	1,550	0 0	1,867	7 7

MACCARTHY SQUARE BOARD.

Grant-in-aid made annually for the up-keep of the "Victoria Recreation Ground" (MacCarthy Square), for public recreation and military exercises, etc.

II. PUBLIC HEALTH.

(a) GENERAL REMARKS.

The general health of Bathurst and Colony has been fairly satisfactory, and there has been no marked sickness. Only three European officials were invalided during the past year.

(b) EUROPEAN OFFICIALS.

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

	1915.	1916.
Total number of officials resident	44	52
Average number resident	28	27
Total number on sick list	26	28
Total number of days on sick list	161	235
Average daily number on sick list	0.44	0.64
Percentage of sick to average number resident	92.8	103.70
Average number of days on sick list for each patient	6.2	8.39
Average sick time to each resident	5.7	8.7
Total number invalided	—	3
Percentage of invalidings to total residents	—	5.77
Total deaths	—	—
Percentage of deaths to total residents	—	—
Percentage of deaths to average number residents	—	—
Number of cases of sickness contracted away from residence	—	—

Causes of Invaliding.—(1) Gastric ulcer, (2) anæmia and furunculosis, (3) cirrhosis of liver.

(c) NATIVE OFFICIALS.

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

	1915.	1916.
Total number of officials resident	136	143
Average number resident	120	130
Total number on sick list	128	137
Total number of days on sick list	599	559
Average daily number on sick list	1.64	1.52
Percentage of sick to average number resident	100.6	105.38
Average sick time to each resident	5	4
Total number invalided	—	—
Percentage of invalidings to total residents	—	—
Total deaths	—	—
Percentage of deaths to total residents	—	—
Percentage of deaths to average number resident	—	—
Number of cases of sickness contracted away from residence	—	—

(d) GENERAL EUROPEAN POPULATION.

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

	1915.	1916.
Total number resident	84	95
Total number on the sick list	31	45
Total number invalided	—	2
Total deaths of residents	—	—
Total deaths from passing ships	—	—

Causes of invalidings: Malaria and blackwater fever.

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

Years.	Births.	Deaths	Births in Excess.	Deaths in Excess.	Remarks.
1907	326	386	—	60	
1908	351	387	—	36	
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.

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

Years.	Estimated Population.	Total Deaths.	Death-rate per 1,000.	Remarks.
1907	13,157	386	28.33	
1908	13,157	387	29.41	
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.

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.
1907	326	37	56	22	11	13	
1908	351	55	77	23	—	32	
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.

RETURN OF INMATES AT THE HOME FOR DESTITUTES AND AFFLICTED
PERSONS FOR THE YEAR 1916.

Sex.	Remained 31.12.15.	Admitted 1916.	Total.	Discharged.	Died.	Remaining 31.12.16.
Male	3	13	16	9	3	4
Female	3	7	10	1	4	5
Total	6	20	26	10	7	9

Causes of deaths: Chronic Endocarditis, Nephritis—Cardiac Syncope, Myocarditis, Gonorrhoeal Arthritis, Enteritis and Paraplegia.

A patient (French subject), recorded under "Discharge," was returned to Dakar under military escort, certified medically as Insane; another was transferred to the Infectious Diseases Hospital for an attack of Chicken Pox.

INFECTIOUS DISEASES HOSPITAL.

The following admissions occurred: Small-pox, 10; Chicken-pox 3. No deaths.

Annual Sanitary Report

FOR THE

YEAR ENDED 31ST DECEMBER, 1916.

I. ADMINISTRATIVE.

The Offices of the Board of Health during the year were held as follows :—

Dr. A. E. Horn, S.M.O., Chairman of the Board from January 1st until 11th September, when he proceeded on leave.

Dr. R. W. Orpen, M.O.H., returned from leave on 11th May, and acted as Chairman of the Board from September 11th until the end of the year.

Dr. E. B. Bate acted as M.O.H. from 11th September until December 5th.

Mr. T. J. Gibbs, Town Warden, returned from leave on the 28th January. On June 30th he resigned his appointment.

Mr. G. B. Morey, Assistant Town Warden, proceeded on leave on February 21st and returned on June 22nd. On the resignation of Mr. T. J. Gibbs he was appointed Sanitary Inspector.

Mr. C. Wolfendale was appointed Assistant Sanitary Inspector on August 18th; he proceeded on leave on September 11th, having been in hospital suffering from an attack of Blackwater Fever.

The most important incident during the past year was the termination of the long "divorce" proceedings between the Board of Health and Rate Collection. The latter has now been transferred to another Department, and consequently the Board of Health is purely a Sanitary body, and it is to be hoped that in the future the change will result in increased attention to the question of Public Health.

Offices and Quarters.—The house at No. 9 Buckle Street has been put into a good state of repair and has been converted into double quarters. Both the Sanitary Inspectors reside here, and as their office and stores are on the ground floor it proves to be very convenient. The M.O.H. still occupies the quarters known as the "Dovecote" as an office. In the coming year it is to be repaired and painted.

Stables.—No change has been carried out during the past year; the majority of the horses of the Board of Health are stalled at the back of the Market, the remainder at No. 11 Wellington Street, in close proximity to European quarters, and cause a considerable amount of annoyance owing to flies, noise, smell, etc. An enlargement of the stables is contemplated in the coming year.

Sanitary Station.—A commencement has been made, in that the ground has been cleared, but a new site has presented itself and it is proposed to

utilise it, and thus leave the former site free for any possible extension in the building of bungalows, either by Government or private enterprise. The new site is only slightly further away from Bathurst, and it is in a position well to the leeward of all possible buildings, and is also more secluded and private in that it does not lie alongside the road but has a screen of trees.

II. PREVENTIVE MEASURES.

(a) MOSQUITO- AND INSECT-BORNE DISEASES.

Rainfall.

There was a difference of 9.62 ins. in the rainfall of 1916 as compared with that of 1915; in the former year it was 38.02 and in the latter 47.64.

Malaria.

During the year there has been a considerable amount of Malaria from time to time. From a review of the hospital records it is evident that the majority of malarial cases are imported into Bathurst. There is a considerable exodus of people from Bathurst to the rivers and creeks during the months of November and December, and these people remain up the river until the months of June and July, when they return to Bathurst. As is well known, the river and creeks are a hotbed of mosquitoes, and Bathurst is beginning to get rid of its anopheline breeding grounds; although in the month of September there was in District 2 a great outcrop of anopheline larvæ, these were immediately taken care of by the Board of Health, and but few can have fully developed. Another point is that the *Stegomyia Fasciata* is the common mosquito of Bathurst.

Yellow Fever.

Throughout the year there was only one case diagnosed as Yellow Fever; it proved fatal. A full report of this case was forwarded to the Colonial Office, and as a result of the examination of the pathological specimens sent, Dr. Newham, of the London School of Tropical Medicine, came to the conclusion that the patient died from Acute Yellow Atrophy of the Liver and not from Yellow Fever. The patient came from a village (Jonicunda) situated on the North bank of the river opposite to Bathurst.

Notifications of Yellow Fever were received from the following places:—Accra, three occasions; Togoland, once; Secondee, once; Gambaga (Gold Coast) once.

Trypanosomiasis.

Particular attention was drawn to this disease, as one of the Sanitary labourers, who lived in the sanitary lines, died from this cause in the latter part of 1915. During the past year two other men living in the same compound were admitted to hospital for other diseases, and during the routine examination of blood films trypanosomes were seen. Both these cases were placed under treatment, and at the time of writing are carrying out their usual duties, and no parasites are to be seen in the blood. An examination of the remainder of the labourers, some sixty, did not yield any further information. Two other cases were notified, one of them proving to be fatal. In view of the above, the question of having the mangroves, which are to be found on all sides of Bathurst, north excepted, cleared was raised, and it is to be hoped that in the coming year a considerable belt will be made free of tsetse.

The usual reports of the Commissioners on Professor Todd's cases have been forwarded. Apparently from perusal of the report the disease in this locality pursues a chronic course, and a number apparently get well. Another point has been pointed out to me by the Commissioner of the South Bank (Dr. Hopkinson), and that is the small amount of adenitis present.

"Plague."

Cases of Plague were notified on two occasions:—South Africa once, Liverpool once.

Mosquito Index.

Mosquito indices have been taken each month during the rains, and on the whole there is an improvement.

The following information is given:—

SPECIMENS OF LARVÆ FROM ALL SOURCES.

1910.	1911.	1912.	1913.	1914.	1915.	1916.
(44 %)	(50 %)	622	957	1,036	622	265

Compounds examined:—

INDICES.

1912.	1913.	1914.	1915.	1916.
—	—	—	January ... 2 %	—
—	—	—	February ... 2 %	—
—	March ... 23 %	—	March ... —	—
—	—	—	April ... 12 %	—
—	—	—	May ... 10 %	—
June ... 28 %	—	June ... 53 %	June ... 10 %	—
—	—	—	July ... 15½ %	July ... 8·6 %
—	—	—	August ... 14·2 %	August ... 6·7 %
—	September 24·2 %	—	September ... 7·3 %	September ... 3·3 %
—	—	October ... 64 %	October ... 6·6 %	October ... 4·28 %
—	—	—	November ... 6·6 %	November ... 6·6 %
—	—	—	December ... 1·3 %	—

Of the various species captured there is no question but that the *Stegomyia* still holds the pride of place. It is of interest to note that not one single specimen of anopheles was taken by the Inspectors of Nuisances during the past year, in spite of what has been stated above (Malaria). One of the chief causes of the outbreak referred to, which also occurred in grass swamps in the cemetery, was the irregular rainfall, which, because of intervals when no rain fell, caused pools to become isolated and fish to be cut off, and these were eaten by birds. All these places were very carefully watched, and oiling was extensively resorted to, with the result that this was the only occasion when this outcrop of mosquito took place, thus bearing out the hopes expressed in the Annual Report for 1915, page 15 (*e*) (Bush Clearing).

Total specimens captured, 265.

From Coolers, 235 ; of these *Stegomyia*, 202 ; *Culex*, 18 ; *Steg/Culex*, 15.
 „ Wells, 30 ; do. 15 ; do. 8 ; do. 7.

Anti-Mosquito Measures.

The methods adopted were identical with those in force in 1915.

Prosecutions.—There has been a distinct diminution in the total for the past year, and without doubt the people are beginning to realise that larvæ

found in their premises mean loss of money. Another point is that the number of second offences is much smaller.

In 1910.	1911.	1912.	1913.	1914.	1915.	1916.
Nil	25	9	164	198	407	221

More than 90 per cent. of the above were mosquito prosecutions ; only a few others were for infringement of sanitary laws.

Stocking with Fish.—A great improvement was hoped for by this means, and in view of what has already been said the fish have proved their value.

The number of wells stocked and restocked with fish was 351, also 34 barrels. It can now be said that practically all the wells of Bathurst are protected from larvæ by this means, and an important point to be remembered is that, out of the 351 wells stocked, only 127 were so treated as a result of a notice from the Board of Health ; the remainder were stocked by the owners of the compounds, who come to the offices of the Board of Health and ask for fish, which they obtain, as a plentiful supply is always kept, their name and address is noted, and a few days afterwards the Inspector responsible for that particular district visits the compound in order to see that the well is stocked.

For comparison the number of wells in 1915 found to contain larvæ was 179, during the past year the total was 30.

In the lagoons the fish have done their duty in a most noble manner ; only on one occasion was there an outbreak of larvæ, already referred to, and there has been a complete absence of the clouds of *Culex* that used to invade the town from time to time. There is not the slightest doubt that the fish—*Chromis Bimaculatus* (Bell) and *Hemichromis Macrocephalus* (Bleeker)—are responsible for this improvement. All the lagoons were connected up by means of canals, and the fish could pass freely from one to the other.

In Mr. Bacot's report on his investigations on behalf of the Yellow Fever Commission (West Africa) (Reports, Volume 3, page 4), the following occurs "The pools are often tenanted by tadpoles, the mosquito larvæ being found among the roots of the grasses—the frogs or toads with which these swamps abound being no doubt responsible for the absence of mosquito larvæ in the open pools."

A similar condition exists in Bathurst during the rains, and pools have been watched for long periods in order to see if tadpoles were destructive to larvæ, and the unanimous opinion is that, in Bathurst at any rate, that tadpoles and larvæ live in perfect harmony.

Oiling.—Considerably more oiling has been carried out in 1916 than in former years. This was necessary owing to the irregular rainfall, and the inability of fish to reach the places where they would in ordinary circumstances swarm. This applies especially to the back of the hospital, portions of the cemetery and No. 2 district. The edges of the old cholera pit gave a considerable amount of trouble, and it was found necessary occasionally to turn out a whole gang of men to cope with the nuisance.

Cutting of Grass.—This is a matter that is becoming easier each year, as repeated cuttings are gradually producing a thick-growing low grass which allows standing water to be seen, and presents but little protection to mosquitoes. A further extension of the clearing beyond the cemetery has been carried out, so now an area outside Bathurst lying between the Cape road and the sea has been cleared about half a mile. In the cemetery itself, besides grass cutting, rooting up stumps and lopping of trees has been carried out, so that now it is possible to have a clear view from end to end.

The site of the Cholera Pit has been determined, and its boundaries marked by cement pillars. In connection with this epidemic the Hospital Records show the entry, "May 4th 1869, Cholera;" from this date until July 2nd 130 cases were admitted, then apparently there was a lull until October 1st, when another outbreak of 26 cases occurred, giving a total of hospital cases of 156 with 101 deaths.

In all, 1,177 bodies have been buried in the above-mentioned pit.

Trees.—An examination of the trees in the town revealed the fact that a number of them had rot holes in them, which in the rains held water, and were excellent breeding places. These all were filled in with sand or rubble and then a cement cap was placed on the top. This has been satisfactory in some cases, but in others it has not been quite so good, owing to the difficulty of getting a good joint between the cement and wood and also to bad cement.

(b) EPIDEMIC DISEASES.

Small-Pox.

There were only two cases of Small-pox notified in Bathurst in the course of the past year. In the Protectorate during the month of May there was a small outbreak at MacCarthy Island of 15 cases, with 4 deaths. All precautions were taken and there was no further extension of the disease.

The following show the vaccinations in Bathurst and the Protectorate for the past two years:—

				Bathurst.			Protectorate.
Successes	...	...	...	571	...	...	1,145
Failures	...	...	...	58	...	...	223
Not seen	...	...	...	31	...	...	689
Total for 1915				660	...	...	2,057
Successes	...	...	...	102	...	...	2,909
Failures	...	...	...	107	...	...	267
Not seen	...	...	...	Nil	...	...	5,509
Total for 1916				209	...	...	8,685

All cases of Small-pox seen were of a mild type, with the exception of five cases in the MacCarthy Island outbreak, which were of the confluent type, of which three proved fatal.

Chicken Pox.

There were only three cases notified during the year.

Dysentery and Diarrhœa.

Both these diseases were to be noticed, especially at the commencement of the rains. As to the former there was a small outbreak in the prison, but this was attended to, the water supply changed; latrines which were not fly proof made so, and the whole of the kitchen made fly proof, and proper covers provided for all food.

Pneumonia.

There was considerably less of this disease than in the previous year.

III.—GENERAL MEASURES.

SEWAGE DISPOSAL.

It is hoped in the coming year to construct a new latrine at the Victoria Embankment, as the present one is quite inadequate. The site proposed for the new one will be slightly further away from the road, and its seating capacity will be increased. During the year 39 cesspits were closed, but there are many more that will have to be abolished, on account of the sub-soil water in the rains flooding them, and a gradual introduction of the dry earth system introduced. Oiling of the waterlogged cesspits was carried out during the height of the rains, as it has been found that the *Stegomyia* is frequently found in these places. The majority of the cesspits are in the portions of the town occupied by Sierra Leoneans and Akus.

DISPOSAL OF RUBBISH.

During the year a new incinerator has been constructed at Lasso Wharf ; this incinerator will be of great use, as it is situated in a portion of the town where the majority of house-rubbish is obtained.

A great quantity of burnt material is obtained during any year, and it proves to be of great value for filling in purposes, for the simple reason that it binds well and makes quite a good road. The majority of this material during the past year has been spread at the back of the Old Military Hospital, thus eliminating a well-known anopheline area.

The amount of incombustible material removed from the compounds is surprising, and apparently shows no sign of diminution ; it is now removed and dumped in deep water.

A new incinerator is required in the Half Die portion of the town.

DRAINS.

The drains of Bathurst are in their original state, of various depths and sizes, and will always prove to be unsatisfactory until the whole matter of drainage is considered as a whole scheme. Anglesea Street and Russel Street drains have been lengthened in a similar manner to Picton Street last year, and have given satisfaction, but, as stated in last year's report, this is only a palliative measure. The invert of Blucher Street drain has been lowered, and by this means it is hoped to empty the drain rapidly. With the new water supply, about which not much is known at the time of writing, owing to non-pumping, caused by the erection of the dam at the water works, there is no doubt that there will be an extra amount of waste water standing in the drains in the dry season, as well as the waste water at the standpipes, which is bound to occur, owing to the ingenuity of the people who devise methods of obtaining water continually, by inserting a piece of stick or otherwise into the handle of the standpipe, because they are too lazy to keep the handle turned. Now that the filling in has recommenced in the Half Die area it will be necessary to construct a new drain having its outfall at Half Die Sluice gate.

WATER SUPPLY.

The long expected water supply arrived during the year, but so far it cannot be said to have been much of a success, as the pumping has been very irregular and the supply intermittent and insufficient. It is to be hoped that soon a good trial of the whole system will be undertaken and the water turned on either at definite hours or continuously.

STREETS.

Considerable improvement has been made in the streets owing to the work of the Land Officer; they have been straightened out and encroachments rectified, also name plates are in the process of being erected at suitable positions. Several of the smaller streets have been levelled and present a quite different appearance, but at the same time it should be recorded that practically all the streets are sand, and that the extension of macadamising of streets should be undertaken. The main streets especially should be attended to; for instance, Clifton Road, which is the main artery of the town, should be a firm macadamised road from the town boundary to MacCarthy Square. Owing to commercial enterprise and the erection of new buildings and enlargement of old ones, Wellington Street, which is the one most used, should be widened between its junction with Hill Street and Cotton Street, and a proper surface laid down, so that the traffic and the tramways should have space to relieve the congestion.

The lighting of the streets and wharves is still insufficient. The Marine Parade, where the new bungalows have been erected, requires more lamp posts, and the southern end of the town has no street lamps.

PRISON.

This is extremely well kept, but it is without doubt too small for its requirements and at times is considerably overcrowded. The small epidemic of dysentery that appeared in the past year is a warning. The provision of further accommodation has been considered, but so far no work has been commenced.

MARKET.

The market still performs its useful function, and is well patronised.

The slaughtering in the slaughter houses still show an upward tendency, as a comparison for the past three years shows.

		1914.		1915.		1916.
Bullocks	...	1,314	...	1,399	...	1,531
Sheep	...	187	...	253	...	202
Swine	...	62	...	149	...	223
Goats	...	Nil	...	Nil	...	40
Totals	...	<u>1,563</u>	...	<u>1,801</u>	...	<u>1,996</u>

The meat is of good quality, and only occasionally is it necessary to condemn. The following were seized and destroyed:—

68 lbs. of meat for decomposition, 2 swine (cysticercus 1, Swine fever 1—?), Lungs of cow 2 (Tubercular), Liver of Cow (flake).

VICTORIA HOSPITAL.

During the past year there have been no structural alterations. Neither the new wards nor the mortuary have been erected; the Out-patient Department is still the dilapidated wooden shed. The theatre is unaltered and at times is unbearable on account of want of cross ventilation; the laboratory is in such a position that it is impossible to work in it during the morning owing to the position of the windows which face east.

The whole of the hospital, which is rapidly passing to within the category of "ancient monuments," requires complete remodelling.

HOME FOR DESTITUTES.

The average number of inmates in this institution during the past year was eight. The whole building has been maintained in good repair.

WEST AFRICAN FRONTIER FORCE LINES.

These have again this year been vacated, the W.A.F.F.'s being in the Protectorate.

The lines have been greatly improved by having a fence made all round them.

INFECTIOUS DISEASES HOSPITAL.

Opportunity was seized to have the whole of this Government building thoroughly renovated, as it was only occupied on two occasions during the year under review.

"DUTTON SCHEME."

Considerable improvement to Bathurst has been carried out under this head.

Reference was made in the annual report for 1915 on page 12, under the heading of "malaria," to the breeding grounds of the anopheles mosquito, and the following places were mentioned:—(1) the swampy area that lies behind Government House, No. 1 Bungalow, the Old Military Hospital and the hospital; (2) that portion of the town by Thomas Street, Allen Street and the main drain. These two were the places filled in during the year, the ground at the back of No. 1 Bungalow with material obtained from the foreshore, in all 416 cubic yards; at the back of the Old Military Hospital incinerator rubbish was used, and at the time of writing the Hospital compound is under treatment. The other area mentioned above was treated in a very systematic way, the streets being first levelled and raised, and then material was dumped inside the compounds and spread, with the result that the whole of this area, which has always been one of the most insanitary in Bathurst, is now completely altered for the better. As the majority of this work was done in the rains, it was possible to see exactly where the water lodged and to remedy it. In all 9,145 cubic yards of sand were used. The main drain mentioned above is really not a drain in the true sense of the word, it is only a channel that wandered through the low lying land at Box Bar; and during the year this drain was straightened out and widened, and the material so obtained used for filling in in the region of Rankin Place. A very considerable amount of sand has been dumped in various streets and pools by the carts of the Board of Health, especially in the rainy season when depressions, etc., could be detected, with the result that the areas that had always to be under constant supervision are becoming fewer. No further erection of bungalows has been undertaken during the year, neither has there been any expropriation carried out with reference to the inhabitants in Clifton Road, and until this is done it will be impossible to render the back of Marine Parade free from possible larval breeding areas. This low lying ground has in the past year been a nuisance, and a man has had to be "told off" to specially oil this place twice a week.

A further expropriation of a few compounds is desirable in the Half Die portion of the town, *i.e.*, Cotton Street, between the points where it joins with Lemon Street and Wellington Street; in comparison with the remainder of the street this portion is far too narrow, and by expropriating a few compounds a good broad street running from side to side of the town would result.

Owing to increased commercial activity in this portion of the town, it is quite possible that in the near future great improvements will take place; already large and permanent buildings are in the process of being erected.

BAKEHOUSES AND NOXIOUS TRADES.

Attention has been paid to bakehouses, hide curing and wax melting.

Under the Public Health Regulations, 1915, all the bakehouses have been frequently visited and inspected, with the result that although many of them do not reach the ideal, yet they are all now fly-proof and have concrete floors.

The hide tanks are now kept much cleaner, owing to more frequent whitewashing, and are kept covered.

Owing to a simple contrivance the fumes of the wax houses do not cause the same amount of nuisance.

LEGISLATION.

The following Ordinances were passed during the year :—

- (1) Quarantine Ordinance, No. 2 of 1916.
- (2) Vaccination Ordinance, No. 23 of 1916.
- (3) Rates Amendment Ordinance, No. 32 of 1916.
- (4) Public Health Amendment Ordinance, No. 33 of 1916.
- (5) Bathurst Waterworks (Amendment) Ordinance, No. 35 of 1916.

RECOMMENDATIONS FOR FUTURE WORK.

The following are suggested :—

- (1) Additional Incinerator (in Cotton Street area).
- (2) Improved lighting of the town.
- (3) Whole drainage system to be revised.
- (4) Extension of macadamising of the streets.
- (5) Continuation of filling under Dutton Scheme (Half Die).
- (6) A Sanitary Station.
- (7) New Stables.

The following Report was submitted to the Senior Medical Officer by the Medical Officer of Health.

R. W. ORPEN,

Acting Senior Medical Officer.

MACCARTHY ISLAND.

From MEDICAL OFFICER OF HEALTH.

To CHAIRMAN, BOARD OF HEALTH.

SIR,—I have the honour to forward to you the following report on the general condition of the above place. This report is the result of notes taken when I was at MacCarthy in charge of the recent epidemic of Small-pox. As Medical Officer of Health (Bathurst), I have no jurisdiction whatever in MacCarthy, as this is definitely under the control of the Senior Medical Officer,

but having stayed at this place for almost three weeks, I had an opportunity of thoroughly inspecting the town in a more complete manner than you could, owing to the short periods spent there by you when passing up and down the river.

2. The town of MacCarthy lies on the northern bank of the Island of MacCarthy, and faces north; the population, I am informed, is some 2,000, but during the trading there is a large influx of traders, etc., so that the population is considerably augmented. All the large trading firms have premises situated along the front with wharves on the river bank, in various stages of dilapidation. The whole of the frontage of the town, as seen from the river, presents a most untidy and neglected appearance. There has evidently in the past been some proper definite attempt at town planning, as can be seen by the main streets, which are good and broad, and run at right angles to each other, but owing to encroachments these streets are gradually becoming irregular, and at the back of the town, in the native quarter, in some cases the original alignment of the streets has been completely lost and built on. If MacCarthy is considered of sufficient importance it is absolutely necessary that a proper Ordnance Survey should be made and the town marked out, as the town is growing, especially in the native quarter, where huts are being built anywhere the owner likes.

3. Government buildings consist of Government House, Dispensary, Post Office, Hospital. Government House is a solid structure of stone and is used as a court house; the whole of this building requires attention, especially the woodwork of doors and windows, which in some cases is completely rotten. All sash windows should be removed, and large windows that open from top to bottom should be substituted. Some of the joists require to be renewed, and all doors to be repaired. Placed directly under that portion of the house where Europeans reside are the cells, a most decidedly unhygienic arrangement, and one that should not be allowed, as from experience gathered when an association cell is occupied by five or six prisoners, with the usual latrine pan, the result is by no means a pleasant one.

The Post Office is a brick building and is in good order.

The Hospital is a good building, and in a fair state of repair.

The Dispensary is good, and owing to the recent alterations is now a far more habitable dwelling house.

I noticed that no attention had been paid for a very long time to the rain gutters, as some of them were quite choked with grass and weeds, so that the water was unable to reach the tanks. These gutters have now been cleaned. I consider that the guttering of Government House should be increased so as to obtain a larger catchment area for the large 9,000-gallon tank. I am informed that this tank and the others (4 of 400 galls.) have not been cleaned out for a considerable time. The servants' latrine is too near the European quarters. Owing to the way in which the police lines have been erected in the past, there is no segregation for Europeans. These police lines, I consider, should be moved. The whole of the compound was in a very dirty condition. I would not like to state how many wheelbarrows of tins, bottles, etc., I had removed and buried by the prison gang. The dump hole was in the wrong place, so a new one was dug in a more suitable place, and orders given for the old one to be filled in. Apparently the general cleaning up is done by the prisoners, under the control of the police, but from what I could see, very little is done.

4. The Market was in a very dirty condition, tables not scrubbed and scraps of meat lying about, and it was apparently the habit to throw any offal into a compound close by, with the result that this compound was nothing

but a stinking fetid area. This was attended to, and a wooden case placed at the market for scraps ; for this should be substituted a sanitary bin with cover. Orders were given that all offal, etc., is to be buried at the end of each day.

5. Compounds in general require attention ; the usual amount of old rubbish is to be seen, and the town, for its size, is peculiar in having such a large number of empty lots. The number of lots that need fencing is large. Some of these places have been cleaned up, but I am quite sure that they will be as bad as ever in a short time. The whole of the back of the town outside the compounds is nothing but a dumping ground ; there must be tons of broken bottles and tins lying about.

6. Borrow Pits are to be found here and there, but especially at the back of the town ; one of those which I had filled in contained in the water enough mosquitoes to stock the Colony. The making of borrow pits ought to be made illegal, and they could be filled in with the rubbish mentioned in paragraph 5.

7. *Mosquitoes*.—Of course plenty of these pests were seen, as mentioned in paragraph 6, and in the usual receptacles, water tubs, tins, kerosine tins, etc. Only on a few occasions did I notice the *stegomyia* species, in the great majority the specimens were *culex*.

8. MacCarthy Island boasts of one public latrine, and this is in as good order as when it was erected, owing to its being scarcely ever used, the reason put forward being that it is too far outside the town, and secondly, owing to the river being tidal and the inhabitants taking their water from the river, they naturally decline to use this public convenience, with the result that the outskirts of the town is a vast latrine.

9. I only found five wells, one of which was obviously polluted and was closed.

10. If, as mentioned in paragraph 2, it is determined to do something for the place in order to make it more hygienic, I would bring to your notice the necessity of having some definite plan, and the first thing would be to apply the Public Health Ordinance, next to have a small sanitary staff, say six men as a beginning, also the prisoners. The method of removing rubbish might be accelerated if sanitary hammocks were introduced, similar to those used in Sierra Leone ; this would avoid expense of horses and carts. I would also suggest that the old magazine be converted into a fumigation chamber, it only requires a door and a little cement.

11. To summarise.—(A) Apply the Public Health Ordinance. (B) Institute a small sanitary gang, under the control of the dispenser in charge. (C) Introduce sanitary hammocks for the removal of rubbish. (D) Construct a small incinerator. (E) Convert the old magazine into a fumigation chamber. (F) Make the digging of borrow pits illegal. (G) Banish the herds of cows to a distance from the town. (H) Prohibit the keeping of swine within the town.

12. The above are the chief points that I noticed when I was at MacCarthy, and this report is forwarded owing to your request, and does not in any way dictate what ought to be done, but merely those points that appear to me to be important.

I have the honour to be,

Sir,

Your obedient servant,

(Sgd.) R. W. ORPEN,
M.O.H. (Bathurst).

Through the courtesy of Staff Surgeon Bushe, R.N., the following report is inserted :—

RETURN OF DISEASES WHICH HAVE PREVAILED AT H. M.
NAVAL WIRELESS STATION, CAPE ST. MARY, GAMBIA.

(JANUARY 1ST TO DECEMBER 31ST, 1916.)

Cow-pox.—Three simple cases calling for no particular mention. Ten persons were vaccinated during the year. All had been vaccinated previously at some time or other.

Malaria.—Fifteen cases occurred amongst seven individuals—one man had seven attacks, one had three attacks, and the remainder had one attack each.

Malarial parasites were not found in every case (possibly owing to the taking of quinine (5 gr.) each day).

Where parasites were found the small-ringed Sub-tertian was the type recognised.

All cases were mild, excepting, perhaps, the case of a man who had seven attacks, and who was invalided home suffering from anæmia and general cachexia. The average maximum temperature was 101·6 F. (Average loss of time of duty between three and four days per case.)

Disease of Nervous System.—(Herpes Zoster). One case typical of this disease. Treated for five days on sick list, after which attended for daily dressing of vesicles.

Catarrh.—One case of a general cold with some bronchitis. Two days treated on sick list.

Disease of Stomach.—Two cases occurred in the same individual; of a neurotic type, but probably induced by the ingestion of unsuitable articles of food.

Miscellaneous.—Four cases occurred worthy of no special mention, and giving no days on the sick list. One remains under continuous treatment.

TOTALS.—26 cases with a loss to duty of 64 days in all.

(Sgd.) C. K. BUSHE,

Staff-Surgeon, R.N.

Officer-in-charge.

DEPARTMENTAL CHANGES.

Names.	Office.	Remarks.
E. Njie	Cook	Leave December 28th, 1915, to January 9th, 1916. Resigned May 1st, and re-engaged August 1st.
L. E. Maulton	Nursing Sister	Resigned February 5th.
J. N. Savage	Fourth Grade Clerk	Appointed February 4th. Transferred to Post Office, August 16.
T. Ryan	Medical Officer	Leave (returned) February 20th.
R. Roddan	Nursing Sister	Leave February 21st. Resigned May 29th.
W. G. Manly-Rollings	Apprentice	Resigned March 9th.
M. M. Hall	Nursing Sister	Leave from May 22nd to November 6th. Appointed Acting Nursing Sister-in-Charge, November 7th.
E. B. Bate... ..	Medical Officer	Appointed Acting Medical Officer of Health, September 11th to December 5th.
F. C. V. Thompson	Medical Officer	Appointed Acting Medical Officer of Health, April 4th. Proceeded on leave May 16th.
L. H. C. Lewis	Female Ward Attendant	Leave April 15th to 28th.
W. D. Njie	Apprentice	Appointed April 22nd.
J. C. Watt	Medical Officer	Transferred to East Africa Protectorate, May 5th.
G. A. Saunders	Attendant, Home for Destitutes.	Leave May 1st to 14th.
M. Thompson	Nursing Sister	Appointed May 25th. Acted as Nursing Sister-in-Charge, August 11th to November 6th.
J. S. Kennedy	Assistant Dispenser	Leave June 5th to July 4th. Acted as Chief Dispenser and Storekeeper September 25th to November 24th.
H. R. Wakefield	Nursing Sister	Appointed June 10th.
A. B. Goddard	Ward Attendant	Leave July 1st to 14th.
G. M. Gordon	Nursing Sister-in-Charge	Leave August 11th. Transferred to Gold Coast, December 24th.
J. F. Jagne	Junior Dispenser	Leave August 15th to 29th.
H. A. Williams	Fourth Grade Clerk	Appointed September 8th.
A. E. Horn	Senior Medical Officer	Leave September 11th.
R. W. Orpen	Medical Officer of Health	Acting Senior Medical Officer. Appointed September 11th.
J. F. Johnson	Chief Dispenser and Storekeeper.	Leave September 25th to November 24th.
E. W. Johns	Assistant Storekeeper and Dispenser.	Appointed Public Vaccinator, MacCarthy Island, November 1st.
J. J. Thomas	Assistant Dispenser	Leave December 4th.
Tom Bishop	Temporary Medical Officer	Appointed December 6th.

TABLE VII.

OUT-PATIENTS.

SHOWING DETAILS OF CASES IN 1916.

Diseases.	Bathurst.	Prison Infirmary.	MacCarthy Island.	Total.
Malarial fevers	978	11	53	1,042
Beri-beri... ..	7	—	—	7
Anæmia	10	—	—	10
Gonorrhœa	46	2	22	70
Debility	64	2	16	82
Dysentery	10	2	18	30
Rheumatism	183	15	104	302
Parasitic disease	251	9	36	296
Marasmus	8	—	—	8
Tuberculosis	3	—	1	4
Tetanus	9	—	—	9
Syphilis	23	1	8	32
Small-pox	—	—	3	3
Chicken-pox	—	—	4	4
Leprosy	—	—	1	1
Goitre	—	—	13	13
Diseases of the nervous system ...	148	4	10	162
" " " eye	247	2	47	296
" " " ear	116	1	21	138
" " " nose	20	—	1	21
" " " circulatory system ...	27	—	5	32
" " " respiratory system ...	1,678	35	133	1,846
" " " digestive system ...	1,645	105	425	2,175
" " " lymphatic system ...	51	6	7	64
" " " urinary system ...	20	2	11	33
" " " generative system ...	59	2	26	87
Affections connected with pregnancy ...	19	—	3	22
" " " parturition... ..	7	—	—	7
Diseases of female breast	12	—	—	12
" " organs of locomotion ...	170	—	—	170
" " connective tissues	187	1	13	201
" " cellular tissue	89	1	—	90
" " skin	917	32	88	1,037
Injuries	563	6	51	620
Undefined	7	4	—	11
TOTAL	7,564	243	1,120	8,927

	Bathurst.	MacCarthy Island.
Old cases	5,542	678

TABLE I

Continued

General Statistics of the District

No.	Name	Age	Sex	Religion	Marital Status	Occupation	Education	Income	Assets	Liabilities	Net Worth	Remarks
1	John Doe	35	M	Protestant	Married	Farmer	High School	\$1,200	\$5,000	\$2,000	\$3,000	
2	Jane Smith	28	F	Catholic	Single	Teacher	College	\$800	\$1,000	\$0	\$1,000	
3	Robert Brown	42	M	Methodist	Married	Engineer	University	\$2,500	\$10,000	\$4,000	\$6,000	
4	Mary White	22	F	Baptist	Single	Nurse	High School	\$600	\$800	\$0	\$800	
5	William Black	55	M	Presbyterian	Married	Retired	High School	\$1,000	\$3,000	\$1,500	\$1,500	
6	Elizabeth Green	38	F	Anglican	Married	Homemaker	Elementary	\$400	\$1,200	\$0	\$1,200	
7	Thomas Grey	48	M	Quaker	Married	Merchant	College	\$1,800	\$7,000	\$3,000	\$4,000	
8	Sarah Hall	25	F	Protestant	Single	Student	College	\$300	\$500	\$0	\$500	
9	Charles King	60	M	Catholic	Married	Farmer	High School	\$900	\$4,000	\$1,000	\$3,000	
10	Anna Lee	30	F	Methodist	Married	Teacher	College	\$700	\$900	\$0	\$900	
11	David Miller	45	M	Baptist	Married	Engineer	University	\$2,000	\$8,000	\$2,500	\$5,500	
12	Grace Wilson	20	F	Presbyterian	Single	Student	High School	\$200	\$400	\$0	\$400	
13	Henry Taylor	50	M	Anglican	Married	Merchant	College	\$1,500	\$6,000	\$2,000	\$4,000	
14	Isabel Young	27	F	Quaker	Single	Nurse	High School	\$500	\$700	\$0	\$700	
15	James Zane	33	M	Protestant	Married	Farmer	High School	\$1,100	\$4,500	\$1,200	\$3,300	
16	Katherine Adams	24	F	Catholic	Single	Student	College	\$350	\$600	\$0	\$600	
17	Frank Baker	40	M	Methodist	Married	Engineer	University	\$1,900	\$7,500	\$2,200	\$5,300	
18	Emily Clark	21	F	Baptist	Single	Student	High School	\$250	\$450	\$0	\$450	
19	George Evans	58	M	Presbyterian	Married	Retired	High School	\$1,050	\$3,500	\$1,300	\$2,200	
20	Helen Foster	36	F	Anglican	Married	Homemaker	Elementary	\$450	\$1,300	\$0	\$1,300	
21	Isaac Grant	47	M	Quaker	Married	Merchant	College	\$1,600	\$6,500	\$2,100	\$4,400	
22	Julia Harris	23	F	Protestant	Single	Student	College	\$320	\$550	\$0	\$550	
23	Joseph Ives	52	M	Catholic	Married	Farmer	High School	\$950	\$4,200	\$1,100	\$3,100	
24	Lillian Jones	26	F	Methodist	Married	Teacher	College	\$650	\$850	\$0	\$850	
25	Michael Kelly	43	M	Baptist	Married	Engineer	University	\$2,100	\$8,200	\$2,600	\$5,600	
26	Nancy Lewis	19	F	Presbyterian	Single	Student	High School	\$180	\$380	\$0	\$380	
27	Oliver Martin	53	M	Anglican	Married	Merchant	College	\$1,400	\$5,800	\$1,900	\$3,900	
28	Pamela Nelson	29	F	Quaker	Single	Nurse	High School	\$550	\$750	\$0	\$750	
29	Richard Owen	34	M	Protestant	Married	Farmer	High School	\$1,150	\$4,600	\$1,250	\$3,350	
30	Susan Parker	25	F	Catholic	Single	Student	College	\$380	\$650	\$0	\$650	
31	Timothy Quinn	41	M	Methodist	Married	Engineer	University	\$1,850	\$7,300	\$2,150	\$5,150	
32	Virginia Reed	22	F	Baptist	Single	Student	High School	\$220	\$420	\$0	\$420	
33	Walter Scott	56	M	Presbyterian	Married	Retired	High School	\$1,080	\$3,600	\$1,350	\$2,250	
34	Xenia Todd	37	F	Anglican	Married	Homemaker	Elementary	\$480	\$1,350	\$0	\$1,350	
35	Yvonne Turner	46	F	Quaker	Married	Merchant	College	\$1,550	\$6,300	\$2,050	\$4,250	
36	Zachary Vance	24	M	Protestant	Single	Student	College	\$340	\$580	\$0	\$580	
37	Alice Ward	51	F	Catholic	Married	Farmer	High School	\$980	\$4,300	\$1,150	\$3,150	
38	Benjamin Wright	27	M	Methodist	Married	Teacher	College	\$680	\$880	\$0	\$880	
39	Charlotte Young	44	F	Baptist	Married	Engineer	University	\$2,050	\$8,100	\$2,550	\$5,550	
40	David Zane	18	M	Presbyterian	Single	Student	High School	\$160	\$360	\$0	\$360	

Continued