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CITY COUNCIL OF PRETORIA.

THIRTY-FIFTH



ANNUAL REPORT
OF THE
Medical Officer of Health
FOR THE
YEAR 1938-1939.



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CITY COUNCIL OF PRETORIA.

THIRTY-FIFTH

ANNUAL REPORT

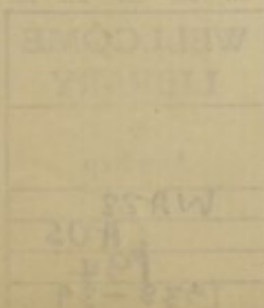
OF THE

Medical Officer of Health

FOR THE

YEAR 1938-1939.

CANTON PRETORIA



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1938-39

INTRODUCTORY LETTER.

TO HIS WORSHIP THE MAYOR
and MEMBERS OF THE CITY COUNCIL OF PRETORIA.

YOUR WORSHIP, LADIES AND GENTLEMEN,

I have the honour to present to you the Thirty-Fifth Annual Report on the activities of the Health Department during the year ended 30th June, 1939.

It is pleasing to record that the excellent health conditions of previous years are being maintained. The Vital Statistics show that the health of Pretoria is satisfactory, and the good work that has been done by your Health Department in the past is being continued.

The City is growing rapidly and the duties of the Staff, whose work has been highly satisfactory, are ever increasing. I am grateful for the energetic and efficient co-operation which I have received from every member of the Health Department. My thanks are due for the assistance rendered by the public, the Press, and Heads and Sub-Heads of other departments of this Municipality.

During my absence overseas, the affairs of the Department were efficiently conducted, and for this I particularly wish to thank the Assistant Medical Officer of Health, Dr. T. Lötter, the Veterinary Officer, Dr. I. P. Marais, Dr. R. Dicks (Resident Medical Officer at Isolation Hospital), the Chief Health Inspector, Mr. W. G. Graham, and the Chief Clerk, Mr. L. Drysdale.

I have to record my appreciation of the support and assistance extended to me by your Worship and all the Councillors. The full co-operation and confidence of the Chairman, Mrs. M. M. Curson, and members of the Public Health Committee, enabled the Department to carry out its duties satisfactorily.

I have the Honour to be,

Ladies and Gentlemen,

Your obedient servant,

H. NELSON,

Medical Officer of Health.

PUBLIC HEALTH COMMITTEE:

Councillor Mrs. M. M. Curson (*Chairman*).
 Councillor J. Patmore (*Vice-Chairman*).
 Councillor B. C. Nicoll.
 Councillor J. Parker.
 Councillor D. P. van Heerden.

STAFF OF THE PUBLIC HEALTH DEPARTMENT AS AT 30th JUNE, 1939:

H. NELSON, M.A., M.D., Ch.B., B.A.O., D.P.H., D.T.M.	Medical Officer of Health.
T. LÖTTER, M.B., Ch.B., L.R.C.P. & S., L.R.F.P.S., D.P.H.	Assistant Medical Officer of Health.
A. PIJPER, M.D. D.Sc.	Pathologist (part time).
R. E. W. DICKS, M.B., Ch.B.	Resident Medical Officer (Isolation Hosp.)
I. P. MARAIS, B.Sc. Agric., B.V.Sc., Dr. Med. Vet.	Veterinary Officer.
W. G. GRAHAM, Cert.R.S.I., Meat and Other Foods, San. Science (Scot.)	Chief Health Inspector.
F. T. E. NICHOLSON, Cert.R.S.I. and Meat and Other Foods, Cert. Sch. of Agric. Dairying, Natal	Senior District Health Inspector.
H. M. DE VAAL, B.Sc., Applied and Indus- trial Chemistry	Municipal Chemist and Analyst.
G. J. STANDER, M.Sc., Dip. Analytical Chemistry	Assistant Municipal Chemist and Analyst.

SENIOR HEALTH INSPECTORS:

K. C. J. LUCOUW (Infectious Diseases), Cert.R.S.I.
 J. B. FISHER (Dairies), Nat. Dip. of Dairying (Scot. and Eng.).
 L. E. THOMAS (Dairies), Cert.R.S.I.; Meat and Other Foods; Trop. Hyg., Adv. Know-
 ledge; (M.R.San.I.); (M.R.I.P.H.H.); Adv.Tech.Bldg.Cons. & Drawing; (A.M.I.S.E.).
 J. L. COETZEE (Abattoir), Cert. Meat and Other Foods.
 A. VELTHUYSEN (District), Cert.R.S.I.

FIRST GRADE HEALTH INSPECTORS:

W. G. FUNSTON, Cert.R.S.I., Meat and Other Foods, Trop. Hyg.
 R. J. DAVIS, Cert.R.S.I., San.Science; Meat and Other Foods; (A.M.I.S.E.); (M.R.I.P.H.H.);
 (M.R.San.I.); Nat. Tech. Cert., Adv. Knowledge.
 R. BLOEMINK, Cert.R.S.I., Meat and Other Foods.
 M. VAN R. LEE, Cert.R.S.I., Meat and Other Foods; Adv. Knowledge.
 E. J. JAMMINE, Cert.R.S.I., Meat and Other Foods; Trop. Hyg.
 J. A. HOTINE (Abattoir), Cert.R.S.I., Meat and Other Foods; Trop. Hyg.

SECOND GRADE HEALTH INSPECTORS:

R. O. R. CARRUTHERS, Cert.R.S.I., Meat and Other Foods.
 W. SCOTT (Abattoir), Cert.R.S.I., Meat and Other Foods.
 L. SILBERMAN, Cert.R.S.I.
 J. R. MARAIS, Cert.R.S.I.
 N. VORSTER, Cert.R.S.I.

THIRD GRADE HEALTH INSPECTORS:

D. W. BURGESS, Cert.R.S.I. T. W. GARDNER, Cert.R.S.I.
 R. G. SIEBERT, Cert.R.S.I. F. J. H. STOCKWELL, Cert.R.S.I.

CLERICAL STAFF:

L. DRYSDALE, Cert.R.S.I. (Senior Clerk). I. M. MALLET (Senior Typist).
 J. C. THERON, Cert.R.S.I. (Clinic Clerk). T. I. DAVIDSON (Junior Typist).
 S. P. G. WILSON (Junior Clerk). E. I. BENTLEY (Junior Typist).

CLINIC ATTENDANT AND AMBULANCE ASSISTANT:

V. J. BESTER.

RODENT ERADICATORS.

E. MITCHLEY. J. P. SCHOLTZ.

ANTI-MALARIAL WORKERS:

C. J. MYBURGH. H. LUBBE.

HEALTH VISITORS:

S. HEATHER (Senior), Cert. S.A. Medical Council (Gen. and Midwif.); Cert.R.S.I., Cert. Sch. Nursing.
 H. M. AUSTIN, Cert. S.A. Medical Council (Gen. and Midwif.); Cert. Sch. Nursing.
 F. L. ROSS (Clinic Sister and T.B. Visitor), Cert. S.A. Medical Council (Gen. & Midwif.); Cert. Sch. Nursing.
 C. KEENAN (Clinic Sister and T.B. Visitor), Cert. S.A. Medical Council (Gen. & Midwif.); Cert. Sch. Nursing and Mothercraft.
 G. S. J. PRETORIUS, Cert. S.A. Medical Council (Gen. & Midwif.); Cert. Sch. Nursing and Mothercraft.
 M. G. VAN WYK, Cert. S.A. Medical Council (Gen. & Midwif.); Cert. Sch. Nursing and Mothercraft.
 E. W. MURRAY, Cert. S.A. Medical Council (Gen. & Midwif.); Cert.R.S.I.

HEALTH VISITORS (NON-EUROPEAN).

R. HERMANUS, Certificated Midwife. G. MSIMANG, Cert. Midwife.
 D. F. THOMAS, Cert. Midwife. P. MOLIFE, Cert. Midwife.

NATIVE MALE NURSE:

JACOB MOHOLO.

PUBLIC CONVENIENCES AND WASH HOUSE ATTENDANTS:

SEVEN EUROPEANS. ONE NON-EUROPEAN.

ADDITIONAL MEDICAL STAFF (CLINICS AND ISOLATION WARDS).**PART-TIME STAFF:**

DR. E. A. LEVISEUR	Child Welfare Clinics.
DR. D. J. THERON	Ante-Natal Clinics.
DR. S. BEHR	Special Diseases Clinics.
DR. E. R. GRÜNBERGER and	} Ear, Nose and Throat Specialists.
DR. F. BEKKER	
DR. G. VAN DYK	} Surgical Specialists.
DR. H. J. BESSELAAR	
DR. B. EPSTEIN	} Native Medical Services.
DR. J. RUDOLPH	
DR. B. SHAWSIN	
DR. A. J. BAIRD	

CITY COUNCIL OF PRETORIA.

THIRTY-FIFTH ANNUAL REPORT

OF THE

Medical Officer of Health.

CLIMATIC DATA:

Latitude: 25 degrees, 44 minutes, 3 seconds East.

Longitude: 1 hour, 52 minutes, 48 seconds South.

Mean Altitude: 4,480 feet.

Temperature: (Statistics kindly supplied by the Chief Meteorologist, Pretoria.)

	Mean Max.	Mean Min.	Highest Reading.	Lowest Reading.	Humidity Mean at 8.30 a.m.	Rainfall Inches.	Rainfall Days.
1938.							
July	65.9	39.1	74.1	45.1	66.9	0.10	1
August	70.25	42.64	81.2	31.8	66.19	0.5	2
September	76.53	47.81	85.3	35.8	55.13	0.67	2
October	80.78	56.55	89.0	47.7	64.61	1.91	9
November	81.51	56.77	92.6	41.2	56.2	0.62	6
December	79.19	59.74	87.5	52.8	76.71	7.99	17
1939.							
January	79.68	58.42	87.4	54.5	74.0	4.56	14
February	77.24	66.22	82.5	58.9	83.03	10.76	21
March	75.2	56.4	82.6	47.7	76.8	3.04	12
April	74.05	47.01	79.7	32.5	66.9	0.22	3
May	70.14	44.26	77.8	35.1	70.77	3.39	6
June	65.39	37.01	72.9	31.3	70.1	—	—

AREA OF MUNICIPALITY.

The area of Pretoria and suburbs, inclusive of Town Lands, is 60.37 square miles. The town is built on and between three parallel ranges of quartzite hills running East and West, the soil in the valleys being largely shale.

ANNUAL RATEABLE VALUES.

	1937-8.	1938-9
Land	£5,792,075	£5,770,094
Buildings	14,558,080	15,062,270
Totals	<u>£20,350,155</u>	<u>£20,832,364</u>

The values of rateable land and buildings were £1,512,812 and £6,020,610, respectively.

The total values therefore were:—

	1937-8.	1938-9
Land	£7,351,230	£7,294,234
Buildings	20,559,670	21,096,390
	<u>£27,910,900</u>	<u>£28,390,624</u>

For the year under review, the rates imposed were 6d. per £ on land and 1½d. per £ on buildings, plus a sewerage rate of ¼d. per £ on rateable land and buildings within the sewered area.

POPULATION exclusive of inmates of Institutions:—

	Census, May, 1936.	Estimated at 31st December, 1938.
European	67,041	73,900
Native	33,000	34,800
Asiatic	2,772	2,800
Eurafrican	2,783	2,900
Corrected final figures.		114,400

POPULATION inclusive of Institutions:—

	Estimated at 31st December, 1938.
European	75,300
Non-European	41,900
	117,200

THE PRINCIPAL VITAL STATISTICS FOR THE YEAR, corrected for outward transfers, are:—

	European.	Native.	Asiatic.	Eur- african.	All Non- Europeans.	Total.
Population	73,900	34,800	2,800	2,900	40,500	114,400
Birth Rates	24.97	8.82	58.93	37.93	14.37	21.22
Death Rates	7.96	10.60	17.86	16.90	11.56	9.23
Infantile Mortality Rates per 1,000 live births	50.95	348.53	86.85	118.18	230.24	93.94
Percentage of illegitimate to live births	2.76	50.81	1.82	36.36	34.19	10.30
Death rates from Tuber- culosis, all forms, per 1,000 population	0.108	0.98	1.07	2.07	1.06	0.45

BIRTHS.

The following births were registered in Pretoria during the year. (Figures for previous year in brackets.):—

	Europeans.	Natives.	Asiatics.	Eur- africans.	Total Non- Europeans.
Local Births	1,845 (1,699)	307 (245)	165 (152)	110 (81)	582 (478)
Births where mothers were not residents of Pretoria	372 (339)	—	—	—	117 (108)
Local Illegitimate Births included in Local Births)	58 (35)	156 (105)	3 (3)	40 (34)	199 (142)
Stillbirths	44 (38)	—	—	—	58 (41)

BIRTH RATES.

European	24.97 (24.20)
Native	8.82 (7.15)*
Asiatic	58.93 (52.96)
Eurafrican	37.93 (28.42)
All Non-European	14.37 (11.95)

*This figure is inaccurate and unreliable owing to incomplete registration of births.

Rates of natural increase, being the excess of births over deaths in proportion to population, are as follows:—

European	17.00 (15.47) per 1,000
Asiatics	41.07 (34.49) per 1,000
Eurafrican	21.03 (11.58) per 1,000

The Birth Rate figure for this year is higher than that recorded for many years. In the past sixteen years only in 1934/35 was a higher figure, namely 25, placed on record. (This year 24.97).

There has been a steady drop in the Birth Rate throughout the whole world, and the Union of South Africa has been no exception. In Pretoria, for example, since 1910 the

Birth Rate has declined from 34.20 to this year's figure which is 24.97, and the lowest figure ever recorded was 21.37 in 1926/27. This steady decline has been the cause of grave concern to statisticians, as it has been looked upon as a menace to the existence of the European population. In fact, some authorities have calculated that, if this decline were to be continuous, it would mean the extermination of the white race.

The Birth Rate figure is therefore one of great importance, and the fact that not only has the decline in this figure ceased, but that there has also been an increase in the Birth Rate this year for Pretoria, is very satisfactory, as it is felt that similar conditions must exist in other parts of the Union.

In some European countries the fall in the Birth Rate has even caused the State to offer an inducement to the population to have larger families.

Last year we recorded 154 more deaths amongst natives than births. This figure has now been reduced to 62. Whilst we know that conditions are still unsatisfactory, it must again be stressed that the inaccuracy of the native birth registration figures makes Infantile Mortality, Birth and Illegitimacy Rates hopelessly erroneous. This year's figures do, however, indicate that the birth registration is becoming more accurate than it has been in previous years.

ILLEGITIMACY accounted for 3.23 per cent. of the total European births, which is 1.17 higher than last year's figure. The percentage of illegitimate to total births in Non-Europeans is 51.96.

DEATHS.

(Figures for 1937/8 in brackets.)

	Europeans.	Natives.	Asiatics.	Eur-africans.	Total Non-Europeans.
LOCAL DEATHS —					
(All ages)	588 (613)	369 (399)	50 (53)	49 (48)	468 (500)
Deaths of persons not being local residents ..	277 (236)	—	—	—	487 (448)
TOTAL DEATHS	865 (849)	—	—	—	955 (948)

These "non-local" deaths occurred at:—

	Pretoria and other Hospitals.	Mental Asylum.	Leper Asylum.	Prisons.	Visitors.
Europeans	172 (151)	66 (50)	8 (13)	3 (4)	28 (18)
Non-Europeans	295 (262)	56 (59)	73 (81)	23 (32)	40 (14)

DEATH RATES.

	1938/9.	1937/8.
European	7.96	8.73
Native	10.60	11.64
Asiatic	17.86	18.47
Eurafrican	16.90	16.84
All Non-Europeans	11.56	12.5
TOTAL for all races	9.23	10.1

The European Death Rate figure of 7.96 per 1,000 population, is the lowest recorded in the past nine years.

The figure for all Non-Europeans is only 11.56 per 1,000 population, and there have been only two lower rates recorded ever since statistics have been kept for this section of the population, namely in 1936/37 — 10.90, and in 1929/30 — 11.5.

We can never be satisfied with a low Death Rate figure unless it includes the whole of the population, and it is for this reason that it is satisfactory to record that in Pretoria there is a decline in the Death Rate figure for Non-Europeans as well, and the figure for our total Death Rates of Europeans and Non-Europeans of 9.23 is eminently satisfactory. It is the aim of the Health Department to provide the same health conditions for Non-Europeans as for Europeans. The economic factor will, of course, always play a great part, but this is beyond our control.

	Europeans.	Natives.	Asiatics.	Eur- africans.	Total Non- Europeans.
LOCAL DEATHS	94 (108)	107 (112)	14 (16)	13 (17)	134 (145)

Europeans:— The infantile mortality rate for the year is 50.95 (63.57).

	1938/9.	1937/8.
Congenital causes	8 (rate 4.32)	10 (rate 5.88)
Diarrhoeal disease	17 (rate 9.18)	16 (rate 9.41)
Bronchitis and Pneumonia	23 (rate 12.41)	28 (rate 16.48)
Prematurity	22 (rate 11.87)	32
Other Diseases	22	22
Infectious Diseases	2	—
TOTAL	94	108

The low figures in deaths from diarrhoeal diseases is in no small measure due to the good sanitary conditions prevailing in the City. It is, however, fully realised that in a City with a comparatively small population there can be great fluctuations in this rate.

Causes of death were as follows:—

	1938/9.	1937/8.
Congenital causes	3	10
Diarrhoeal disease	40	35
Bronchitis and Paeumonia	38	56
Infectious diseases	4	3
Prematurity	31	25
Other diseases	18	16
TOTAL	134	145

The infantile mortality rate for all Non-Europeans is 230.24. Last year's figure was 303.35, and there is therefore a considerable reduction.

Still a very large number of deaths were recorded from diarrhoeal diseases, and bronchitis and pneumonia. These deaths are to a very large extent attributable to the inadequate housing conditions of the native and the very low wages earned, resulting in under-

nourishment, overcrowding and exposure. Whilst we can do very little to raise the economic level of the native, the City Council of Pretoria has this year commenced the rebuilding of the entire native location, and the first 750 houses are in the process of construction, and it is hoped before long to provide proper healthy and hygienic accommodation for the Non-Europeans in Pretoria.

Together with the establishment of the new location it is hoped that free medical services and medicines will be provided. A large sum of money has already been voted for the establishment of an efficient polyclinic, which will not only deal with infectious diseases and their prevention, but will also provide for a curative medical centre. In conjunction with this whole scheme, health education and the training of natives in health matters will play a very large part.

Infantile mortality rates for natives, of course, as has been pointed out previously, are completely unreliable and inaccurate.

DEATHS AT AGE 1-5 YEARS.

Europeans :— Twenty-five deaths were recorded during this age period, due to the following causes :—

Infectious diseases	5
Leukaemia	1
Diseases of the nervous system	1
Diseases of the heart	2
Diseases of the respiratory system	8
Diarrhoeal diseases	2
Intestinal obstruction	1
Accident	2
Marasmus	2
Other diseases of early infancy	1
TOTAL	25

Natives :— Fifty-one deaths were recorded, as follows :—

Infectious diseases	7
Disease of bones	1
Diseases of respiratory system	17
Diseases of digestive system	18
Congenital malformation	1
Accidental burns	4
Other diseases of early infancy	3
TOTAL	51

Asiatics :— Five deaths occurred, as follows :—

Diseases of respiratory system	2
Tuberculosis	1
Convulsions	1
Disease of heart	1
TOTAL	5

Eurafricans :— Three deaths occurred, as follows :—

Diseases of digestive system	3
TOTAL	3

These figures are very small and although there is a large reduction in deaths from diseases of the respiratory and digestive systems in Non-European children, these causes of death still take the heaviest toll.

DEATHS IN PERSONS OF FIVE YEARS AND OVER.

The principal causes of death were:—

	EUROPEAN.		NON-EUROPEAN.	
	1938/39.	Yearly Average for 5 years.	1938/39.	Yearly Average for 5 years.
Cancer	69	47.8	6	6.8
Diseases of the heart	141	73.4	48	39.0
Pneumonia, Bronchitis and Broncho-pneumonia	44	58.8	44	56.0
Influenza	2	7.0	3	3.6
Typhoid Fever	3	5.0	11	9.6
Appendicitis	5	3.4	1	1.0
Tuberculosis (open)	5	10.0	35	26.2
Diabetes	6	8.4	3	0.8
Apoplexy	26	29.0	7	6.8
Diseases of the kidneys	23	21.8	7	6.2
Diseases of the arteries	7	13.0	6	3.0
Diseases of the liver	8	8.6	1	3.4
Diseases of parturition	3	6.2	6	3.6
Old age	7	11.6	5	5.6
Suicide	5	7.4	4	1.2
Accident	29	21.2	41	20.0

Europeans:

It is again to be noted that amongst the Europeans diseases of the heart were responsible for more deaths than any other disease, and although we have a lower general death rate this year, there were 24 more deaths from heart disease than last year.

Cancer was responsible for the next highest number of deaths, and here again there were 19 more deaths from this disease than last year.

It is impossible to say whether cancer is on the increase in Pretoria, as we deal with such a small number of cases, but when the yearly average for five years is compared with this year's figure, the high incidence must be viewed with a certain amount of concern, although it is possible that this has just been an abnormal year. Better and more accurate diagnosis and the fact that people on the whole now live to an older age play a great part in the increased rate recorded.

The Department will undertake propaganda for teaching the recognition of the early signs and symptoms of this disease.

The next most important group of diseases are pneumonia, bronchitis and broncho-pneumonia, but the number of deaths dropped by 22.

The "deaths from accident" rate has dropped by 2 this year, but the figure 29 is still very high for a city the size of Pretoria.

Apoplexy as a cause of death, although the number is less than last year, is still rather high.

The next highest fatality rate is that of diseases of the kidneys.

Non-Europeans:

Amongst this section of the population diseases of the heart were responsible for the largest number of deaths, although the total number is 13 less than last year's.

The diseases of the respiratory tract (pneumonia, bronchitis and broncho-pneumonia) were the second highest, but the total number of deaths here again was 28 less than the previous year.

The accident mortality rate of 41 is no less than 13 more than last year's figure.

Open tuberculosis was responsible for 35 deaths. This is an increase of 5 on a number which is already high for a place situated like Pretoria. There are still a large number of native cases who only come under medical care when they are in extremis; in fact, the Department very often only becomes aware of cases on the death of the patient. This is, however, further discussed under Infectious Diseases.

It is interesting to note that the death rate from cancer in Non-Europeans remains very low. It would appear that malignancy is not so prevalent amongst this section of the population.

(In all the following tables, figures for 1937/8 are shown in brackets.)

1. CANCER:

Europeans. — 69 (51). Death rate per 1,000 population, 0.93 (0.73).

Site of disease:

Digestive organs and peritoneum	34
Respiratory tract	5
Uterus	9
Other female genital organs	4
Breast	4
Male genito-urinary organs	2
Various other organs	11
TOTAL	69

Death Age:

Under 40 years.	40—50	50—60	60—70	70—80	Over 80	TOTAL.
6	11	14	19	17	2	69

Non-Europeans:

Natives	1 case of cancer of respiratory organs
	1 case of cancer of digestive organs.
Asiatics	2 cases of cancer of other organs.
Eurafricans	2 cases of cancer of digestive organs.
	6

2. DISEASES OF THE HEART:

Europeans: 141 (117). Death rate per 1,000 population, 1.90 (1.66).

Non-Europeans: 48 (61). Natives, 36; Asiatics, 4; Eurafricans, 8.

3. BRONCHITIS, BRONCHO-PNEUMONIA, PNEUMONIA:

Europeans: 44 (66).

Non-Europeans: 44 (72). Natives, 37; Asiatics, 3; Eurafricans, 4.

4. INFLUENZA:

Europeans: 2 (5).

Non-Europeans: 3 (1). These deaths all occurred in Natives.

5. TYPHOID FEVER:

Europeans: 3 (2).

Non-Europeans: 11 (4). This disease is fully discussed under "Infectious Diseases."

6. APPENDICITIS:

Europeans: 5 (4).

Non-Europeans: 1 (Nil).

7. TUBERCULOSIS:

Europeans: 5 (8).

Non-Europeans: 35 (39). Natives, 27; Asiatics, 3; Eurafricans, 5. For full details regarding this disease, see under "Infectious Diseases."

8. DIABETES:

Europeans: 6 (4).

Non-Europeans: 3 (Nil). 2 in Natives, 1 in an Asiatic.

9. APOPLEXY:

Europeans: 26 (30).

Non-Europeans: 7 (7). Natives, 6; Eurafricans, 1.

10. DISEASES OF THE KIDNEYS:

Europeans: 23 (19). 16 Deaths were due to nephritis and 7 to other diseases of the kidneys.

Non-Europeans: 1 (4) Nephritis in an Asiatic.

11. DISEASES OF THE ARTERIES:

Europeans: 7 (13).

Non-Europeans: 6 (4). 4 in Natives and 2 in Asiatics.

12. DISEASES OF THE LIVER:

Europeans: 8 (7).

Non-Europeans: 1 (7) Native death.

13. DISEASES OF PARTURITION:

Europeans: 3 (Nil).

Non-Europeans: 6 (Nil).

14. OLD AGE:

Europeans: 7 (5). 1 was aged 78, 5 between 80 and 90 years, and 1 over 90.

Non-Europeans: 5 (2) — 2 Natives 85 and 90; 3 Eurafricans 70, 75 and 80.

15. SUICIDE:

Europeans: 5 (7). 4 from poisoning, 1 by firearms.

Non-Europeans: 4 (Nil). 2 from poisoning, 2 by hanging.

16. ACCIDENT:

Europeans: 29 (31)

Non-Europeans: 41 (29)

Caused as follows:—

	European.	Native.	Asiatic.	Eurafrican.
Firearms	3	—	—	—
Asphyxia	—	3	—	—
By machinery	—	2	—	—
By railways	—	1	—	—
By motor vehicles	10	15	—	—
By other crushing	—	4	—	—
By fall	7	3	—	—
By burns	—	6	—	—
By other accidents of violence	2	4	—	2
By drowning	2	—	—	—
By aeroplanes	3	—	—	—
By electricity	2	1	—	—
	<u>29</u>	<u>39</u>	<u>—</u>	<u>2</u>

DETAILS OF INFECTIOUS DISEASES NOTIFIED DURING THE YEAR

1938 — 1939.

(Note.—All figures for 1937-38 are shown in brackets.)

1. TYPHOID FEVER:

	Europeans.	Non-Europeans.
Local cases	24 (27)	36 (19)
Imported cases	43 (30)	57 (26)
	<u>67 (57)</u>	<u>93 (45)</u>

Seasonal and District Distribution:

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Central	—	—	1	2	1	—	1	2	1	—	—	—	8
Eastern suburbs	—	—	—	—	1	2	—	1	2	1	—	2	9
Northern suburbs	—	—	3	—	3	—	1	1	—	3	2	—	13
West End	—	—	—	—	—	1	1	1	—	—	1	—	4
Locations and Compounds	1	—	1	1	3	3	3	4	4	—	—	1	21
Mental Hospital	—	—	1	—	—	—	2	—	2	—	—	—	5
	<u>1</u>	<u>—</u>	<u>6</u>	<u>3</u>	<u>8</u>	<u>6</u>	<u>8</u>	<u>9</u>	<u>9</u>	<u>4</u>	<u>3</u>	<u>3</u>	<u>60</u>

The Non-European cases comprised:— 30 Natives, 2 Indians and 4 Eurafricans.

Table showing seasonal occurrence of cases in Sewered and Unsewered

Areas and in houses where town or well water was used.

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Sewered	—	—	2	3	4	5	6	5	8	2	2	2	39
Pail closet	1	—	4	—	4	1	2	4	1	2	1	1	21
Town water	1	—	3	3	8	6	8	8	9	3	3	3	55
Well water	—	—	3	—	—	—	—	1	—	1	—	—	5

Deaths: Europeans, 3 (2); Non-Europeans, 11 (4).

The attack and death rates amongst residents were:—

	Europeans.	Non-Europeans.
Attack rate	0.325 (0.38) per 1,000 population.	0.88 (0.47) per 1,000 population.
Death rate	0.040 (0.028) per 1,000 population.	0.27 (0.1) per 1,000 population.

The case mortality rates were: 12.5 (7.4) in Europeans and 30.55 (21.05) in Non-Europeans.

With the exception of 5 Europeans and 2 Indians who were home treated, all the cases were removed to the Isolation Hospital.

There were no milk outbreaks of the disease.

One case, on discharge from hospital, was transferred to the Typhoid Fever Carrier Camp for further observation.

Two urinary carriers were discovered during the course of investigations of notified cases. One other case was discovered at Voortrekkerhoogte during the routine testing of natives to be employed in the handling of foodstuffs. In the course of the investigation of this carrier it was discovered that he had been employed by a business concern, just outside Pretoria, where several cases had occurred.

The Department also investigated a few cases outside the Municipal area, by special request.

Besredka Pills: During the year approximately 2,000 Besredka Immunising Pills were issued—800 to private persons and 1,200 to the Pretoria Hospital.

	1937/8.	1938/9.
No. of Typhoid C.F. tests carried out in connection with suspect carriers	74	54
No. of these tests reported positive	6	13
No. of these tests reported negative	68	41
No. of stool examinations for <i>B. Typhosus</i>	11	8
No. of stool examinations from which <i>B. Typhosus</i> recovered	—	—
No. of urine examinations for <i>B. Typhosus</i>	11	9
No. of urine examinations from which <i>B. Typhosus</i> recovered	2	2

There were therefore two new Urinary Carriers discovered during the year.

NOTES ON TYPHOID FEVER BY THE PATHOLOGIST (DR. A. PIJPER).

From a laboratory point of view the infectious disease that has come in for most attention has always been typhoid fever. It is true that venereal diseases, which in Pretoria are combated with ever greater intensity, necessitate the performance of a steadily increasing number of laboratory tests, but these diseases provide little opportunity for laboratory research.

Typhoid fever, being caused by a microbe which can be cultivated in the laboratory with relative ease, lends itself very readily to laboratory investigations which can help to clear up the spread and the pathology of the disease. Other helpful factors in this connection are the isolation and concentration of most patients in an efficient isolation hospital, and the possession by the health office, of an ample dossier of information dealing with past patients and carriers. In this way Pretoria has for many years made contributions of greater and lesser importance to the epidemiology and bacteriology of typhoid fever.

The problem of the spread of typhoid fever in Pretoria centres in the typhoid carrier, and there is no reason to assume that this way of spread should not be the predominant one in other communities, as it is in Pretoria. A certain amount of reluctance is noticeable

in certain centres to adopt this view. It is a long time now since it was tentatively put forward in Pretoria, and we can only say, after a good deal of experimental and observational work on the subject, that we have become more and more convinced of the correctness of the view.

It follows that the laboratory has always availed itself of every improvement in the methods of detecting carriers that appeared to hold out promise. When Dr. Felix, of the Lister Institute of London, put forward the suggestion that the Vi-agglutinin recently discovered by him, might be of assistance in detecting carriers, we took up this suggestion and went through the collected material of the local public health service to see whether confirmation could be found. This proved to be the case, and the correctness of our resulting claim that Vi-agglutination is a characteristic of carriers, has since been confirmed by several other workers, including Dr. Felix himself, who has a vast material at his disposal. The subject has since been diligently pursued by us, and at least two further striking instances of the value of the new method were found by us.

The discovery of these new antibodies already mentioned, the so-called Vi-antibodies, has further supplemented our insight into the immunological problems of typhoid fever. In a desire to assess their effect, a large quantity of a new anti-typhoid serum prepared by the Lister Institutes, which contained these new antibodies, was obtained and with the co-operation of the Pretoria Hospital, administered to a series of patients under experimental conditions. An enormous number of laboratory investigations were performed in order to assess the effect of Vi- and other antibodies. The Lister Institute showed its interest in this first attempt to study the action of the new serum along scientific lines by providing the serum at a specially low price and by asking for a large number of copies of the resulting publication. There is reason to believe that the outcome of our observations as set out in this publication has thrown light on the action of the serum and its various antibodies and will contribute towards improvements being made in the serum. The claim that Vi-antibodies are of supreme importance in the immunology was well supported by our observations. A beginning has now been made to study the action of these Vi-antibodies on typhoid bacilli by dark-ground microscopic methods, using the same technique as was employed in the microscopic study of H- and O-agglutination. It may be remembered that by means of using sunlight and dark-ground microscope methods many doubtful points in the action of these antibodies have been cleared up in Pretoria.

2. TUBERCULOSIS:

The following notifications of tuberculosis were received:—

	Europeans.	Non-Europeans.
Local cases	12 (14)	44 (50)
Imported cases	18 (24)	98 (69)
	<u>30 (38)</u>	<u>142 (119)</u>

Seasonal and District Distribution:

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Central	—	1	—	3	—	1	1	1	—	—	—	—	7
Eastern suburbs	—	1	—	—	—	2	—	—	—	—	—	1	4
Northern suburbs	—	—	—	1	—	—	2	—	—	1	1	1	6
West End	1	—	—	—	—	—	—	—	—	—	—	—	1
Mental Hospital	1	—	—	2	1	—	—	—	1	—	2	—	7
Locations and Compounds	4	3	3	6	1	—	2	4	2	6	—	—	31
	<u>6</u>	<u>5</u>	<u>3</u>	<u>12</u>	<u>2</u>	<u>3</u>	<u>5</u>	<u>5</u>	<u>3</u>	<u>7</u>	<u>3</u>	<u>2</u>	<u>56</u>

The types of the disease were:

	Pulmonary.	Spinal.	Abdominal.	Meningitic.
European	9	1	1	1
Non-European	40	1	2	1

Of the 56 cases notified, 40 died, 37 in Pretoria and 3 outside Pretoria. Thirty-one cases were notified just prior to death; a number of these died within two weeks after notification, two died within a month after notification, two within two months, two within three months, two within four months, and one within nine months — total, 40 cases.

These figures are recorded to indicate the number of "late notifications." It is hoped that with further propaganda, cases will come to the notice of the Department at an early stage of the disease.

In five cases there was a history of familial infection. Two Non-European cases were secondary. There was a history of one European and one Native having been employed on the Rand Mines a few years ago. Five cases were sent to Sprinkell Sanatorium; two of these were imported cases.

Imported Cases:

Of the 116 imported cases, 94 were not resident in Pretoria and were admitted to hospital in Pretoria for treatment only. The other 22 cases contracted the disease before coming to Pretoria.

3. SCARLET FEVER:

	Europeans.	Non-Europeans.
Local cases	165 (152)	— (—)
Imported cases	12 (3)	— (—)
	<u>177 (155)</u>	<u>— (—)</u>

Seasonal and District Distribution:

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Central	2	7	4	7	2	6	4	2	3	4	3	3	47
Eastern Suburbs	9	7	5	5	4	2	2	4	5	5	—	6	54
Northern Suburbs	5	1	7	1	7	—	1	6	6	3	4	1	42
West End	4	2	1	2	2	—	—	—	1	2	4	2	20
Voortrekkerhoogte	—	—	—	—	—	—	—	—	—	2	—	—	2
	<u>20</u>	<u>17</u>	<u>17</u>	<u>15</u>	<u>15</u>	<u>8</u>	<u>7</u>	<u>12</u>	<u>15</u>	<u>16</u>	<u>11</u>	<u>12</u>	<u>165</u>

107 were home-treated and 58 were removed to the Isolation Wards. 35 were secondary cases.

Ninety-two were school-going children, and undoubtedly many of them were infected at school.

There was a minor outbreak in a hospital, where 7 secondary cases occurred. There were no deaths and complications were rare.

One case, in a child, occurred at a dairy. The patient was immediately removed to hospital and suitable precautionary measures adopted; no further infections occurred.

4. DIPHTHERIA:

	Europeans.	Non-Europeans.
Local cases	68 (37)	4 (2)
Imported cases	31 (10)	6 (2)
	<u>99 (47)</u>	<u>10 (4)</u>

Seasonal and District Distribution:

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Central	—	2	—	1	3	—	2	1	3	6	3	—	21
Eastern Suburbs	1	—	—	—	2	1	—	1	3	3	—	2	13
Northern Suburbs	2	2	—	—	—	—	2	—	3	6	4	3	22
West End	—	—	—	1	2	1	1	1	—	1	2	1	10
Roberts Heights	—	—	—	—	3	—	—	—	1	—	—	—	4
Locations	—	—	—	—	—	1	—	1	—	—	—	—	2
	<u>3</u>	<u>4</u>	<u>—</u>	<u>2</u>	<u>10</u>	<u>3</u>	<u>5</u>	<u>4</u>	<u>10</u>	<u>16</u>	<u>9</u>	<u>6</u>	<u>72</u>

Twelve were home-treated and 60 were treated at the Isolation Wards.

Nine Europeans and one Indian died.

Diphtheria Immunisation:

Diphtheria immunisation was carried out by the Medical Officer-in-Charge, as in previous years.

The aim has been to persuade parents to have their children immunised as soon as they are six months old. The Department has been supplying material free of charge to the less privileged parents. The majority of older children were Schick-tested prior to inoculation.

It is most encouraging to report that the number of cases immunised by private doctors has increased considerably.

5. MENINGOCOCCAL MENINGITIS:

	Europeans.	Non-Europeans.
Local cases	8 (4)	3 (5)
Imported cases	6 (3)	6 (4)
	<u>14 (7)</u>	<u>9 (9)</u>

Seasonal and District Distribution:

	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	Total.
Central	—	—	—	—	—	—	—	1	—	—	—	—	1
Eastern Suburbs	—	—	1	—	—	2	—	—	—	—	—	—	4
Northern Suburbs	1	1	—	1	—	—	—	—	—	—	—	1	4
West End	—	—	—	—	—	—	—	—	—	—	—	—	—
Locations	—	—	—	—	1	—	1	—	—	—	—	—	2
	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>1</u>	<u>—</u>	<u>1</u>	<u>—</u>	<u>1</u>	<u>11</u>

Five Europeans and one Native died.

Three cases occurred in children attending the same school; one in September, 1938, one in December, 1938, and one in April, 1939. All these cases were in different classrooms. All the children in the various classes, the members of the Staff and the home contacts (altogether 167 persons), were swabbed for the possible carrier state. The reports of all these persons were negative.

6. TYPHUS FEVER:

No cases of Typhus Fever were notified.

7. MALTA FEVER:

There were two local cases notified — both in Europeans — one male aged 36 years and the other a male aged 9 years.

8. MEASLES:

	Europeans.	Non-Europeans.
Local cases	35 (51)	4 (2)
Imported cases	1 (—)	— (—)
	<u>36 (51)</u>	<u>4 (2)</u>

9. WHOOPING COUGH:

	Europeans.	Non-Europeans.
Local cases	20 (20)	— (—)
Imported cases	— (2)	— (—)
	<u>20 (22)</u>	<u>— (—)</u>

10. ERYSIPELAS:

	Europeans.	Non-Europeans.
Local cases	11 (24)	4 (4)
Imported cases	5 (16)	2 (4)
	<u>16 (40)</u>	<u>6 (8)</u>

11. POLIOMYELITIS:

	Europeans.	Non-Europeans.
Local cases	2 (-)	- (-)
Imported cases	1 (1)	- (-)
	<u>3 (1)</u>	<u>- (-)</u>

12. ANTHRAX:

	Europeans.	Non-Europeans.
Local cases	1 (-)	- (-)
Imported cases	2 (1)	1 (-)
	<u>3 (1)</u>	<u>1 (-)</u>

13. OPHTHALMIA NEONATORUM:

	Europeans.	Non-Europeans.
Local cases	3 (2)	4 (4)
Imported cases	- (1)	4 (3)
	<u>3 (3)</u>	<u>8 (7)</u>

14. TRACHOMA:

	Europeans.	Non-Europeans.
Local cases	- (1)	1 (-)
Imported cases	3 (-)	2 (1)
	<u>3 (1)</u>	<u>3 (1)</u>

15. PUERPERAL SEPSIS:

	Europeans.	Non-Europeans.
Local cases	5 (7)	3 (2)
Imported cases	3 (6)	10 (14)
	<u>8 (13)</u>	<u>13 (16)</u>

Each case was carefully investigated in order to ascertain the probable source of infection, and all the suspect carriers were examined.

16. GONORRHOEAL OPHTHALMIA:

	Europeans.	Non-Europeans.
Local cases	- (-)	2 (2)
Imported cases	- (-)	2 (-)
	<u>- (-)</u>	<u>4 (2)</u>

17. LEPROSY:

No cases were reported during the year.

18. ENCEPHALITIS LETHARGICA:

No notifications were received.

19. SMALL POX:

No cases of Small Pox were notified during the course of the year.

20. MALARIA:

	Europeans.	Non-Europeans.
Local cases	22 (6)	6 (-)
Imported cases	108 (22)	113 (11)
	<u>130 (28)</u>	<u>119 (11)</u>

The season under review proved to be a very trying one on account of the enormous increase in the breeding grounds of the malaria-carrying mosquito *Anophele costalis* (gam-

biaë) in consequence of the abnormal rains which fell during December, January and February.

In my report for the previous season mention was made that a detailed survey of Anophelines and particularly *A. gambiaë* was contemplated this year.

This survey was commenced in October when systematic search for larvae and adults of this species was instituted.

As, up to the end of January, none was found it was decided to proceed to Hammanskraal, about 20 miles away from the City's boundary, where these insects were known to prevail, and to work back along the Aapias River, making larval and adult catches en route.

Larvae of *A. gambiaë* were located at Hammanskraal and the survey was continued to Petronella, 10 miles away. The intention was to continue with the survey the following week, but this was rendered unnecessary as adults of *A. costalis* were located in Pretoria during the first week in February.

The first insects were spotted just north of Capital Park Township and redoubled efforts were immediately made to discover their presence elsewhere within the confines of the City.

Two collections of *A. gambiaë* larvae were made at Eloffsdal on the 13th and 14th February and more adults were taken from a native hut just beyond the municipal boundary at Colbyn on the 17th February.

Continued systematic searches for adult mosquitos revealed that they were entering habitations over a widespread area, mainly along the outskirts of the City to the North-West and East between 13th and 25th February.

It was realized at this stage that the normal staff was inadequate to deal effectively with the abnormal conditions and additional staff was immediately appointed, trained, and put into the field to assist in maintaining control.

One of the Department's rodent eradicators took over the anti-adult work, and a health inspector, and two European gangers from the City Engineer's Department were detailed to assist in the supervision of larval control measures.

Though none of these officials had had any previous practical experience in this type of work, they soon became acquainted with their duties and it was largely due to their perseverance and to the excellent work done by the native sprayers that such a large measure of success was ultimately obtained.

When it is realized that 99% of the breeding of *A. costalis* occurs in shallow muddy puddles such as road pools, backwashes and hoofmarks, in streams, dams and open ditches, etc., and that such conditions were extremely plentiful, the difficulty of effective control becomes apparent.

On the 14th and 15th March rain fell continuously, retarding the execution of effective anti-larval measures. Simultaneously, seepages due to the previous rains appeared particularly along the foothills of the Magaliesberg and Daspoort ranges in Wonderboom South, Rietfontein, Riviera and Rietondale. The promptitude of the South African Railways, Health Staff and other Government bodies in draining seepages brought to their notice, is recorded with appreciation.

Great difficulty was experienced in controlling breeding during this period owing to the enormous and widespread nature of the breeding places and the limited time available due to the increased rate of propagation, climatic conditions being optimum. (See graph showing Mean temperature, humidity and rainfall together with entomological findings.)

Temporary anti-larval measures were carried out as expeditiously as possible and drainage was commenced to intercept the seepages and render them harmless. This latter work is now nearing completion.

As the increasing incidence of malaria is due generally to a proportionate increase in the numbers of malaria-carrying mosquitos entering habitations, it can be easily realized what would have happened had control been lost and the mosquito population been allowed to multiply unchecked. As it was, only on two occasions did the number of mosquitos taken in human habitations reach double figures, i.e. 10 and 11 at Capital Park and Eloffsdal respectively.

RÉSUMÉ OF DATA CONCERNING LOCALLY INFECTED CASES.

No.	Name.	Sex	Age	Address.	Onset.	Type
1.	J.B.	M	4	Ella St., Rietfontein	11.7.38	S.T.
2.	Nat.P.	M	48	Hoves Ground Location	24.1.39	S.T.
3.	A.L.	M	72	Schoeman St., Arcadia.	31.1.39	S.T.
4.	S.	F	14	Rhodes Avenue	3.2.39	S.T.
5.	S.N.	F	45	Celliers St., Sunnyside	4.2.39	S.T.
6.	D.D.	F	19	Plein St., Sunnyside	5.2.39	S.T.
7.	V.M.	F	17	Church St.	26.2.39	S.T.
8.	C.J.v.W.	M	20	Koch St., Central	10.3.39	S.T.
9.	C.1.	M	39	Villieria	13.3.39	S.T.
10.	C.2.	F	33	"	10.3.39	S.T.
11.	C.3.	M	5	"	10.3.39	S.T.
12.	D.B.	M	34	V. d. Walt St.	16.3.39	S.T.
13.	J.B.	M	16	Kotze St., Sunnyside	17.3.39	S.T.
14.	A.C.	F	3	Pretorius St., Hatfield	18.3.39	S.T.
15.	G.deB.	M	10	Voortrekker Avenue	20.3.39	S.T.
16.	F.T.1.	M	14	Villieria	21.3.39	S.T.
17.	F.T.2.	M	13	"	21.3.39	S.T.
18.	J.H.B.	M	40	Zoutpansberg Rd., Riviera	21.3.39	S.T.
19.	S.S.	M	4	V. Boeschoten Ave., Sunnyside	27.3.39	S.T.
20.	S.M.	F	30	Ella St., Gezina	29.3.39	S.T.
21.	H.P.R.	M	21	Walton Jameson Ave., Sunny-side	29.3.39	S.T.
22.	I.N.	M	5	6th Avenue, Capital Park	30.3.39	S.T.
23.	A.E.K.	M	46	Tulleken St.	1.4.39	S.T.
24.	F.R.	M	38	Station Square	7.4.39	S.T.
25.*	M.H.E.1.	F	58	Villieria	9.4.39	S.T.
26.	M.H.E.2.	M	59	"	12.4.39	S.T.
27.	Nat.P.B.	M	7	Quaggapoort	14.4.39	S.T.
28.	J.1.	M	2	Villieria	16.4.39	S.T.
29.	J.2.	M	4	"	18.4.39	S.T.
30.	J.3.	M	22	"	18.4.39	S.T.
31.	V.K.1.	F	11	Booyesen St., Eloffsdal	4.4.39	S.T.
32.	V.K.2.	F	9	" " "	4.4.39	S.T.
33.	V.K.3.	F	4	" " "	4.4.39	S.T.
34.	C.v.N.	F	9	Vom Hagen St.	April	S.T.
35.	W.G.	M	4	6th St., Wonderboom South	1.5.39	S.T.

* Grandparents who nursed cases Nos. 16 and 17.

Notification of 34 and 35 was obtained from Weekly Hospital returns in June.

Diagnosis was made microscopically in all cases with the exception of 9, 10 and 11, which were clinical diagnoses.

Eleven locally contracted cases (numbers 2, 3, 4, 6, 7, 8, 11, 17, 21, 23 and 24) occurred in the old portion of Pretoria where costalis breeding under natural conditions is wellnigh impossible, the streets being macadamised, kerbed, channelled and pipe-drained and the erven well built-up.

Though repeated searches for larvae were made throughout the season none was found within a radius of 1,600 yards of any of the residences of these cases, but perseverance in the search for adult mosquitos was later rewarded when three specimens were taken, one from Walker Street, on 22/3/39, one from Fuller's Siding on 27/3/39 and one from Harmony Estate on 26/4/39 respectively.

Four of the above cases (Nos. 2, 3, 4 and 6), occurred prior to the location of adults or larvae in Pretoria. The residences of these cases were within 600 yards of each other and the incidence was more or less simultaneous, i.e. 31st January, 1939, 3rd, 4th and 5th March, 1939.

The absence of vectors appearing concurrently with the abovementioned eleven cases in Pretoria Central, when climatic conditions were optimum for their multiplication, and the adult infestation unaccompanied by malaria elsewhere, would indicate the cases having become infected mosquitos introduced to the City from outside by artificial means.

No further risk to residents of Pretoria from insects introduced by this means, beyond the causation of a few scattered cases of malaria, need be anticipated, provided that reasonably sound anti-mosquito measures are maintained to prevent mass propagation arising therefrom.

In any case such mosquito control would always have to be carried out to prevent the multiplication of malaria-carrying mosquitos introduced by natural means.

It will be seen from the above that the risk of contracting malaria from imported insects does exist, but that such risk is so small and the cost of elimination so great (elimination entailing the disinsectization of all vehicles from malarious areas) that no action in the matter would be justifiable.

The excellent results obtained, i.e. 36 locally infected cases in a population of 113,000 or 0.03% indicates that the measures taken were sufficient and adequate.

Adequate measures were instituted at the Bon Accord Quarries to protect the European and Native employees of the Council, and no cases occurred.

Unfortunately, malaria made an unexpected appearance at the Council's Rietvlei Waterworks.

Three European cases, two of which proved fatal, occurred in one dwelling (all *P. falciparum*).

The position was at once investigated and the malaria-carrying mosquitos (*A. costalis*) were found in most habitations searched in addition to breeding places close by.

One adult female *A. gambiae* mosquito taken from the room in which one death occurred was found on dissection to be infected with malaria parasites, thus leaving little doubt as to the source of infection.

No further cases occurred after the inception of precautionary measures.

Adults of *A. costalis* were last taken from human habitations on 1st May, but larvae were still to be found just outside the City's Eastern boundary (in spite of 6° of ground frost on 28/4/39) on the 12th May. This particular breeding place is being kept under observation.

A map of the City and a chart showing all relative data are appended hereto.

General Mosquito Control:

No attempt was made to enlarge upon the survey of culicine mosquitos, last year's survey having revealed the species which enter habitations freely and so cause nuisance, but two more catches of the larvae of *Aedes argenteus* (*aegypti* or *stegomyia fasciata*—vectors of Yellow Fever) were made.

It is apparent from these collections and also from insects previously recorded from Onderstepoort and Voortrekker Hoogte that *Aedes argenteus* is well established in Pretoria and its environs.

Being mindful of the havoc now being wrought in South America by *A. costalis* which is indigenous to the African Continent and which was introduced to South America from West Africa by mechanical means, one cannot ignore the possibility, slight though it may seem, of our *Aedes* becoming infected by human cases of Yellow Fever introduced by plane and causing a spread of this disease in a similar manner to the spread of malaria in Brazil.

The risk in peace-time does not constitute a menace, as planes are compelled to land at Anti-amaryl aerodromes, where isolation facilities are provided and precautionary measures undertaken. The danger, however, lies in the fact that military planes are not subject to such restrictions and in time of war there would be a possibility of Yellow Fever obtaining a foothold in Pretoria.

Now that anti-malaria measures are well established, it will be possible to spend more time on investigating the Yellow Fever question and this is contemplated next season.

Co-operative Measures:

The co-operative basis of working established last year with the Pretoria University Experimental Farm, the National Match Company, the Hercules Municipality, the Les Marais Irrigation Board, the South African Railways and other Government Departments was continued this year and in addition the South African Iron and Steelworks and Menlo Park Estates authorities co-operated similarly.

Importation of Fish:

In consequence of the investigation carried out in the control of breeding in irrigation dams and canals, etc., in this and other countries, particularly in Australia and in the

Far East, several hundred "Killinger" Minnows were imported by the Department through the kindness of T. Kinoshita, Esq., the Imperial Japanese Consul, the Osaka Syosen Kaisya Limited, the Shiga Prefecture Fisheries Experimental Station, as well as the officers and men of the M.S. La Plata Maru, and Mr. W. Aird, Port Health Inspector, Durban. As far as we know this is the first time that "Killinger" Minnows have been introduced into this country. They have the reputation of being one of the most effective scavengers of larvae.

The trouble taken by all concerned in assuring the safe arrival of these fish is fully realized and appreciated.

They have now commenced breeding and will be distributed to certain areas, particularly where *Culex fatigans* is breeding prolifically, and where it would be more advantageous and economical to use them as a measure instead of using larvicide sprays.

CONTROL MEASURES.

Permanent:

Unfortunately, the commencement on the main item on the programme of permanent works, i.e. the concrete canalization of portions of the Aapies River had to be postponed for financial reasons.

The other work such as the regrading of existing open drains, the uncanalized portion of the Aapies River through Fountains Valley and Walker Spruit has progressed satisfactorily.

In addition, borrowpits have either been reclaimed or drained at Pretoria West, Eloffsdal, Parktown, New Muckleneuk and Iscor.

The open stormwater drains in the Innesdale section have all been regraded and cleaned.

Afforestation:

Some 20,000 cuttings of Poplar deltoides were planted during the winter along the banks of Walker Spruit south of Walker Street, and on the South bank and North of the Power Station Dam.

The bulk of the cuttings have taken root and are growing well.

Temporary Measures:

Antilarval work, i.e. spraying of larvicide, was carried out at intervals of one week from the second week in October to the end of April, and thereafter once fortnightly.

As proposed in last year's report a black coal tar disinfectant was used as a general larvicide. Several fluids were tested and one make of anti-malaria fluid was found to be the most effective.

This larvicide was used on all types of breeding places and the results obtained were excellent, fully justifying the action of the Department in adopting this as a general larvicide in preference to oil. All permanent breeding places will be sprayed at intervals depending on the breeding period this coming winter.

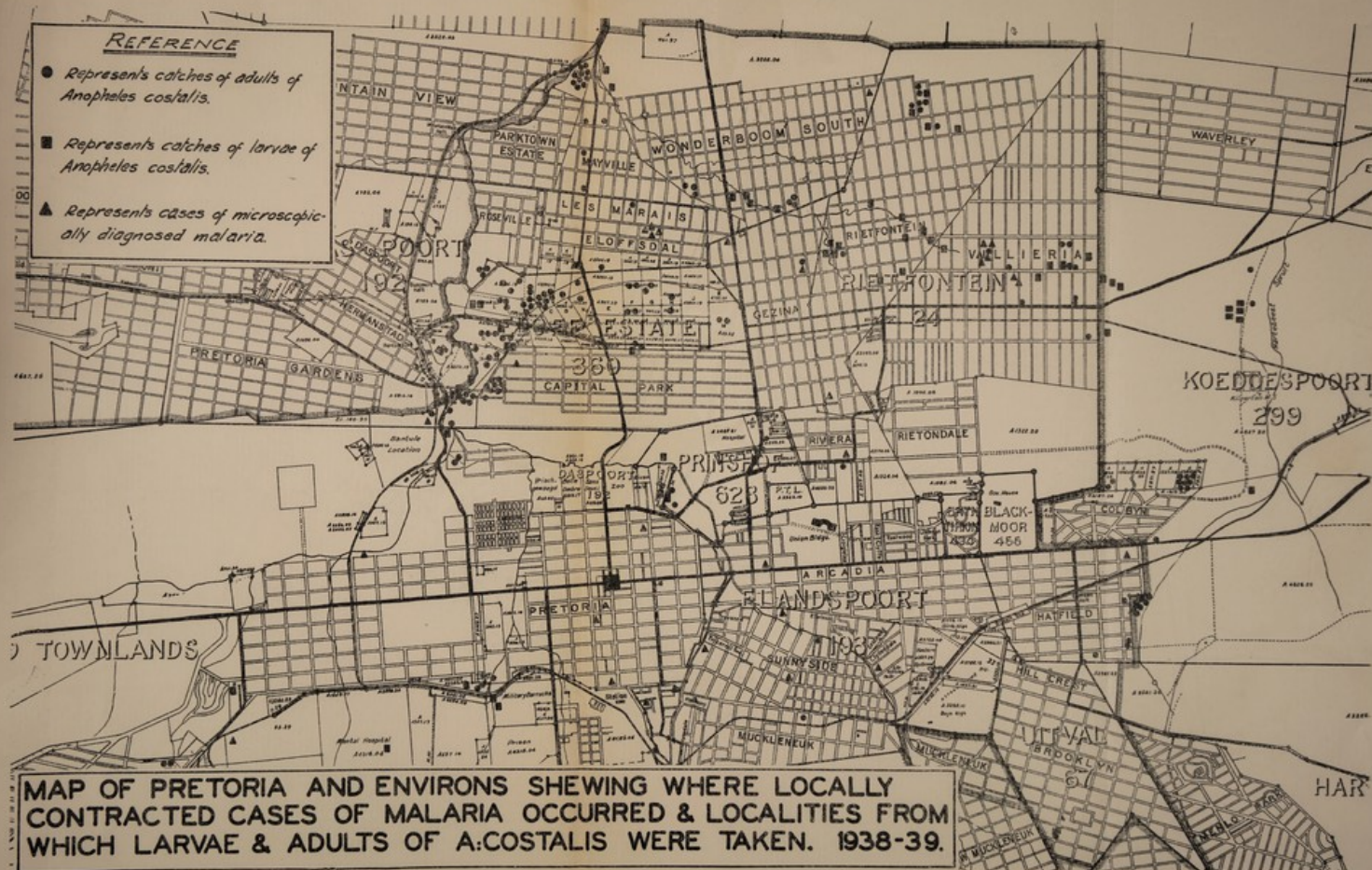
STAFF.

The past season has shown the necessity of having trained men available to augment the normal mosquito eradication staff when abnormal conditions arise.

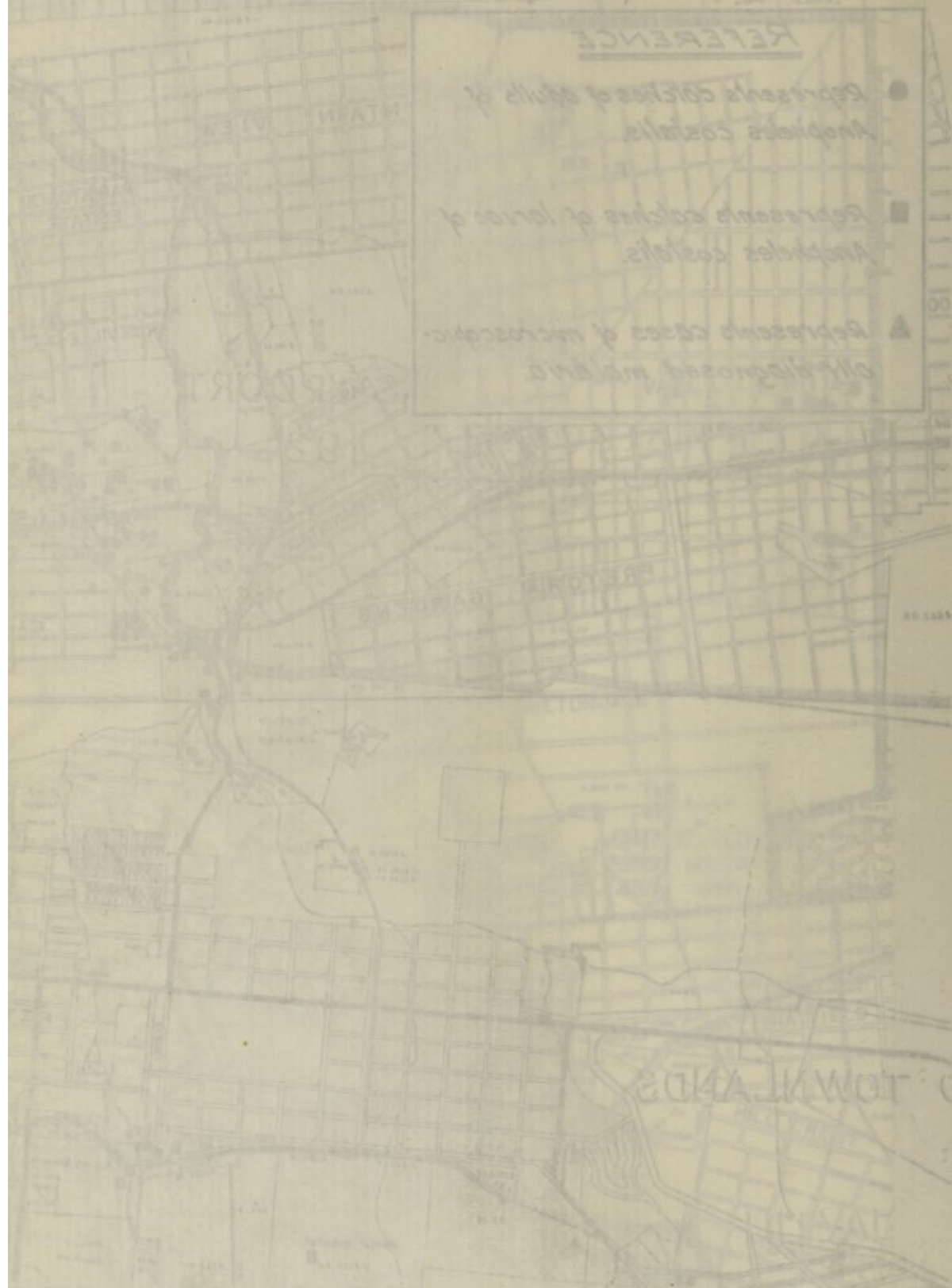
This applies not only to the overseers but also to the Inspector in charge, who, in addition to having increased supervisory duties with a larger staff, has more laboratory work to perform (957 microscopic examinations were made this season) and increased breeding on private property to deal with.

It is felt that one of the junior Inspectors should be given an opportunity of gaining experience in this work by being seconded to this branch of the Department for about two months each summer. The Department would then have a fully-trained assistant should the Inspector in charge require assistance or relief.

The policy of the Department being to invoke the co-operation of other bodies within the City's boundaries by their contributing towards the cost of control measures (present contributions amount to approximately £100) in preference to allowing the work to be done by unskilled persons, and the Department doing the actual work itself on an organised and systematic basis under trained supervision, has increased the normal amount of work.

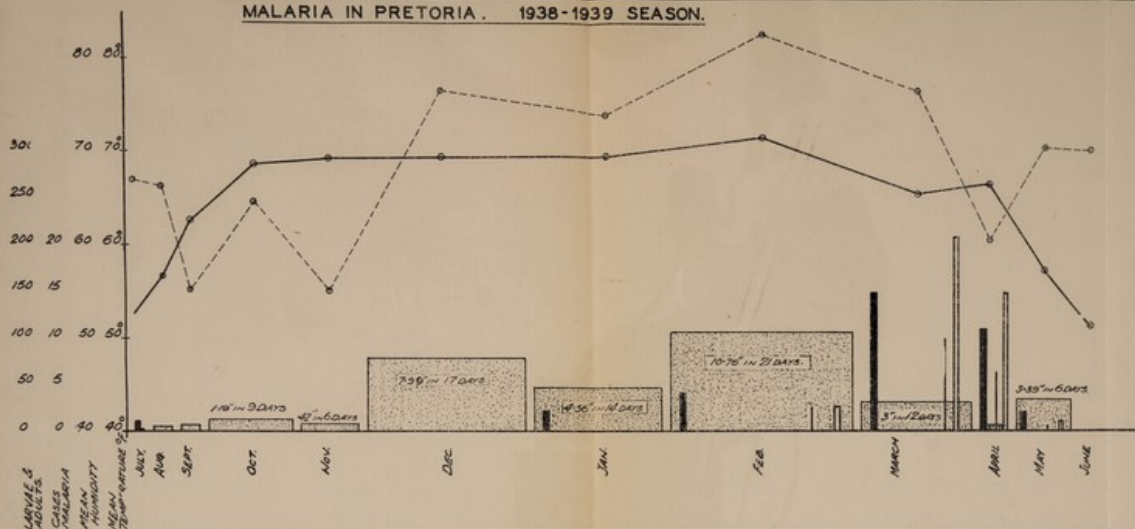


MAP OF PRETORIA AND ENVIRONS CONTRACTED CASES OF MALARIA WHICH LARVAE & ADULTS OF A. COSTA

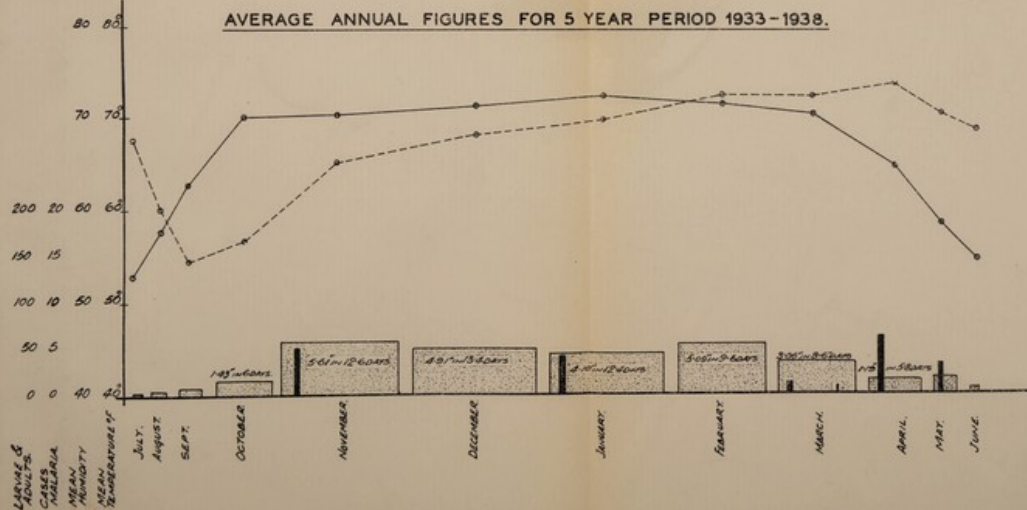


- REFERENCE**
- Represents cases of adults of *Anopheles costalis*
 - Represents cases of larvae of *Anopheles costalis*
 - ▲ Represents cases of microscopic only diagnosed malaria

GRAPH SHOWING METEOROLOGICAL AND ENTOMOLOGICAL DATA RELATIVE TO THE INCIDENCE OF MALARIA IN PRETORIA. 1938-1939 SEASON.



AVERAGE ANNUAL FIGURES FOR 5 YEAR PERIOD 1933-1938.



REFERENCE

NUMBER OF DAYS OF RAINFALL = READ HORIZONTALLY
 AMOUNT OF RAINFALL, INCHES = READ VERTICALLY
 MEAN TEMPERATURE OF = ————
 MEAN HUMIDITY = ————

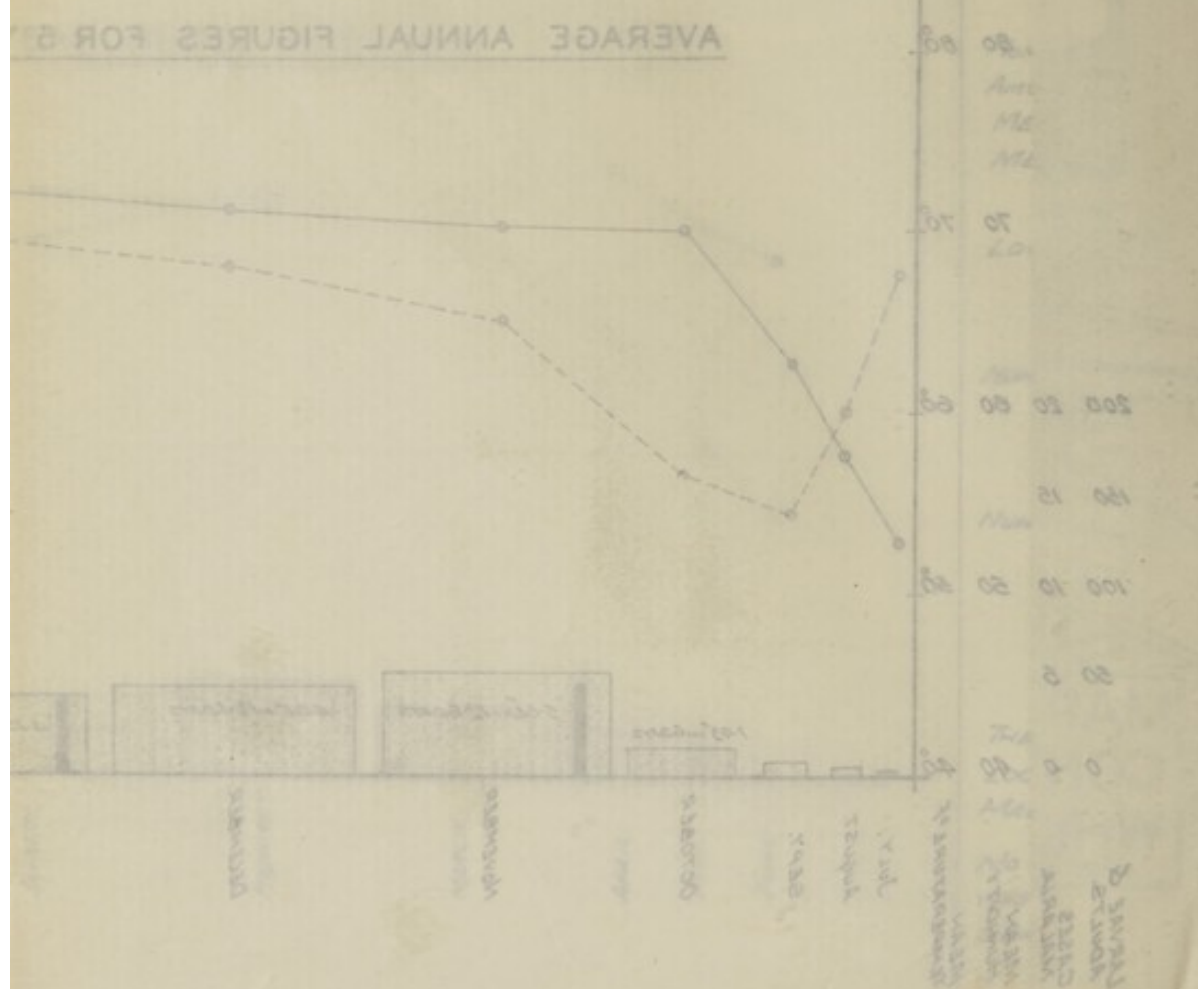
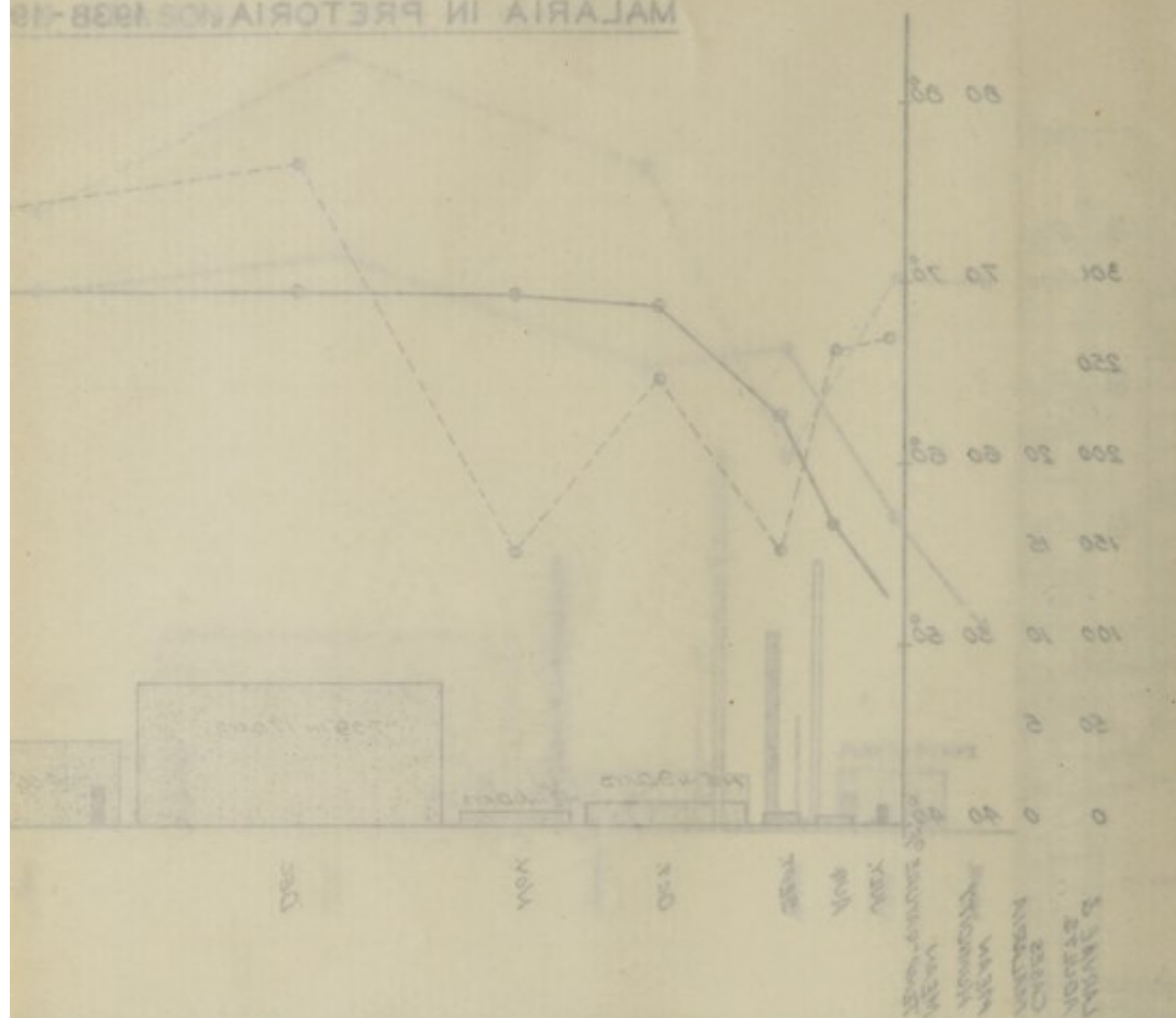
LOCALLY CONTRACTED CASES MALARIA = ————

NUMBER OF ADULT GAMBIAE TAKEN = ————

NUMBER OF GAMBIAE LARVAE TAKEN = ————

THE 1933-1938 GRAPH INCLUDES ALL LOCALLY CONTRACTED CASES OF MALARIA FOR THIS PERIOD.

NO METHODOLOGICAL MOSQUITO SURVEY WAS CONDUCTED PRIOR TO 1937-38 SEASON.



The necessity for including areas previously not controlled was brought about by the extension of housing at Pretoria West (Ischor and Proclamation Hill), Brooklyn and Colbyn. This has further increased the work of the mosquito eradication squad and it has become necessary to consider the appointment of an additional overseer.

The maintenance of control measures was rendered possible this past season by the assistance of the five additional men previously mentioned, but it is considered that the appointment of one additional full-time overseer would sufficiently augment the staff in a normal year without risk to effective control.

The Department is indebted to Inspector M. v. R. Lee for this excellent work.

LIST OF THE LARVAE AND ADULTS OF MOSQUITOS TAKEN DURING THE SEASON 1938 - 39.

LARVAE.

<i>A. gambiae</i> (<i>costalis</i>)	233	or 46.6% of total catch.
<i>A. ardensis</i>	1	
<i>A. transvaalensis</i>	1	
<i>A. maculipalpis</i>	3	
<i>A. cinereus</i>	112	<i>Aedes argenteus</i> 20 larvae.
<i>A. theireli</i>	2	
<i>A. natalensis</i>	4	
<i>A. mauritanus</i>	116	
<i>A. pretoriensis</i>	61	
<i>A. rufipes</i>	27	
<i>A. squamosus</i>	36	
<i>A. lesoni</i>	5	Taken at Petronella.
TOTAL	501	

ADULTS. (All taken in human habitations.)

<i>A. gambiae</i> (<i>costalis</i>)	403	or 88% of total catch.
<i>A. ardensis</i>	1	
<i>A. demeilloni</i>	2	
<i>A. maculipalpis</i>	1	
<i>A. mauritanus</i>	31	
<i>A. cinereus</i>	4	
<i>A. marshalli</i>	5	
<i>A. rhodesiensis</i>	1	
<i>A. pretoriensis</i>	1	
<i>A. squamosus</i>	8	
TOTAL	456	

BILHARZIA.

There is no evidence of Bilharzia having been contracted in the Municipal area of Pretoria for very many years.

Its disappearance is due most probably to the provision of up-to-date swimming baths, and to the concrete canalization of certain portions of the Aapies River previously much frequented by bathers.

The Aapies River north of Pretoria is still heavily infested with the common South African snail *Physopsis Africana*, but this snail vector has not been seen within the City of recent years.

A snail survey has been commenced, and is being conducted in conjunction with this Department's mosquito survey.

The collections made to date are:—

<i>Bulinus tropicus</i>	24 specimens
<i>Bulinus forskalii</i>	20 "
<i>Lymnaea natalensis</i>	139 "
<i>Lymnaea truncatula</i>	347 "
<i>Melanoides tuberculata</i>	118 "
<i>Planorbis</i> (species)	85 "
TOTAL	753

The *Planorbis* species very closely resembles "*caustulatus*" both physically and in the type of habitat it frequents, and specimens have been submitted to the British Museum for identification.

Only *Bulinus forskalii* of the abovenamed snails is known as a vector of Bilharzia and this only in Mauritius, but as far as is known it is not looked upon as of any importance in this regard in South Africa.

It is the intention of the Department, however, to ascertain by further experiment whether *B. forskalii* is capable of transmitting infection in this country.

ANTI-PLAGUE MEASURES.

Pretoria is not an area where plague is prevalent, but anti-plague measures are constantly employed as a protection against invasion by plague-carrying rodents.

Close co-operation is maintained with all other authorities concerned.

Assistance has been given wherever necessary, and it is pleasing to record that the willing co-operation of occupiers of private premises resulted in the destruction of a large number of rodents.

The Municipal dogs purchased last year continue to do good work, but inadequate transport facilities prevented the rodent eradicators making full use of these dogs.

To expedite this phase of the work the motor cycle outfit will be replaced by a light motor van.

The gerbille area at Rietvlei farm, situated in the vicinity of the springs and above the dam, is still heavily infested. There has been systematic poisoning and a certain amount of gassing done in this vicinity during the year, but the nature of the soil and the heavy overgrowth of vegetation afford excellent coverage and feeding for gerbilles, and they are liable to migrate from adjoining properties into this area, although everything possible has been done to combat this.

The following figures give an indication of the work done for the year ending 30th June, 1939, and demonstrate the results obtained by the District Health Inspectors in conjunction with the rodent eradicators, especially in reference to such work as "building out" of rodents from stores, stables and dwellings, and the clearing and removal of rodent harbourage within the City.

	1937-8.	1938-9.
New impervious floors laid in grain, flour and other stores	18	16
Floors repaired or walls or roofs made rat-proof in flour, grain or forage stores	62	76
Non-rat-proofed grain, forage or other stores disused	24	28
Non-rat-proofed grain, forage or other stores demolished	—	2
Accumulations of rubbish or lumber likely to harbour rats cleaned up or removed	1,438	1,498
European dwelling houses: Foundations repaired, floor gratings replaced or rat holes stopped	234	326
Native rooms: Floors relaid or repaired	126	194
Ratproof animal food bins provided at private stables	34	28
Premises inspected or re-inspected and advice given where necessary	1,502	1,443
Notices or intimations to owners or occupiers of premises to use traps or poison	584	666
Approximate number of rats destroyed in private premises (excluding Government properties)	7,950	9,657
Number of rats and mice trapped or killed on Municipal properties and town lands	2,794	2,981
Number of prosecutions for failure to comply with regulations	Nil	Nil
Number of poison baits set on town lands and in protective belt	43,065	29,640

FILM—"COMBATING PLAGUE."

The Department, during the course of the year, completed a film entitled "Combating Plague." This is a 1,200-ft. 16-m.m. film. An attempt has been made to depict the cause of plague and the rat menace. The preventive measures to be adopted in combating rodents are stressed.

The film is in both official languages and was taken and directed by the Medical Officer of Health and Mr. C. P. de L. Beyers, head of the Film Bureau of the Union Education Department.

The persons taking part in the film were members of the Health Department staff. No professional artists were employed.

The film has been shown to various critics and on the whole the report on the value of the film and the technique of the photography appears to be satisfactory.

SPECIAL DISEASES CLINICS.

Tuberculosis Section:

The European Tuberculosis Clinic is conducted every Friday afternoon at the Department's new building for special diseases, situated in the Pretoria Hospital grounds. The non-European clinics are held in rooms set aside at the Out-Patients' Department, Pretoria Hospital on Monday and Thursday afternoons.

Every case of tuberculosis notified to the Department is immediately investigated by the Health Inspector for Infectious Diseases.

All contacts are examined at the clinic and a routine X-ray is taken of each one to exclude early tuberculosis. All cases not in need of sanatorium treatment, are visited regularly in their homes by Lady Health Visitors and Non-European nurses. Printed instructions are issued regarding the care of patients and methods of prevention of spread of the disease.

Health Visitors see the patients in their own homes and ensure regular visits at the clinics. Sputum and X-ray examinations are done at regular intervals.

Free milk is issued to needy cases. Where home conditions are bad, wood and iron portable huts are erected which provide a separate room for the infected person.

Free conveyance to the clinic is provided for poor patients in outlying areas of the town.

The polyclinic which will be erected at the new Native location in the very near future, will be of great assistance in the earlier detection of tuberculosis. Curative and preventive services will then be combined in a single organisation and anti-tuberculosis work will be further extended.

Our present system of "case finding" is not quite sufficient. More intensive methods are indicated and a wider net should be cast.

It is disappointing to acknowledge that too often our first introduction to a tuberculous household is practically always obtained only by a notification from a private practitioner, or from some or other institution.

With a few exceptions, the average case of pulmonary tuberculosis sent to our clinics, is already a fairly well advanced tuberculous.

The Department of Social Welfare has, under consideration, a scheme for assisting indigent tuberculosis sufferers. It was hoped that this scheme would have come into operation some time ago.

"After care" work is conducted only by the Health Visitors and nurses, and the time is more than ripe for the inauguration of a proper "After-care Committee," which should work in close co-operation with the Health Department. Without such a Committee much of the benefit derived from the clinic system is likely to be lost.

The following figures record the numbers of patients and attendances for last year and this year.

OUTDOOR PATIENTS.

	European		Non-European		Total	
	1937/38	1938/39	1937/38	1938/39	1937/38	1938/39
No. of new cases coming under treatment during the year	76	78	70	111	146	189
No. of Hercules patients	1	—	13	1	14	1
No. of attendances paid by Hercules patients	2	—	20	2	22	2
Total number of patients who attended	544	855	334	378	878	1,233
Total number of attendances paid	1,469	1,675	436	589	1,905	2,064
No. of visits paid during the year to houses of patients by Health Visitors	1,943	2,337	1,713	1,997	3,656	4,334

VENEREAL DISEASES: CLINICS.

(By Medical Officer in Charge.)

The Council's scheme for the treatment of venereal diseases includes:—

- Municipal treatment centres.
- In-patients' treatment of acute cases only, at the Isolation Hospital.
- In-patient treatment for patients at the Union Government's Venereal Diseases Hospital.
- Home visiting of defaulting patients.

The Union Government repays part of the approved expenditure on all these services to the Council.

Cards in both official languages, containing warning notices in regard to these diseases and the times of the clinics at the treatment centres, are posted up in all public conveniences.

During the year under review the new clinic building in the Hospital grounds was completed, and is proving much more suitable than the cramped premises we were occupying in the Out-patients' Department.

This clinic is certainly one of the most up-to-date in the country. It has been designed to meet the convenience not only of the patients we are now treating, but also of any increased numbers who might attend as the city grows.

From a medical point of view it has been designed to further the smooth working of the staff and to eliminate, as far as possible, any waste of time and energy.

During the past year the clinic has functioned smoothly and the extra early-morning clinic for men working in the afternoon, has been appreciated.

Fortunately we have not had a recurrence of the epidemic of Vulvo-Vaginitis which caused so much trouble the previous year.

Thanks to the system of following up all patients and contacts, we have been able to impress the importance of treatment to a large number of people, with the result that we have a very small percentage of defaulters.

A major advance in the treatment of Gonorrhœa has been the introduction of the sulfonamide group of drugs which, when used as an adjunct in treatment, reduces the length of time necessary to effect a cure.

There is undoubtedly a need for more public education as regards the prevention of venereal diseases, and I feel that a wider-spread publicity campaign would be useful in bringing the knowledge of the facilities available at the Municipal Clinic to a larger number of people.

As in previous years, various branches of the Out-Patients' Department at the Hospital have been collaborating, to the fullest extent, with the Clinic.

EUROPEAN STATISTICS.

Nature of Disease.	Number of New Cases coming under treatment during year.		Total number of Outdoor attendances during the year.	
	Male.	Female.	Male.	Female.
SYPHILIS:				
(a) Primary or Secondary	23	64	490	610
(b) Tertiary	10	4	330	226
(c) Of Central Nervous System	2	—	4	12
(d) Congenital	4	31	123	255
OTHER VENEREAL DISEASES	2	1	5	11
GONORRHOEA	88	100	2,297	2,202
Total	129	200	3,249	3,316

For the purpose of comparison, the following are the figures for the last five years:—

	Number of New Patients seen during the year.	Total number of attendances.
1934-35	204	2,920
1935-36	260	5,851
1936-37	338	7,817
1937-38	370	9,314
1938-39	329 (a)	6,565 (b)

(a) The fall in the number of new patients as compared with the previous year is attributable to the following:—

- (i) Last year we examined and treated a large number of children involved in the outbreak of vulvo-vaginitis.
- (ii) The undoubted fact that an appreciable number of infected people are attempting to treat themselves with the various sulfonamide tablets obtained direct from chemists. In connection with this, a widespread publicity campaign is necessary to warn the public of the dangers in the self-administration of this drug — dangers of a twofold nature —

(1) The false sense of security engendered by the fact that patients still in an infected state, consider themselves cured.

(2) The serious nature of the complications which may follow the unrestricted and unsupervised use of these drugs.

(b) The drop in total attendances is likewise due to two factors:—

- (i) Over 500 attendances in the previous year were in connection with the outbreak of vulvo-vaginitis mentioned above.
- (ii) The attendance at the official clinics showed no drop — the fall in attendance occurring on the accessory treatment clinic days supervised by the clinic staff. This is due to the fact that since the introduction of sulfonamide as a routine in the treatment of gonorrhœa, we have succeeded in very appreciably reducing both the time required for cure and the total number of attendances necessary for that cure.

VENEREAL DISEASES: NON-EUROPEAN.

The Non-European Special Diseases Clinics are held at the Out-Patients' Department, Pretoria Hospital, on Mondays (morning and afternoon), Wednesday evenings and Thursday afternoons.

The provision of a central clinic, within the precincts of the native locations, would prove of inestimable benefit, as the majority of the natives find frequent journeys to the Out-Patients' Department most inconvenient, especially mothers who have to submit four or five children regularly for treatment. The difficulty no doubt will be overcome, when the proposed new Polyclinic is erected at the new native location.

It is most gratifying to report that Non-Europeans, suffering from venereal diseases, attend the clinics very willingly. Those presenting themselves for treatment for the first time tender the required information readily, which simplifies the problem of tracing the source of infection.

The incidence rate amongst the Non-Europeans is more than three times that of the Europeans. The causes for the high rate amongst the Non-Europeans are difficult to assess. There is, however, reason to believe that a rise in the standard of living, better housing and continual educational propaganda will in time produce a reduction in the numbers of cases.

Although patients from outside the Municipal area are also treated at the clinics, it is felt that the rural areas should be encouraged to extend their activities further for treating venereal diseases.

The scheme for the examination of native females seeking employment has been considered. The Department is, however, of the opinion that unless this examination is continuous and very thorough, it would give a false sense of security, as it would only prove that the individual on the day of examination, was free from infection.

To achieve the desired effect very frequent examinations would have to be carried out. It is, however, open to an employer who suspects an infection, to send his servant for examination, which is done free of charge.

The number of new patients seen during the year was 1,061, 525 males and 536 females. Of the males, 362 had syphilis and 163 had gonorrhœa, whilst of the females 448 had syphilis and 88 had gonorrhœa. In this figure is included 182 children brought to the clinics during the year as new patients suffering from congenital syphilis, 29 being males and 153 females.

In addition to the new patients seen during the year, 100 Non-Europeans (males 42 and females 58) presented themselves for examination and were found to be free from syphilis in a communicable form. The number of patients who were rendered non-infectious or cured and discharged from the Clinics was 242, 134 males and 108 females.

The total number of persons who attended the Clinic was 3,388 and the total number of attendances paid was 16,942, males 7,708 and females 9,234.

The total number of intravenous injections of salvarsan or other similar preparations given was 12,490.

The following table gives comparative figures of the last five years:—

	No. of new patients seen during the year.	Total No. of attendances.	Number of intra- venous injections.
1934-35	1,169	11,546	9,223
1935-36	769	12,505	7,685
1936-37	1,020	14,200	8,810
1937-38	1,018	14,707	9,434
1938-39	1,061	16,942	12,490

The Department is again indebted to private practitioners for submitting monthly the number of cases suffering from venereal disease, coming under their care. The following is a résumé of these figures:—

	EUROPEAN.				NON-EUROPEAN.			
	Males.		Females.		Males.		Females.	
	1938/9.	1937/8.	1938/9.	1937/8.	1938/9.	1937/8.	1938/9.	1937/8.
Gonorrhœa	268	287	49	52	67	59	15	6
Vulvo-Vaginitis	—	—	8	27	—	—	—	2
Syphilis:								
Primary	14	17	8	11	37	56	15	12
Secondary	12	8	7	2	93	72	83	30
Tertiary	17	5	16	10	43	52	31	37
Neuro	6	—	—	—	1	3	—	—
Congenital	4	4	5	1	11	24	6	10
Other Venereal Diseases	3	4	—	—	—	—	—	—
	324	325	93	103	252	266	150	97
	1938/39.				1937/38.			
TOTAL	819				791			

ISOLATION WARDS.

The Isolation Wards, situated in the grounds of the Pretoria General Hospital, consist of three main sections — two for Europeans and one for Non-Europeans, with a total accommodation of seventy beds.

Arrangements for the control remain unchanged, the Council's Medical Officers being responsible for the treatment of its isolation cases.

The provision of crockery sterilizers, bowl sterilizers and bed-pan sterilizers, together with a constant supply of hot water in every ward and side-room, as noted in the Annual Report for last year, has contributed greatly towards the smoother running of the Hospital and facilitated the work of the nursing staff.

During the year a Boyle-Davis Anæsthetic apparatus was purchased, in order that special types of anæsthesia might be administered, where necessary.

The stoep of the Native Female Section is being provided with canvas roller blinds to enable those patients who would benefit by it, to be nursed in the open air. This also affords increased accommodation in cases of emergency.

The grounds and lawns of all three sections are well kept and the building is in a state of good repair. The exterior will shortly be whitewashed and all the external pipes repainted.

CASES TREATED IN THE WAIDS DURING THE YEAR WERE:—

	Europeans.		Non-Europeans.	
	1938/9.	1937/8.	1938/9.	1937/8.
Chicken Pox	8	6	9	22
Venereal Disease	12	19	18	37
Other non-infectious diseases	43	36	18	46
Mumps	7	10	3	4
Puerperal Sepsis	10	21	6	22
Tuberculosis	15	54	21	24
Impetigo	—	1	—	—
Typhoid Fever	41	51	50	39
Whooping Cough	19	16	—	—
Diphtheria	86	51	9	3
Measles	39	66	43	39
Influenza	—	25	—	3
Scarlet Fever	65	56	—	—
Anthrax	1	1	1	—
Encephalitis Lethargica	—	2	—	1
Malaria	—	8	—	—
Erysipelas	—	35	4	6
Cerebro-spinal Meningitis	4	—	2	6
Typhus Fever	—	3	1	—
German Measles	—	10	—	1
Pneumonia	—	1	—	1
Poliomyelitis	1	2	—	—
Ophthalmia Neonatorum	—	1	—	6
Malta Fever	—	1	—	—
Leprosy	—	1	—	—
Amaas	—	—	—	1
Trachoma	—	—	1	—
Gonorrhœal Ophthalmia	—	—	4	—

The total number of cases treated as in-patients at these wards was 872 (738); 324 (319) of the cases, 153 (190) Europeans and 171 (129) Non-Europeans, were admitted from outside areas and 548 (420) were Pretoria residents.

(Figures for 1937/8 are given in brackets.)

INFECTIOUS DISEASE AMBULANCES.

One of the Infectious Disease Ambulances was replaced this year by a very luxurious Studebaker Samaritan Ambulance at a cost of £895.

This ambulance is so constructed that patients can be loaded either from the side or from the rear of the vehicle. It is fitted with all modern equipment such as an oxygen container, electric fan and first-aid cabinet.

The machine is well sprung and adds to the comfort of the sick who travel in it.

REPORT OF THE PRETORIA DENTAL CLINIC.

1st July, 1938 — 30th June, 1939.

Upon Dr. Ockerse's resignation in July, 1938, the Board appointed two full-time Dental Officers, Drs. du Plessis and Monk. Two appointments were made because there are now some 12,900 children in the Primary Schools and it was obviously impossible for one Dental Officer to examine all these children and in addition give operative treatment.

The appointment of Drs. du Plessis and Monk to the Permanent Staff was confirmed in March, 1939, and Dr. du Plessis was appointed Superintendent of the Clinic.

A new post of Almoner-Secretary was established to which Miss G. Weall was appointed in October, 1938.

Sister Levisseur continues at the clinics.

The Board has initiated a system for the training of Dental Nurses. It is proposed to train from two to three girls per annum. The pupillage is of nine months' duration and a nominal sum is paid to cover bus fares and incidentals. In October, 1938, Miss Pring and Miss van Breda were appointed as Pupil Nurses. On their departure to act as Dental Assistants to local Dentists, Miss Jones and Miss du Plessis took their places.

NEW BUILDING:

The new Clinic building was completed at the end of October and the first patients were treated there early in November.

SCHOOL DENTAL SERVICE:

During the year these services have been greatly extended. The Board has now instituted a complete service for children in the grades, the purpose being to give a full conservative treatment to this group of children and to complete all the treatment required by them.

A detailed examination of the children in the Grades was started in November, 1938, and all children in the Grades and Nursery Schools have had their mouths examined and charted; the total number being 2,426.

The Board is of the opinion that to continue an extensive form of "casualty" treatment, composed mainly of extractions, is of little preventive value.

A system of conducting Sub-Clinics at schools which are situated at some distance from the Central Clinic has proved to be of definite value. However, in general, a more efficient service can be provided for the children if they are treated at the Clinic. It is felt that the question of provision of suitable transport is a matter of urgency, and it is hoped that during the coming year suitable arrangements for the conveyance of children from certain schools at fixed hours will be made.

In February, 1939, the Medical Inspector of Schools informed the Dental Clinic Board that the services of the Provincial Nurses would not be available for Sub-Clinics after the end of May, 1939. The position was explained to the Provincial Secretary, but no arrangements have as yet been made. The Board is thus faced with the possibility of being without a nurse for Sub-Clinics when the schools re-open in August.

It was felt that it would be advisable to have morning sessions, in addition to the usual afternoon sessions, at the Clinic for school children. The Education Department was approached, with the result that a circular was issued to all Principals instructing them to send children once a term, when requested, for treatment at the Clinic during school hours. Up to the present, the results have been very gratifying.

Since January, 1939, all the schools in the Pretoria Area, numbering 46, including three Nursery schools, have been examined. The total number of children examined is 12,868; of these, 11,322 require dental attention. Out of the 11,322 requiring treatment 5,864 are non-indigent and 5,458 are indigent.

The Board is aware that if the Clinic is to serve the children in the fullest possible manner, the active co-operation and assistance of the Primary School Principals is essential. With this in view, a meeting of Principals was held at the Clinic, at which a Committee to readjust and improve the existing arrangements was elected. The Committee consists of the Chairman of the Board, the full-time officers of the Clinic and 3 Principals.

ADULT INDIGENTS:

Until recently, only adult indigents residing within the Municipal area were treated at the Clinic, those outside receiving an extraction service at the General Hospital. After a request from the Hospital that these patients be now treated at the Clinic, the Provincial Authorities were approached for a subsidy for this adult treatment. In June, 1939, arrangements were concluded, and the Provincial Authorities agreed to subsidise the Clinic to the extent of £100 per annum for the treatment at the Clinic of all adult indigents residing outside the Municipal area. Pauper patients are undoubtedly at a serious disadvantage when the only form of dental treatment available to them is an extraction service, as such a service is of only partial preventive value, and in order to be effective must be supplemented by adequate conservative and restorative treatment.

SOUTH AFRICAN IRON AND STEEL CORPORATION:

The arrangement whereby Classes 1 and 7 members of the Medical Benefit Society were provided with facilities for dental services at the Clinic, has continued during the past year. The number of persons seeking treatment under this scheme has declined, as the initial abnormal demand created by accumulated dental troubles has passed and the number

of Class 7 employees has been considerably reduced. With the acquiescence of the Committee of the Iscor Benefit Society the Board reduced the number of sessions available for the treatment of this group from five to three per week.

FINANCE:

In June, 1938, the City Council increased its Grant-in-Aid from £600 to £1,100 per annum. The Provincial Education Department had previously increased its Grant from £600 to £1,000 per annum.

In April, 1939, the Provincial Education Department further increased its Grant-in-Aid to £1,200 per annum, and in June, 1939, the City Council notified the Board that its Grant-in-Aid for 1939-1940 would be £1,500. Although grateful for the increases in the Grants, the Board still finds these sums inadequate and has difficulty in making them cover all the requirements for the running of the New Clinic.

SEMI-INDIGENT SCHEME:

The Clinic Board is considering a scheme whereby semi-indigent school children may also receive Dental treatment at the Clinic. The object of this scheme is to provide for those children whose parents cannot afford to pay the fees of private practitioners, but who do not fall in the indigent class. The Board would like to establish a separate panel of dentists who will receive remuneration for services rendered in the treatment of these children.

Under this scheme fees for treatment will be fixed for individual cases by a Committee consisting of practising dentists of Pretoria.

STATISTICS FOR THE YEAR UNDER REVIEW:

	Total No.	Examin- ations.	Extrac- tions.	Fill- ings.	Prophy- lactic.	Other Treat- ment.	Gold Inlay	Dentures.
Children	5,281	933	4,800	1,778	23	100	8	2 Orthodontia.
Sub-Clinics	1,527		2,092					2 Repairs.
	<u>6,808</u>		<u>6,892</u>					4 Partial.
Pre-School Children	94	13	193					
Adults	2,270	62	4,328	65	6	223	-	49 Full upper and lower.
								9 Full upper.
								1 Full lower.
								8 Partial.
								33 Repairs.
Iscor	174	8	187	73	10	32	1	7 Full upper and lower.
								1 Full lower.
								2 Partial.
								5 Repairs.

In conclusion, I wish to thank the individual members of the Staff for the way in which they have assisted me in carrying out my duties. I realise that the success of the Clinic depends on mutual understanding and co-operation.

CHILD WELFARE ACTIVITIES.

There are seven infant welfare centres in Pretoria for Europeans and one for Non-Europeans. Of the seven for Europeans, two were established during the course of the year, one at Proclamation Hill and the other at Hatfield.

The clinics for the Europeans are conducted thrice weekly at the Central Clinic, 240 van der Walt Street, and once a week at the following outlying centres, namely: West End, Mayville, Gezina and at the two newly established centres mentioned above. Non-European clinics are held at the Compound Hospital.

Up to now, practically all the auxiliary outlying clinics have been conducted in buildings hired for the purpose, and some of these buildings are somewhat inconveniently

situated and constructed. The City Council has, however, decided to erect two new clinic buildings at a cost of approximately £750 each, during the course of the ensuing year.

The attendances at the outlying clinics have been very satisfactory. This, no doubt, is due to the fact that the Medical Officer-in-charge has been visiting the clinics personally. There are still many mothers in these areas who experience great difficulty in availing themselves of the clinic facilities because of the distances they have to travel. To obviate this, the Department is contemplating the inauguration of a system of mobile clinics in the poorer areas, whereby the occupants of distant homes could receive the necessary services.

The number of applicants for free milk and supplementary food for babies has greatly increased. All mothers are advised to breast-feed their babies until six months old. At least 95% of them are capable of doing this. There has been, however, a progressive fall in the number of breast-fed babies during the past year. Some would explain and justify this decline on the grounds that modern knowledge has made artificial feeding safe and satisfactory, but there are reasons other than the immediate welfare of the baby which make breast-feeding desirable and necessary, such as, for instance, the beneficial effect on the physical and psychological health of the mother.

The European and Cape Coloured pre-school children have been supplied with milk through the State-aided Milk Scheme, and the Pretoria City Council together with the Native Welfare Society have again provided sufficient funds to supply the Native children with milk free of charge. During the months of May and June the Native children were supplied with soup as there was a general shortage of milk. Soup was supplied to approximately 2,200 Non-European children daily.

There has been a satisfactory increase in the number of visits to children between infancy and school age, and in the number of attendances at the different clinics.

It is felt that this no doubt is due to the appointment of an additional Health Visitor, who assumed duty in December, 1938, and also to the increased efficiency of the clinic system and home visiting. Each Health Visitor does the visiting and takes charge of the clinic in her own area.

The work done during the year under review is indicated in the following table:—

Home visits paid by Health Visitors for the year ended 30th June, 1939:—

		European	Eurafrican.	Native.	Asiatic.
First visits to newly-born infants:					
	1938/1939	1773	116	268	164
	1937/1938	1636	88	251	135
Subsequent visits to infants and children to five years of age:					
	1938/1939	5737	1175	2951	1300
	1937/1938	4886	1236	2182	1392
Visits to sick children:					
	1938/1939	1210	70	37	94
	1937/1938	487	97	107	89

Attendances at clinics:—

EUROPEANS:							Wonder-
		Central.	West End.	Blood Street.	Gezina.	Mayville.	boom South.
First visits to infants newly born:							
	1938/1939	426	90	127	65	48	79
	1937/1938	332	82	132	35	21	51
Subsequent visits to infants and children to five years of age:							
	1938/1939	3431	1135	1317	856	610	1066
	1937/1938	2937	1148	1200	832	566	611
NON-EUROPEANS:							
		Asiatic.	Native.		Eurafrican.		
First visits to infants newly born:							
	1938/1939	30	281		79		
	1937/1938	48	274		67		
Subsequent visits to infants and children to five years of age:							
	1938/1939	176	4196		962		
	1937/1938	482	3637		973		

PRE-NATAL AND POST-NATAL CLINICS.

Two Pre-Natal Clinics per week are held at two centres, one for Europeans at 240 van der Walt Street and one for Non-Europeans at the Compound Hospital.

Expectant mothers are invited to attend the clinics, where they are examined in order to ascertain whether any diseases associated with pregnancy are present, and to obviate as far as possible any complications which are likely to occur during the confinement. The Department intends to provide dinners for necessitous cases at the different clinics in the very near future.

As during the previous year, Wasserman tests were done at both the European and the Non-European Clinics. Anti-venereal treatment is provided at the European Clinics especially for the prevention of congenital syphilis. The Non-European cases are referred to the Municipal Special Diseases Clinic.

There are still many midwives working within the Municipal area who should co-operate more freely with the Pre-Natal Clinics.

The following is a report on the number of blood tests done at these Clinics for the presence of syphilis:—

EUROPEANS:

Wassermans taken	276
Positive	8

NON-EUROPEANS:

Wassermans taken	250
Positive	53

These cases were not selected, but were taken as a routine. Wassermans are only taken with the consent of the patient.

ANALYSIS OF ATTENDANCES—ANTE AND POST-NATAL CLINICS.

	Europeans.		Non-Europeans.	
	1938/9.	1937/8.	1938/9.	1937/8.
New cases reporting at clinic	350	255	311	190
Number of attendances at clinic	1265	856	1471	694
Cases referred:—				
For confinement	319	245	48	75
To Special Diseases Clinic	3	7	54	32
To Hospital Out-Patients' Department	18	21	21	24
To Dental Clinic	56	64	56	53
Post-Natal visits at clinic	160	100	101	66
Ante-Natal visits to houses	909	395	1102	1011
*Midwifery cases attended by District Midwives	—	—	101	94
New midwifery cases booked	44	39	91	90
Number of visits to cases during puerperium	—	—	1611	1352
Post-Natal visits to homes	458	249	734	496
Special Ante-Natal visits	—	—	36	2
Special Post-Natal visits	—	—	8	2
Number of infants with discharging eyes	14	4	12	7
N.A.B. injections given	52	19	—	—
Visits to midwives	15	—	125	18
Visits paid re puerperal sepsis investigation	3	4	—	—

* European cases are not attended to by the Municipal Midwife, but are referred to the Moedersbond Maternity Hospital.

SUPERVISION OF MIDWIFERY.

There are in Pretoria:—

	Europeans.	Non-Europeans.
Qualified midwives	58	3
Unqualified, but registered midwives	14	—
Unqualified, but midwives allowed to practise under control	—	5

The practice of midwifery is controlled by the Union Government Regulations under the Public Health Act. A list as required under these Regulations, is kept by the Health

Department of all persons practising midwifery in the Municipal area, and no one is allowed to practise whose name is not on the list.

Midwives who desire to practise in the Area of Pretoria must apply to the Medical Officer of Health, and are required to submit a medical certificate of health and to produce a certificate of freedom from infectious disease.

Each midwife is required to keep a prescribed register of cases, which is submitted for inspection every four months. One of the Health Visitors visits the midwives regularly in their own homes to ascertain whether their bags are kept in order. One uncertified midwife who was prosecuted during the year for attending cases in the prescribed area of Pretoria, was found guilty.

STATE-AIDED BUTTER SCHEME.

The scheme for the provision of cheap butter is still in operation in Pretoria (see last year's report). The service has been extended by the addition of a new Depot at Proclamation Hill.

The Depots are now as follows:—

Child Welfare Clinic Rooms, 240 van der Walt Street.
Municipal Hall, West End.
Eendragt Hall, Potgieter Street.
Government School, New Muckleneuk.
Salvation Army Hall, Gezina.
Proclamation Hill.
Villieria.
Salvation Army Hall, West Street.

The cost of butter has been raised by 2d. per lb., making the price for First Grade 8d., Second Grade 7d., and Third Grade 6d., and the scale of issue has been altered as follows:—

Two persons whose total income does not exceed 6/- per day	1 lb. per week
Families of three whose total income does not exceed 8/- per day	1 lb. per week
Families of four or more persons whose total income does not exceed 8/- per day	2 lbs. per week

This reduction was brought into effect in order that a greater number of persons might participate in the Scheme. The benefit derived, especially by the children, who are now getting regular supplies, is undoubted.

The distribution of butter under the Council's control has proceeded with regularity and with the minimum amount of friction, the assistance given by the ladies of the various charitable organisations being greatly appreciated.

Failure to call for butter for three consecutive days or neglect in notifying change of address entails the cancellation of permits.

The whole working of the Scheme is being thoroughly investigated at present by a commission appointed by the Union Government, and amongst the many suggestions which have been put forward by this Department were the inclusion of border-line cases where families are large, and the extension of the Scheme to natives.

The total quantity of butter distributed every week amounts to approximately 2,500 lbs. The amount available for disposal in Pretoria is 3,050 lbs. per week.

The Department is grateful for the continued advice and assistance rendered by Mr. P. L. Nutt, the Manager of the State-aided Milk and Butter Scheme.

STATE-AIDED MILK AND CHEESE SCHEMES.

Under these schemes the Government has made available for Europeans, Cape Coloureds and Asiatics the free supply of milk to pre-school and school children.

The schemes serve the dual purpose of supporting farmers in the sale of their surplus dairy products and of supplying food to school children.

The supply of milk has up to now not been very regular, as only surplus milk is available for distribution. The supply of cheese, however, has been constant.

The milk is supplied through the staff at the various schools and is controlled by this Department in so far as the chemical and bacteriological sampling is concerned.

The following is a resumé of the milk and cheese distributed:—

Milk:

	No. of Schools.	No. of Children.	Gallons ordered.
July, 1938	4	400	571
August	15	2,584	3,265
September	15	2,683	1,852
October	15	3,275	2,134
November	15	2,221	2,759
December	5	151	192
January, 1939	15	3,111	2,300
February	16	3,456	2,915
March	6	314	198
April	{ No surplus milk available.		
May			
June			
TOTAL			16,186

It will be noticed that in certain months there was a drop in the consumption of milk, and this is due to school holidays intervening. In April, May and June, however, milk was not supplied, as there was no surplus milk available.

Cheese:

	No. of Schools.	No. of Children.	Orders placed for:
July, 1938	Nil	—	—
August	2	800	920 lbs.
September	3	1,150	1,031 ..
October	5	1,336	1,116 ..
November	6	1,480	1,015 ..
December	5	1,200	347 ..
January, 1939	2	846	342 ..
February	4	1,401	1,235 ..
March	7	2,275	3,124 ..
April	7	2,186	1,774 ..
May	7	2,185	2,756 ..
June	7	2,182	2,861 ..
TOTAL			61,566 lbs.

Remarks:

It would appear that varying amounts were given to the same number of children in different months, but the last column does not represent the amount of cheese given each month but the amount of cheese ordered for that month, and in many cases the order for one month may only be distributed during portion of the succeeding month.

SOUP AND MILK SCHEME, SUPPLIED BY THE MUNICIPALITY AND THE PRETORIA NATIVE WELFARE COMMITTEE.

Owing to the fact that State-aided Butter and Milk Schemes are not applicable to Natives, this Department has, through the generosity of the Pretoria Native Welfare Society and the Pretoria City Council, been able to distribute milk to a large number of needy Native children.

This milk was distributed from a depot at the location to pre-school children and later on to school children. Nursing mothers were also supplied with milk under this scheme.

During the winter months, however, there was a scarcity of milk, and at one time it became impossible to obtain a sufficient quantity for the needs of these children. The moneys available were then spent on soup and bread.

It is hoped, however, that in the ensuing year, now that the Dairy Control Board has taken charge of the milk production, there will be a more uniform supply, and the winter shortages will be eliminated. If this were done, it would be possible to supply milk throughout the year, as there can be no doubt that milk has a far greater food value than soup.

Asiatics and Cape Coloureds are supplied with milk or cheese under the State-aided Milk and Butter Schemes. It seems a pity that the Natives, who are the more needy section of the Non-European community, should be excluded from these benefits, and that they should be dependent on charitable organisations, when Government provision is made for those who are in a better economic position.

This Department has made many representations to rectify this, and whilst it is appreciated that the Government has only adopted this policy because the financial involvement would be too great if Natives were included, it is sincerely hoped that before long it will be possible to extend the scheme to the Natives.

PRETORIA NURSERY SCHOOLS.

The Chairman of the Nursery Schools, Dr. Ruth Arndt, reports for the year April, 1938, to March, 1939, as follows:—

"The past year has seen a number of important new developments in the West End Nursery Schools. Along with steady expansion in their numbers and programme, has gone a growing recognition of their value on the part of the public, as evidenced by increased assistance and community co-operation. It is believed that both schools only need more adequate accommodation in order to be able to extend their usefulness.

Figures for the Year are as follows:—

	Good Hope School.	Frederick Street School.
Present enrolment	30	28
Average enrolment for year	28.4	23.6
Average attendance	22.5	16.5
Total number accommodated during the year	46	53
Left for Government Schools	3	12
Left for other reasons	13	13
Waiting list	47	—

Health:

At Good Hope in September there were 9 cases of chicken pox, and at Frederick Street in March 2 children went down with measles. But except for these two slight outbreaks of infection the health of the children has been good. The afternoon sleep for two hours each day undoubtedly contributes largely to the children's well-being. Most of the children at Good Hope throughout the year returned for this afternoon session, and about half of those at Frederick Street. It is hoped to make this a regular part of the programme for all children at both schools during the coming year.

Parent Co-operation:

The Nursery Schools have always laid stress on co-operation with the parents of the children as one of the most important parts of their work. The teachers have visited the homes regularly, and the parents have been taken into consultation with respect to the work of the doctors, district health visitor, and physical therapist, and in all other matters concerning the children's welfare.

Early in the year, several committee members met the Frederick Street parents and put before them the school's financial stringency. The parents thereupon formed a committee to go into the matter, and proposed that fees should be raised from 1/6 per week for half day and 3/- for all day, to 2/- and 4/- respectively. This proposal was accepted. In addition, they planned a series of monthly meetings at which Prof. J. C. Bosman addressed them on various aspects of child training.

Meetings of the Good Hope parents are also being revived. Miss Grace Sidgwick addressed the first of the series in March, on Nutrition.

Staff Changes:

In May it was decided that the Principal of Good Hope could no longer carry on without some assistance. The services of Miss M. v. d. Laan were secured to relieve her for two afternoons a week during May and June. From August till the end of the year Mrs. v. d. Merwe was employed as full-time assistant.

Assistance was also provided for Miss Clark at Frederick Street by the appointment of Miss N. McDougall in June.

At the end of the year Mrs. Butler tendered her resignation, stating that she was in need of a rest and change. She had completed seven years of service from the time when she started the first nursery school in Pretoria in Potgieter Street. During that time she has endeared herself to hundreds of pre-school children and their parents. The Committee owes her a great debt of gratitude for her pioneering work and her loyal, conscientious and efficient efforts.

Miss Ghita Pearson, graduate of Fursedown College, London, was appointed as Mrs. Butler's successor, and a new post was created by the appointment of Miss M. I. Tasman, graduate of Gypsy Hill Training College, London, to supervise both Good Hope and Frederick Street, to act as a link between the schools and Committee, and to plan for and take charge of a third school when opportunity should offer.

Miss Clark has been granted leave of absence for a year as from August, to complete her qualifications by attending Gypsy Hill Training College. Arrangements have been made for Miss Pearson to be transferred to Frederick Street during Miss Clark's absence, and for Miss Tasman to take charge of Good Hope.

A Native boy has been employed to live on the Frederick Street property and to do the cleaning at both schools.

Housecraft School Assistants:

An arrangement of mutual advantage which has made possible the further extension of the work of the schools was made with the Union Education Department, by which senior students from the Hartebeestpoort Dam Housecraft School come, six at a time, for a month each to help in the nursery schools. Four were placed in Good Hope and two in Frederick Street. In addition to getting some practical experience in the handling of children, the girls are being given regular lectures two afternoons a week, on child care and training, by the Supervisor. It is hoped that later on arrangements may be made for the girls to have a longer period of practice at the schools.

Eendragaal:

With the help of these girls, Good Hope School has been able to pursue a plan that it has long had in view, viz., that of giving a hot midday meal to the children. This has been made possible by the generosity of the City Council in granting permission to use the kitchen and large room of Eendragaal daily till 2 p.m. Arrangements have been made to begin the new quarter with all children staying for dinner and afternoon sleep. A charge of 1/- per week is made towards the cost of the meals.

It is hoped also to keep all the children of Frederick Street for the midday meal and to bring the charge for meals into line; fees for the all-day session are being reduced to 3/- per week.

University Training Course:

In 1937 a Joint Committee representing the Pretoria Nursery School Committee and the Governing Board of Eastern Suburbs Nursery School approached the University of Pretoria to start a training course for nursery school teachers. Since that time, negotiations have been proceeding between the University and the Joint Committee, with the result that agreement has at last been arrived at, and a two years' training course has been started as from March, 1939, with lectures being given at the University, the Eastern Suburbs Nursery School and Good Hope School being used as practising centres. For the current year, two students will be placed at Good Hope under Miss Tasman's supervision. The arrangement for this year, subject to later revision, is that the University will pay to the schools a sum equal to the money received from the students in fees, and this money will be apportioned by the Joint Committee to the two training centres.

Financial Assistance:

It is gratifying to be able to report that during the past year the City Council increased its grant to the nursery schools by £250. The subsidy from the Provincial Council continues at £3 per capita per year, although representations were made by the Johannesburg-Pretoria Pre-School Child Committee of Enquiry that it be raised to £4 10s. 0d. to bring it into line with the grant to private schools.

A far-reaching development of the year was the organization of the Birthday Club under the leadership of Mrs. H. F. Pentz, with the help of a large committee. The Club

enrols members who promise to make a birthday subscription in aid of the nursery schools. It has already secured well over 3,000 members.

The National Council of Physical Education made a grant to each school for the purchase of equipment to further the physical health programme of the schools. Donations were also received from the Mayoress' Charity Fund, and the Amateur Operatic and Dramatic Society. The public contributed generously through the annual street collection.

To all of these bodies and individuals also, our sincere thanks are due.

Future Developments:

The progress made during the past year is promise of still greater things ahead for the Pretoria Nursery Schools. One of the first obligations upon the Committee to ensure this progress is the securing of more adequate accommodation for Frederick Street school. The present rented quarters are unsuitable in so many respects that they not only hamper expansion, but even interfere with the proper carrying on of the present programme. Efforts have already been made, without success, to secure a better site and building. During the year the Provincial Administration was approached about the possibility of their assisting the Committee in connection with the erection of a new building. As this was found to be impossible, the Municipality was approached with the request that it either procure an economic or sub-economic housing loan for the Committee or else that it erect a building according to the Committee's specifications, the rental of which was not to exceed the interest payable on the capital by the Municipality. The City Council, however, did not see its way clear to accede to either request.

These efforts should, however, be continued. When Frederick Street school has been put upon a more satisfactory basis, the Committee will doubtless consider the next step, already mooted, of opening a third school in one of the poorer areas.

There is some ground for hope that the Department of Social Welfare, which has already been approached, will consider favourably the granting of a subsidy in respect of the needy children for whom the nursery schools cater. Any such assistance will be very timely.

Extension of the Nursery School Movement:

It is gratifying to be able to record that interest in the Nursery School Movement continues to spread throughout the country. During the year, in addition to the Pretoria University course already mentioned, training courses for nursery school teachers have been started at the Witwatersrand Technical College, Johannesburg, and at the Lady Buxton Home, Cape Town. In connection with these training courses, a national Conference was called by the Union Education Department in May. This move to train nursery school teachers in South Africa is of great significance, as up to the present, progress has been definitely hindered by the lack of properly qualified people in the country.

It is understood that in Krugersdorp, Springs, Durban, Pietermaritzburg, Bethlehem, East London, Port Elizabeth and Cape Town, serious attention is being given to the possibility of starting nursery schools.

With the object of securing some measure of co-ordination among all these scattered efforts, and of bringing before authorities whether local, provincial, or state, the claims of the nursery schools to public support, a movement has been set on foot by the Johannesburg-Pretoria Pre-School Child Committee of Enquiry to form a National Nursery School Association with local Branches. Such a movement, it is believed, will, in addition to its usefulness in making the work more widely known, be instrumental also in setting and maintaining accepted standards of nursery school procedure, and will contribute towards gaining for nursery schools in South Africa the place that they have already attained overseas.

There is little doubt, from all the signs, that the Nursery School Movement is in South Africa to stay; and the Pretoria Nursery School Committee, which had an important part to play in the pioneering days, has an ever-increasing responsibility to press forward to the time when an enlightened public opinion will stand behind departments and governments in ensuring that the pre-school children of our country shall come into their own."

DISTRICT NURSING SERVICES.

The Provincial Secretary submitted to the Pretoria Hospital for consideration, the establishment of a district nursing service.

Under this scheme it was intended for the Hospital Board to employ one or more nurses who would attend patients in their own homes who for some reason or other were not being accommodated at the Hospital.

It was thought that maternity cases could also be attended to under this scheme. Such nurse or nurses would be accommodated at the General Hospital and would be regarded as employees of that Institution. Two-thirds of the cost were to be borne by the Provincial Administration, who in turn in terms of the Public Health Amendment Act of 1935 would be refunded a half of that amount.

It was then suggested that the Pretoria City Council should provide the remaining one-third of the amount necessary to finance this scheme. The Health Committee duly considered this proposition and was of the opinion that the Council was already doing sufficient district work in connection with Child Welfare, Ante- and Post-Natal services and infectious diseases control, and that the functions of a nurse or nurses under this proposed scheme would not be the responsibility of the local authority, as it was the duty of the Province to provide curative medicine.

It was furthermore pointed out that the Council is already very heavily subsidising the Pretoria Hospital as well as the Moedersbond Maternity Home.

NATIVE MEDICAL SERVICES.

As reported on previous occasions, this service, which has only been in operation now for the last two years and provides curative medical services for Natives at an out-patient clinic conducted near the Native Locations, has found its place in the Public Health services of Pretoria.

The Pretoria Hospital has out-patient departments for all sections of the community, but it is situated a few miles away from the Native Locations, and it is impossible for many patients to provide transport.

For this reason this out-patient service adjoining the boundaries of the Location, is a great source of comfort to many Non-Europeans. There has been no abuse of these services, as only 1,169 patients were seen there during the course of the year.

This clinic, apart from treatment rendered to patients, serves to obtain accommodation for persons in the General Hospital, and to direct persons suffering from Venereal Diseases, Tuberculosis or persons in need of ante- or pre-natal care, to the various clinics conducted by the Council.

As soon as the New Location is completed, these services will be included in the new polyclinic. As this location will be situated some seven miles from the centre of Pretoria, there is no doubt that these services will grow to such an extent that the Department will need the services of at least one or two extra full-time medical officers.

COMPOUND HOSPITAL RETURNS.

The Assistant Medical Officer of Health attends the Compound Hospital, Proes Street, for Non-European Council employees, where out-patient services are provided.

The following are the details of the work carried out here:—

	1937/8.	1938/9.
No. of boys injured on duty and treated at Compound Hospital	300	391
No. of boys injured on duty and sent to General Hospital	72	98
No. of boys injured off duty and treated at Compound Hospital	165	216
No. of boys injured off duty and sent to General Hospital	33	61
No. of sick boys treated at Compound Hospital	127	627
No. of sick boys sent to General Hospital	—	114
Total number of boys seen by doctor at Compound Hospital	1,233	1,262
Total number of attendances at Compound	4,554	5,614

ABATTOIR.

MEAT SUPPLIES:

The following animals were slaughtered during the year:—

	Oxen.	Cows	Bulls.	Calves.	Sheep.	Goats.	Pigs.	Total.
1938/9	23,487	6,150	495	2,596	99,590	699	12,625	145,642
1937/8	23,674	6,321	610	2,504	96,312	1,446	13,325	144,192
	— 187	— 171	— 115	+ 92	+ 3,278	— 747	— 700	+ 1,450

Carcasses, organs and parts condemned:—

	Cattle.	Calves.	Sheep and Goats.	Pigs.
Entire Carcasses	540 (574)	7 (4)	71 (43)	1,159 (1,214)
Quarters	21 (10)	— (—)	27 (12)	— (—)
Plucks	931 (974)	— (—)	825 (976)	— (—)
Livers	1,994 (3,025)	— (—)	6,571 (10,783)	— (1)
Lungs	299 (1,026)	— (—)	1,734 (2,132)	— (—)
Heads	949 (1,011)	— (—)	— (—)	256 (133)
Tongues	940 (992)	— (—)	— (—)	256 (132)
Hearts	51 (99)	— (—)	— (—)	— (2)
Kidneys	28 (6)	— (—)	1 (—)	— (—)
Ox Tails	4 (12)	— (—)	— (—)	— (—)
Udders	— (1)	— (—)	— (—)	— (—)
Tripes	2 (4)	— (—)	— (—)	— (—)
Intestines	1 (6)	— (—)	— (—)	— (—)

The figures for the previous year are given in brackets.

IMPORTED MEAT EXAMINED:

	Beef.		Calves.		Mutton.		Pork.
Carcasses.	Quarters.	Pounds.			Carcasses.	Pounds.	Carcasses. Pounds. Livers.
6	100	31,567	1		251	1,015	1,068 197 9

Of these, 1 beef carcase and 3 quarters were condemned, 6 pig carcasses were condemned for measles and 4 pigs' heads and 14 tongues for tuberculosis.

The percentage of carcasses condemned for all diseases was as follows:—

	Cattle.	Sheep and Goats.	Calves.	Pigs.
	1.792	0.070	0.269	9.180

DISEASES ENCOUNTERED:

	Total Incidence.	Percentage Incidence.	Percentage Generalized.	Percentage Localized.
Cattle	75 (96)	0.248 (0.313)	0.109 (0.166)	0.139 (0.147)
Pigs	278 (147)	2.202 (1.103)	0.170 (0.110)	2.032 (1.00)
	Total Incidence.	Percentage Incidence.	Percentage Condemned.	Percentage detained for freezing.
Cattle	1,228 (1,278)	4.072 (4.175)	1.231 (1.28)	2.841 (2.895)
Pigs	1,133 (1,097)	8.971 (8.232)	8.971 (8.232)	— (—)

(Figures for 1937/38 are given in brackets.)

OTHER DISEASES:

Actinomycosis:	62 Localised cases were encountered and the affected portions condemned.
Anaplasmosis:	3 Carcasses were condemned.
Anthrax:	27 Sheep were condemned as having been in contact with a case of anthrax.
Emaciation:	111 Carcasses beef were condemned.
	1 Goat was condemned.
Extensive	
Bruising:	3 Carcasses, 21 quarters and 3,812 lbs. beef were condemned.
	3 Carcasses and 30 lbs. mutton were condemned.
	8 Quarters and 57 lbs. pork were condemned.
Defective	
Bleeding:	1 Carcase beef, 22 sheep and 1 calf were condemned.

Gangrene:	1 Carcase beef and 1 sheep were condemned.
Multiple Abscesses:	1 Beef carcase was condemned.
Decomposition:	1 Beef carcase was condemned.
Pyæmia:	1 Beef carcase was condemned.
Septicæmia:	1 Beef carcase was condemned. 1 Sheep was condemned.
Suppurative Pericarditis:	3 Beef carcasses were condemned. 1 Calf was condemned.
Icterus:	3 Calves and 1 pig were condemned.
Enzootic Icterus:	15 Sheep were condemned.
Caseous Lymphadenitis:	1 Sheep and 23 quarters mutton were condemned. In all 5,048 sheep were affected out of 100,286 sheep slaughtered, or approximately 5%.
Uræmia:	1 Beef carcase was condemned.
Pneumonia:	1 Calf was condemned.
Peritonitis:	1 Beef carcase was condemned.
Pigmentation:	3 Pigs from the same source were slaughtered on successive days. Each showed marked bluish grey pigmentation of the whole carcase, resembling beef carcasses injected with trypan blue dye. The carcasses were submitted to Onderstepoort Veterinary Laboratory for investigation, but the nature of the pigmentation could not be determined.

DISCUSSION:

A glance at the slaughtering figures reveals a marked decrease in numbers of cattle and pigs slaughtered during the year. The number of sheep slaughtered shows the normal average annual increase. The increased importation of beef, though marked, accounts only for about 10% of the decrease in the slaughtering figures. This would seem to indicate that illegal importation on a considerable scale is taking place. The public, contrary to their own interests, are very prone to support such illegal importation if by that means it is possible to effect a small saving. In the interests of public health and also to protect the local licensed butchers, every effort is being made to stop this practice.

The percentage incidence of Tuberculosis and Cysticercosis in cattle both show a small decline as compared with the previous year. It is gratifying that the improvement noted last year is being maintained in the case of bovines. The interest displayed in graded meat is gradually becoming more evident, and competition for good quality slaughter stock is becoming keener. Provided this growing interest in quality is encouraged and maintained, its effect on improved husbandry will lead to a gradual elimination of cysticercosis, which is comparatively easily preventable.

In pigs the incidence of both Tuberculosis and Cysticercosis has become steadily worse since 1935. The proximity of the Johannesburg market patronized by several large packing houses, which demand pork of high quality and the absence of such enterprise in Pretoria may be partly responsible for this. The effect would be a better sustained demand in Johannesburg for good quality and subsequent lowered demand for poor quality, which is more readily marketable in Pretoria.

The following table gives the percentage incidence of Tuberculosis and Cysticercosis in cattle and swine during the past three years:—

	Tuberculosis.		Cysticercosis.	
	Cattle.	Pigs.	Cattle.	Pigs.
1936-37	0.347%	0.834%	4.268%	8.586%
1937-38	0.313%	1.103%	4.175%	8.234%
1938-39	0.248%	2.202%	4.072%	8.971%

The resolutions passed at the meeting of the Transvaal Municipal Association meeting held in Johannesburg in 1938 on the question of Cysticercosis have recently been carried a step further. On 28th of June of this year a conference was convened by the Union Department of Public Health. The meeting was attended by officers of that Department, the Veterinary Division of the Department of Agriculture and representatives of the four

provincial municipal executives. The report of this conference is being awaited with interest.

It is gratifying that the initiative of this Department in raising the question at the Transvaal Municipal Association at Boksburg in 1937, has resulted in the Government departments concerned taking concerted action to combat this disgraceful state of affairs.

INSPECTION OF BUTCHER SHOPS:

The Senior Meat Inspector inspected all the butcher shops in the City area regularly throughout the year. This serves both as an inspection for deterioration of meat exposed for sale and as a check on illegal importation. One case of illegal importation was discovered and the responsible parties convicted and fined.

INSPECTION OF LIVE AND DRESSED POULTRY, FISH AND GAME ON THE MARKET.

Considerable improvement has been effected in the handling and inspection of dressed poultry, game and fish on the Morning Market. The Council has provided an inspection room in the centre of the market, where all dressed poultry, game and fish, consigned to the market, are delivered before sale for inspection.

A qualified Meat and Food Inspector and the Veterinary Officer are in daily attendance. The room is properly fitted out with slate-top tables, hanging rails, a sink drainboard fitted with an earthenware laboratory sink, and cupboards. The equipment includes scalpels, forceps, knives, glass slides and test-tubes for the taking of smears and samples for the identification of disease, and a sterilizer.

All foodstuffs submitted for inspection are thus examined under hygienic conditions in the privacy of the inspection room. Condemned foodstuffs are stored in a suitable bin pending removal to the Abattoir for destruction. Carcasses presenting pathogenic conditions which cannot be diagnosed are sent to the laboratory at Onderstepoort for identification.

Game and dressed poultry which, after inspection, have been passed as fit for human consumption are labelled and removed to the Market for sale.

After many experiments it was found that the best method for marking dressed poultry and game, which had been passed as fit for human consumption, was by fixing a small card to the carcass by means of a heavy-duty hand-stapling machine. A size No. 53 hand-stapling machine is used. The tickets consist of ordinary label tags cut in halves, and which are stamped with an office date stamp before fixing to the carcass. The tickets are stapled to the ears of the animals in the case of buck, to the wing feathers in the case of dead game birds, and to the flesh or skin at the posterior end of the breast-bone in the case of dressed poultry. Tickets so fixed are easily and quickly attached, clearly visible and stand much handling, yet a sharp pull removes both ticket and staple without damaging the carcass. The staples are rust-proof.

Dressed poultry and game not sold on the day of inspection are re-inspected the following day and, if still fit for human consumption, the ticket is replaced by a new one bearing the current date.

No charge is made for any of these inspections and the system is much appreciated by both producer and consumer.

The standard of dressed poultry exposed for sale has improved appreciably during the past year. The total of 16,898 dressed birds, which were examined and passed is 1,483 less than the quantity examined last year, before the construction of the inspection room. This may be due, firstly, to the elimination of producers who persistently sent unwholesome and unsound dressed poultry to the market; and, secondly, because senders, who, owing to the distance from Pretoria, have had many consignments of dressed poultry condemned for decomposition, have now taken the advice of the Department and are sending live poultry, instead of dressed poultry, to the market. There has been an increase of 3,159 live birds sent to the market.

One agent, after two warnings, was prosecuted and fined £3 for deliberately exposing for sale on the market dressed poultry which was unfit for human consumption. On each occasion the birds were seized and destroyed.

Dead game birds which have to be transported great distances, often arrive at the market in a condition unfit for human consumption.

It has been observed that where the interior of the carcase has been sprinkled with a little salt and pepper after drawing, the birds stand transportation better than untreated birds. The salt delays putrefaction, while the pepper acts as a deterrent to the blow-fly. Senders of drawn game birds are therefore recommended to treat all birds before despatch to a distant market.

The present method of exposing dressed poultry, game and fish, for sale in the open market sheds is not satisfactory, and necessitates unnecessary additional handling. The new auction sale room, which the Council has agreed to erect adjoining the inspection room, will, when completed, reduce the handling of such foodstuffs to a minimum and enable the goods to be exposed for sale under suitable dust-proof and hygienic conditions.

The accompanying table gives the monthly returns of poultry and game birds sold on the morning market, together with the respective numbers condemned. (See schedule No. 1.)

The table shows that 2,454 dead guinea fowls were passed as being satisfactory, while 362 birds were condemned as being unfit for human consumption. Most game dealers in Pretoria receive their supplies of game birds from the same sources, and it is therefore reasonable to assume that a similar percentage, nearly 15% of the game birds, arrived at the shops of such dealers in a condition unfit for human consumption. No game birds, however, were surrendered by dealers to the Health Department from their shops!

A method of control, similar to that applying to the importation of meat into the municipal area, is being considered for the control of all game imported into Pretoria.

The following table shows the quantity of game and fish inspected and the quantities condemned during the period 1st July, 1938, to 30th June, 1939:—

ARTICLE.	QUANTITY INSPECTED.	QUANTITY CONDEMNED.
Buck	6 consignments (64 buck in all)	2 Springbok.
Fish	1,879 pounds	1,679 pounds.
Crayfish	319 pounds.	319 pounds.
Smoked fish	3,294 pounds.	158 pounds.
Hares	4 consignments in June (19 hares in all).	19 Hares.

The importation of hares into the Municipal Area of Pretoria is prohibited in terms of the "Prevention of Plague Regulations." Immediate steps were therefore taken to enlist the aid of the South African Railways to prevent further consignments of hares being delivered by Government transport into the Municipal area.

There are no laws or bye-laws compelling agents or farmers to submit their produce before sale to the inspection room for inspection. This whole extensive voluntary system has been developed by co-operation and good-will, and it is hoped that it will be possible to extend the principle to include the inspection of other foodstuffs.

Cleansing of the Market

Forty-eight points on the market are inspected daily by the Health Department. A continuous removal service is provided for all rubbish, and each bin is thoroughly cleaned by scrubbing once a week.

The system of removing the rubbish from the bins by means of wheelbarrows to a large inevitable receptacle situated on the eastern side of the market, where the rubbish remains pending removal to the municipal dump, has, however, proved unsatisfactory and will have to be replaced by a more efficient system.

Four additional points on the market are inspected daily by the Health Department. The market is washed and scrubbed once a week. The sheds, walls and tables are washed weekly.

MONTH.	LIVE POULTRY.				DRESSED POULTRY.				DEAD GUINEA FOWLS.			
	Number of Birds Inspected and Passed.		Number Seized and Condemned.		Number of Birds Inspected and Passed.		Number Seized and Condemned.		Number of Birds Inspected and Passed.		Number Seized and Condemned.	
	1937.	1938.	1937/38.	1938/39.	1937.	1938.	1937/38.	1938/39.	1937.	1938.	1937/38.	1938/39.
July	8,666	7,347	22	31	1,792	1,456	-	65	997	385	9	72
August	6,697	8,869	13	26	1,355	2,019	-	44	396	250	21	29
September	9,036	8,621	15	52	1,319	1,744	1	76	-	-	-	8
October	9,233	8,578	3	31	2,229	1,744	11	84	-	-	-	-
November	10,410	12,594	9	61	2,156	2,128	312	56	-	-	-	-
December	14,831	14,492	25	113	1,707	1,286	130	177	-	-	-	-
January	8,606	9,198	10	61	1,125	830	153	24	1938.	1939.	-	-
February	10,167	9,837	34	64	1,568	899	24	140	-	-	-	-
March	11,375	14,293	37	65	905	1,062	8	46	-	-	-	-
April	10,768	9,729	35	84	1,206	793	25	93	16	-	-	-
May	7,234	10,630	33	51	886	1,509	20	43	64	497	10	128
June	11,415	7,409	27	46	2,133	1,428	39	34	433	1,322	13	125
TOTALS	118,438	121,597	263	685	18,381	16,898	723	882	1,906	2,454	53	362

DISPLAY OF LIVE POULTRY.

For some time the Department has been concerned about the manner in which live poultry is displayed for sale on the Market. The dirty and unsuitable crates in which the birds are transported, are placed directly on low display tables, and the birds are inspected and sold under these unsatisfactory and unhygienic conditions.

We have, in consultation with the Market Master and a Government poultry expert, evolved an all-metal display cage which should prove satisfactory. A model cage constructed by a member of the Department has been highly recommended by the Government poultry experts.

Provision has been made for the installation on the Market of a sufficient number of display cages to accommodate 1,000 birds.

CONVEYANCE OF POULTRY BY RAIL.

Last year, many cases of overcrowding and other forms of gross cruelty, due to the conveyance of live poultry in broken and otherwise unsuitable crates, were dealt with.

As the result of representations made to the Railway Administration, a pamphlet "Conveyance of Perishable Products," was published by the Railway Authorities. This pamphlet explains the most suitable methods to be adopted for the crating and conveyance of live poultry, for the preparing and packing of dressed poultry, the correct packing of eggs, and the proper handling of milk and cream containers.

Copies of the pamphlet have been distributed, free of charge, to market agents, farmers and producers. Railway officials have been advised not to accept for despatch, any consignments of poultry, eggs, milk or cream not properly crated, packed or stored.

As the result of this most valuable co-operation from the Railway Administration, which is greatly appreciated by this Department, cruelty to live poultry conveyed by rail, due to overcrowding, has been practically eliminated.

Occasional farmers and producers, however, still continue to use dirty unsuitable crates for the conveyance of live poultry. There is no doubt that diseases of poultry are being spread by the use of such crates. This matter has been brought to the attention of the Government.

HYGIENIC CONDITIONS ON THE MARKET.

Retail Stalls:

Greatly improved hygienic conditions have been effected by the elimination of the passage which existed, until recently, between the retail stalls on the Market where fruit and vegetables are sold.

These stalls do not permit of the handling, storage or sale of foodstuffs under hygienic conditions, but will be improved when the proposed new stalls have been constructed.

When completed, the stalls will be separated from each other by brick partitions and will each have a miniature shop front with suitable impervious display tables. The walls, which will be cement-plastered, will be lined with a number of slate shelves and there will be ample provision for the storage of all foodstuffs.

Proper washing facilities will be provided at each stall.

Cleansing of the Market:

Forty-eight additional three-cubic-feet rubbish bins have been installed at convenient points on the market.

A continuous removal service is provided for all rubbish bins during the day and each bin is thoroughly cleansed by scrubbing once a week.

The system of removing the rubbish from the bins by means of wheelbarrows to a large unsuitable receptacle situated on the eastern side of the market, where the rubbish remains pending removal to the rubbish dump by scotch-cart, has, however, proved unsatisfactory and will have to be altered.

Four additional Native cleaners are now employed on the market.

The market square is washed and swept twice a week. The sheds, stalls and tables are washed weekly.

Difficulty is experienced in effectively removing all waste wash-water and rain-water from the market on the South sides of the sheds, due to insufficient drainage.

Waiving of Charges for Removal of Condemned Foodstuffs:

In the past the Council made a charge, payable by the responsible market agent, for the removal of all condemned foodstuffs from the market. The agent in turn recovered this charge from the farmer or consignor.

This caused a great deal of annoyance to the agents, and furthermore, in order to avoid this removal charge, agents sometimes denied the ownership or responsibility of unsound foodstuffs or endeavoured to dispose of such foodstuffs. This considerably handicapped the inspection work.

The Council has now agreed to waive the charge for the removal of condemned foodstuffs from the market. This has resulted in greatly improved relationship between the market agents and the Inspectorial Staff, whose work is now facilitated by the willing co-operation of the market agents.

Removal of Condemned Foodstuffs:

All live and dressed poultry and game, condemned as unfit for human consumption, are removed by the Health Department's van to the Abattoir for destruction.

No suitable provision exists for the temporary storage of condemned fruit and vegetables, pending removal. This is urgently needed.

The Sale of Eggs on the Market:

Many complaints have been received during the past year, about the sale of eggs labelled as "New Laid," when they are often cold-storage eggs or "trade eggs."

The matter is being thoroughly investigated and it is hoped to institute, in the near future, suitable measures to control the sale of eggs.

The Sorting of Fruit and Vegetables by Indian Hawkers:

Attention is being paid to the sorting of fruit and vegetables by hawkers, who in the past have on the whole been rather careless about the handling of their wares.

DAIRIES AND MILK CONTROL.

At the end of the year under review there were 173 dairies licensed with the Council, made up as follows:—

	Total.	Urban.	RURAL.		
			Less than 20 miles.	20-30 miles.	Over 30 miles.
Producers only	81	2*	47	26	6
Producer-distributors	44	30*	14§	—	—
Distributors only	48	48	—	—	—

* These 2 producers and 1 producer-distributor occupy municipal farms set aside on the Western Town Lands for dairy purposes and should for practical purposes be classed as rural.

§ The majority of these are situated in an adjoining municipality and are thus in effect urban.

The following licensing changes occurred during the year:—

	New Licences.	Licences Surrendered.	Transfers.
Producers	13	3	5
Producer-distributors	1	5†	6
Distributors	—	—	9

† One urban producer-distributor licence was cancelled by the Council.

There has been a nett increase of 6 producing dairies and a decrease of 5 urban producing premises. The new licences are all in rural areas and the five producer-distributor licences surrendered were in the urban area. Of the 29 producer premises in the urban area 22 are in the recently incorporated Innesdale suburb. Of the 7 in Pretoria proper 2 are virtually defunct, and one is on the point of moving the producing side of his business to a farm in the district.

During the latter part of the year an attempt was made by means of personal canvass to obtain a reliable census of milk production on premises licensed with the Pretoria City Council.

Total number of producing premises	133 (including 8 abandoned during the year)
Total number of cows	nearly 6,000.
Total daily production delivered for sale	approximately 9,600 gallons.
Producers only	4,800 cows producing 7,750 gallons.
Producer-distributors	1,200 cows producing 1,850 gallons.

Staff employed on milk supplies:—

	Europeans.	Natives.
Producers	92	365
Producer-distributors	49	200
Distributors	85	206
Total	226	771

Pasteurization:

Of the total daily quantity available for sale, 1,250 gallons, handled by 2 distributing firms, is pasteurized. In addition, all milk supplies to the military at Voortrekkerhoogte, about 700 gallons daily, are pasteurized.

C.F. Typhoid Testing of Dairy Employees:

Since the introduction two years ago of this voluntary, subsidised scheme for the elimination of typhoid-carriers from the milk trade, 48 licensed dairymen have availed themselves of it. These consist of 34 producing dairies, (5 urban and 29 rural), and 14 distributing depots. The following table shows the numbers of employees tested and the production.

C.F. Typhoid-Tested Dairies.

Nature of Business	No.	Employees.		Production.
		Europeans.	Natives.	
Producers only	27	38	168	3,225
Producer-distributors	7	12	72	914
Distributors	14	30	100	—
Total	48	80	340	4,139

Analysis of these totals on a percentage basis reveals the following:—

35% of all European dairy employees are typhoid tested.

44% of all Native dairy employees are typhoid tested.

43% of the total milk supply is derived from typhoid-tested producers.

Considering that the scheme has been in operation for only two years, the results are satisfactory. The instability of Native labour is the main reason why some dairymen do not avail themselves of the advantages offered and others find it difficult to continue.

During the year by-laws were drafted laying down the conditions of the scheme and providing for penalties in the case of unauthorised use of the "Typhoid-Tested" label.

Inspections:

The two dairy inspectors carried out 3,831 inspections of dairy premises. Systematic veterinary inspection of dairy herds was continued; three clinical cases of Tuberculosis were found and slaughtered, and 76 samples of milk from individual cows were taken for examination for Tuberculosis. These all proved negative.

Tuberculosis Eradication:

A copy of the Government scheme for the control and eradication of Tuberculosis was received from the Director of Veterinary Services. The report included memoranda on related subjects in connection with milk control. The present scheme, which has been accepted in principle by the Government, is modelled largely on the revised British Accredited Herd System and the Danish System for Control of Tuberculosis in Dairy Herds. The main provisions are:—

- (1) Compulsory testing of all dairy cattle in specified areas.
- (2) Isolation of subclinically affected animals.
- (3) Careful veterinary examination of all reactors.
- (4) Destruction of clinical cases.

- (5) Assistance towards complete eradication in low percentage infections.
- (6) A bonus for producers of Tuberculosis-free, Tuberculin-tested milk.
- (7) Pasteurization as a means of preventing human infection.

The scheme as laid down is elastic and capable of amendment and tightening up if and when more funds become available.

The scheme will be discussed at the 1939 Medical Congress to be held at Port Elizabeth during July. Further discussion on the subject will take place at the Annual Veterinary Conference to be held early in October of this year. It is hoped that the scheme will come into operation after the next Parliamentary Session.

Milk Standards:

An addendum to the above report, proposing a scheme for the standardization of bacteriological tests for milk purity, will also be discussed at the Port Elizabeth congress. It is proposed that standardized tests should be laid down after consultation between the Government Departments concerned and the local authorities.

As regards chemical standards for milk, the question of the advisability of maintaining the European minimum standard of 8.50% for solids-not-fat has again been raised. The Union Department of Public Health, in consultation with the Department of Agriculture, has decided to leave the standard as it is until such time as more information is available. Meanwhile investigation will be carried out by officers of the Division of Dairying.

A brief study of the results of chemical analyses in milk samples, taken in Pretoria during the years 1937 and 1938 has proved of great interest in regard to the solids-not-fat content of milk in this area.

The percentage figures for solids-not-fat are divided into two groups:—

- (1) Satisfactory, i.e. 8.50% and over,
and
- (2) Unsatisfactory, below 8.50%.

The latter is again subdivided into three sub-groups:—

- (a) Low solids-not-fat—on account of not having been well mixed, i.e. where the butter-fat percentage of the sample is abnormally high for the particular herd.
- (b) Low solids-not-fat—due to adulteration with water, the freezing-point test being taken as the criterion, and
- (c) Naturally low.

The accompanying table shows the results:—

	1937.	1938.
1. Satisfactory	223 or 54.8%	220 or 61.60%
2. Unsatisfactory:		
(i) Badly mixed	23 or 5.65%	26 or 7.3%
(ii) Adulterated	16 or 4.0%	11 or 3.1%
(iii) Naturally low	145 or 35.55%	100 or 28.0%
	407 100.0%	357 100.0%

The figures for 1938 show an improvement over those for 1937, the percentage of satisfactory samples being higher and the percentage of adulterated samples lower. The percentage of "naturally" low samples decreased by 7.55% from 35.55% to 28.0%.

Average Solids-Not-Fat Content:

The average solids-not-fat content of "normal" samples, i.e. excluding obviously insufficiently mixed and adulterated samples, for the years under review, are as follows:—

1937: 8.524% of 370 normal samples.

1938: 8.559% of 353

Out of 723 analyses there were 13 samples with solids-not-fat content of 9.00% and over, whilst 6 samples were below 8.00%.

The average percentage solids-not-fat is very close to the minimum standard of 8.50%, and since approximately 30% of samples taken are below standard, it would create an impossible situation if prosecutions were to be instituted for this offence.

The 1938 average is 0.035% higher than that for 1937. In the absence of critical figures for previous years it is not possible to say whether the difference is significant; considered in conjunction with the analysis given in the table above it would appear to be so.

The decision of the Union Health Department not to depart from the minimum standard of 8.50% for the present, is very wise, since very little is known of the reasons why in South Africa the solids-not-fat content of milk is so far below the European average. The Department of Agriculture is investigating the position, and it may be found possible through selection in breeding herds to raise the percentage solids.

That chronic mastitis is an important factor influencing the solids-not-fat content has never been disputed. Chemical tests of milk from affected quarters have revealed a solids-not-fat content varying from 6% to 8%, depending on the degree of induration. Considering that investigation has revealed infection as high as 30% of all quarters in some herds, it is not difficult to understand the poor results of chemical analyses. This may yet prove to be the most important reason for the low solids-not-fat content from some dairies, and the obvious remedy would be systematic veterinary inspection and elimination of cows with induration of the udder.

BACTERIOLOGICAL EXAMINATION OF MILK.

(Samples taken under the Dairy By-laws.)

The Pretoria standard is as follows:—

Not more than 200,000 organisms per cc. are permitted, and there should be no *B. coli* in 0.01 cc.

During the year, 415 samples were taken, of which 375 were up to standard. Of the 40 unsatisfactory samples, 9 resulted in prosecutions and in 31 cases warnings were given.

BACTERIOLOGICAL EXAMINATION OF ICE CREAM.

The standard set in Pretoria is the same as for milk.

During the year, 49 samples were analysed and 41 of these were up to standard. Five warnings were given and in 3 cases prosecution resulted.

CHEMICAL ANALYSIS OF ICE CREAM.

28 Samples were taken, of which 26 were up to the required standard. The sellers of the two remaining samples were prosecuted.

DEPARTMENTAL SUPERVISION OF FOODSTUFFS.

The following samples were examined on behalf of the Health Department by the Government and Municipal Analysts during the year, namely:—

No. of Samples taken.	Nature of Article.	Satisfactory.	Unsatisfactory.	No. of Samples taken.	Nature of Article.	Satisfactory.	Unsatisfactory.
*411	Milk	361	50	8	Flour	8	—
*28	Ice Cream	26	2	8	Bread	8	—
8	Cream	8	—	5	Kaffir Corn Meal	5	—
19	Butter	9	10	6	Boer Meal	6	—
4	Cheese	4	—	4	Rice	4	—
16	Sausages	13	3	4	Coffee (mixed)	3	1
20	Minced Meat	9	11	9	White Pepper	9	—
4	Lard	4	—	7	Ground Ginger	5	2
12	Honey	10	1	3	Dried Peaches	3	—
			(1 broken in post.)	1	Dried Pears	1	—
12	Icing Sugar	10	2	1	Dried Prunes	1	—
8	Sugar	8	—	3	Sultanas	3	—

* The total number of samples of milk and ice cream taken is fully discussed under "Dairies and Milk Control."

RECORD OF ACTIVITIES OF THE INSPECTORIAL STAFF.

This work under the supervision of the Chief Health Inspector, Mr. W. G. Graham, has again been carried out with goodwill and co-operation between the Health Department and the public.

The duty of a Health Inspector is very often of such a nature that, unless carried out with tact and courtesy, antagonism may easily result. It is pleasing to record that there have been no serious complaints made against any member of the Staff and, in all, only one or two very minor grievances have been received.

During the year two additional Third Grade Health Inspectors were appointed. The rapid growth of the City, however, demands a further increase in the personnel, as it has been found difficult to cope with all the work required of the Staff.

The list appended hereunder details the wide scope of the activities of the inspectorial staff.

Total inspections made	48,306	Samples of foodstuffs taken	1,049
Nuisances dealt with	9,259	Visits of enquiry re diseases	2,656
Nuisances abated	8,993	Patients removed to hospital	128
Notices served	5,376	Number of rooms disinfected	97
Intimations given	4,835	Number of steam disinfections	30
Complaints dealt with	2,367	Articles disinfected by steam:—	
Weed notices and intimations	643	Mattresses	35
Early morning inspections	502	Pillows	47
Night inspections	50	Pillow cases	87
licences approved	964	Blankets	107
Licences refused	220	Sheets	93
House-to-house inspections	10,949	Miscellaneous	95
Samples of water taken	119		

Special Inspections:

Market	Daily	Laundries and washing places	199
Stables	374	Mineral water and ice cream fac-	
Butchers' shops	657	tories	35
Fishmongers' shops	24	Native eating houses	159
Hotels, restaurants, etc.	1,258	Hairdressers' saloons	403
Bakehouses	142	Miscellaneous, rodents, etc.	11,802
Fruit and other food stores	1,327		

Foodstuffs Condemned:

Hares	19	Sacks marrows	5
Guinea fowls	362	" cucumbers	4
Dressed fowls	865	" oranges	1
Ducks	3	" lemons	1
chickens	14	" grapefruit	3
Partridges	7	" peaches	5
Dozen eggs	167½	" walnuts	1
Springbok	2	Baskets plums	3
Pounds smoked fish	158	grapes	56
mutton	24	peaches	10½
ham	14	pears	1½
oysters	75	guavas	9
fish	1,679	spanspek	5
coarse salt	88	Panniers grapes	1
cheese	52½	Boxes tomatoes	392
dried pears	70	cucumbers	4
dried peaches	124½	spanspek	12
crayfish	319	apples	72
porkfat	1½	pawpaws	249½
Packets prunes	36	pears	229
biscuits	19	apricots	325
cheese	48	plums	179
Bundles rhubarb	320	peaches	422½
beetroot	12	nectarines	19
Pines	2,487	green figs	13
Jack fruit	23	mangoes	131
Crates turnips	2	strawberries	3½
Pockets green beans	710	cherries	6
green peas	590	litjis	66
green mealies	2	guavas	15

Pockets vegetable marrows	8	Boxes granadillas	54
" berry squash	4	" grapes	132
" bringhals	31	" prickly pears	8
" cucumbers	15	" bananas	32
" chillies	12	" pineapples	15
" oranges	466½	" sweet melons	41
" lemons	396	" avocado pears	367½
" limes	198	" oranges	29½
" grapefruit	59	" lemons	5
" quinces	15	" naartjies	308
" peaches	133	" grapefruit	22
" naartjies	41	" mixed dried fruits	19
" crystallized fruit	18	Cases green peas	1
Trays naartjies	20	" apples	75½
" peaches	9	" apricots	2
Bags cabbages	30	" bananas	44
" cauliflowers	14	" pears	518
" sweet potatoes	11	" peaches	53
" green beans	44	" naartjies	1
" broad beans	3	" oranges	21
" onions	18	" pawpaws	1
" berry squashes	5	Tins condensed milk	2
" squashes	10	" jam	186
" green mealies	115	" red cherries	1
" green peas	3	" canned fruit	13
" potatoes	4	" pilchards	27
" grapefruit	20	" herrings	55
" oranges	2	" brisling	1
" pines	1	" herrings and tomatoes	7
Sacks pumpkins	3	" sardines	2
" cabbages	114½	" curried fish	10
" sweet potatoes	16	" fish (mixed)	718
" potatoes	43½	" sausages	3
" green mealies	148	" spaghetti	1
" green beans	10	" sauerkraut	2
" green peas	13	" cucumbers	2
" carrots	3	" pickles	25
" onions	161	" lard	1
" turnips	1	Tins and bottles foodstuffs	
" beets	2	(mixed)	15,329

Matters referred to Other Departments:

(a) CITY ENGINEER:

Buildings erected or altered without permission	353
Premises occupied before completion and without approval of M.O.H.	58
Business premises being used for habitation purposes	27
Outbuildings converted to European dwellings	51
Outbuildings converted to Native quarters	6
Storeroom converted into kitchen	1
Room converted into kitchen and bathroom	1
Obstruction of light to Native room	1
Incomplete W.C. apartments	2
Unscreened W.C. apartments	2
Dangerous buildings	40
Dangerous boundary walls	7
Roof not erected to plan	1
Window in firewall	1
Dangerous wood and iron fences	3
Tents used as dwellings	2
Tents used for church services	2
Unauthorised brickmaking	3
Open and dangerous wells	2
Dirty condition of disused tables on Market	1
Premises not connected to water supply and drainage system	3
Incomplete installation of drainage	9
Choked drains	112
Defective drains	5
Defective drainage fittings	47
Missing drainage fittings	12
Defective drainage connections	32
Missing drainage connections	9

Absence of gulleys	4
Tap missing over gulley	1
Defective taps	3
Defective W.C. and urinal flush cisterns	12
Choked W.C. basins	37
Limed W.C. basins	4
Defective W.C. basins	18
Choked waste pipes	8
Missing manhole covers	7
Defective manhole covers	4
Defective branch sewer	1
Defective conservancy tank	1
Offensive smells from sewers	2
Collapse of sewerage trenches	1
Leaky stopcocks	4
Covers to stopcock boxes missing	4
Leaky or burst water mains	13
Intermittent flow of town supply water	1
Stormwater drained to sewer	7
Stormwater flooding premises	3
Broken meter-box covers	2
Dirty or defective stormwater drains	23
Dirty stormwater furrows	2
Dangerous condition of banks of stormwater furrow	1
Defective stormwater drain cover	1
Stagnation of water	28
Breeding places for mosquitos on municipal property	10
Dirty conditions of banks of spruets and rivers	2
Weeds on municipal property	6
Badly covered rubbish dumps	2
Dust nuisance caused by rubbish removal natives	1
Absence of temporary municipal latrine accommodation	9
Absence of service to temporary municipal latrine	1
Dirty condition of temporary municipal latrine	1
Defective condition of temporary municipal latrines	7
Dangerous condition of pavements	10
Overgrown and dirty condition of pavements	20
Street requiring regrading	1
Complaint re dusty street	1
Insufficient lighting of streets	2

(b) CHIEF LICENCE OFFICER :

Unlicensed lodging houses	217
" boarding houses	49
" private hotels	2
" restaurants	3
" tea rooms	4
" premises where meals are provided for table boarders	1
" food purveyors	3
" fish and chip businesses	2
" confectioners	3
" polony factories	2
" sellers of mahau	3
" bakeries	2
" hawkers	7
" native eating house	1
" seller of bread	1
" offal hawkers	1
" butchers	8
" soap manufacturers	2
" sale of manure	1
" cobblers	22
" plumber	1
" chemist	1
" hawker of soft goods	1
" garage	1
" garage and general dealers	3
" dance hall	1
" second-hand dealers	7
" laundries	15
" goatkeepers	16

Unlicensed cattle dealer	1
" hide and skin store	1
Transfer of garage	
Trolleys left overnight in streets of location	
(c) TOWN CLERK:	
Defective condition of municipal hall	1
(d) CONTROLLER OF STORES AND ESTATES:	
Complaint re stray cows and donkeys	1
Dirty condition of municipal property	14
Dilapidated fence at Power Station	1
Natives housed in unsuitable brick room at Municipal Pound	1
Condition of municipal property permitting mosquito breeding	3
Overgrowth of weeds on municipal property	18
Nuisances existing at municipal swimming bath	1
Nuisances existing at municipal parks or sports grounds	3
Defective condition of native eating house	1
Dirty and defective condition of bus shelters	2
Defects at municipal houses	3
(e) NATIVE AFFAIRS MANAGER:	
Housing of unexempted Natives	427
Unauthorised compounds	2
Complaint re disturbance at Recruiting Depot	1
Complaint re defective counter and method of cleansing utensils at Beer Hall	1
Verminous condition of rooms in Compound	1
Dirty and defective municipal shower apartments in location	1
Defective municipal latrine in location	1
Water stagnation at standpipes in Compound	1
(f) FIRE MASTER:	
Accumulations of inflammable material	10
Dangerous condition of petrol bowser	1
(g) CITY ELECTRICAL ENGINEER:	
Dangerous electrical wiring	3
Defective electrical fittings	2
Dangerous electric standard	1
Wires touching roof of dwelling house	1
Dirty condition of latrines and disused wood and iron shed at sub-station	1
(h) COMPOUND MANAGER:	
Dead dogs on pavement	2
(i) SANITARY REMOVAL DEPARTMENT:	
Pails not being properly replaced in bucket compartments	1
Complaint re leaking pails	1
Defective rubbish receptacles	18
Absence of rubbish receptacles	66
Complaints re rubbish receptacles	3
Absence of sanitary removal services	1
Irregular sanitary removal service	1
Irregular rubbish removal service	1

The following cases were taken before the Magistrate:

General:	No. of Cases.	No. of Convictions.	Total Fines.
Failure to comply with terms of notice	16	12	£58 10 -
Exposing for sale tins of unsound foodstuffs	2	2	4 - -
Failure to provide temporary latrines for employees on construction work	16	15	22 10 -
Contravention of Hairdressers' By-laws	1	1	2 - -
Failure to comply with Fumigation By-laws	2	2	3 10 -
Flybreeding	2	2	6 - -
Exposing unsound poultry for sale on Morning Market	1	1	1 - -
Unhygienic conditions at temporary compound	1	1	- 10 -
Sale of ice cream not up to bacterial standard	3	3	8 - -

Dairy By-Laws :

Contravention of by-laws	3	3	18	10	-
Dirty condition of dairy premises	6	6	8	10	-
Dirty and defective condition of dairy premises	1	1	5	-	-
Sale of milk not up to bacterial standard	9	8	18	10	-
Conducting unlicensed dairy	1	1	1	-	-
Introducing milk from unlicensed premises	1	1	2	-	-
Transferring milk and butter-milk from one vessel to another in public street	2	1	-	5	-
Failure to provide delivery Natives with overalls	10	10	7	15	-
Failure to inscribe name and address on delivery vehicle	3	3	1	10	-
Failure to provide overalls and to inscribe name on delivery cycle	1	1	1	10	-
Failure of delivery Natives to wear overalls provided by employers	13	13	6	5	-

Food, Drugs and Disinfectants Act :

Sale of milk deficient in non-fatty solids	11	10	34	-	-
Sale of milk deficient in fat	6	4	9	10	-
Sale of milk deficient in fat and non-fatty solids	1	1	1	-	-
Sale of ice cream deficient in fat	3	2	4	-	-
Sale of minced meat containing preservative	4	3	10	-	-
Sale of butter containing excess moisture	1	1	1	-	-
Sale of butter containing excess moisture and deficient in milk fat	2	2	2	-	-
Refusing to sell sample of ice cream to authorised inspector	1	1	5	-	-

Butchery By-Laws :

Exposing offal to contamination	4	4	4	-	-
Dirty and defective condition of butcher's wagon	1	1	1	-	-
Exposing meat to contamination	2	2	2	-	-
Conveying meat on dirty wagon	1	1	-	10	-
Conveying offal on dirty wagon	1	1	-	10	-

Abattoir By-laws :

Use of unstamped meat in manufacture of sausages	1	1	-	10	-
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Bakery By-laws :

Failure to protect bread from contamination in course of delivery	4	3	-	12	6
Contravention of by-laws	1	1	1	-	-
Failure to provide overalls and protect bread from contamination	2	2	3	10	-
Failure to inscribe name and address on delivery van and to protect bread from contamination	1	1	3	-	-

Licensed Premises :

	In the City.	In Locations.
Bakers and Confectioners	26	4
Butchers	64	12
Restaurants	62	3
Hotels	18	-
Tea Rooms	69	8
Native Eating Houses	6	4
Food Purveyors	306	75
Fishmongers	6	-
Fruiterers	193	43
Bioscope Tea Rooms	3	-
Hawkers and Pedlars	75	106
Mineral Water Factories	6	-
Grain Millers	3	-
Boarding Houses	483	-
Laundries	9	9
Public Hall and Theatres	11	4
Billiard Rooms	2	2
Asiatic Tea Rooms	1	1
Poulterers	23	-
Secondhand Dealers	7	-

ARRANGEMENTS AT THE VOORTREKKER CENTENARY CELEBRATION CAMP ADJOINING THE MONUMENT SITE, PRETORIA, FROM 12th TO 17th DECEMBER, 1938.

The camp, which might be more aptly described as a series of camps, was established on and in the vicinity of the Southern slope of the hill upon which the Voortrekker Monument is in course of erection. The camp covered an area of approximately 200 acres, and was served by a series of main and branch roads. The camping plots allotted to private families measured 20' x 20' and were slightly on the small side for a living tent and a motor car, but no very marked congestion was noted.

Essential services such as light, water, sanitation, rubbish removal, hospital, First Aid, telephones, broadcast, supply stores, refreshment stalls, etc., were all provided well before the campers arrived.

It is estimated that at least 30,000 persons were camped on the site; arrangements were also made to provide for 150,000 visitors daily and 500 native servants.

The Municipal Health Department established a branch office in a large tent in a central position; both male and female Health Officials were in constant attendance throughout the period, to deal with complaints, give advice where necessary and watch over the hygiene and sanitation of the camp. All hygienic requirements were anticipated, and it is pleasing to record that no complaints of a serious nature were received.

The Celebration Committee appointed Assistant Camp Commandants to all sections of the camp and this proved most useful in assisting to rectify many minor complaints.

Periodical visits were received from Union Health Department officials, whose kind assistance was appreciated.

Water Supply:

The water supply was drawn from the Roberts Heights pipe-line, and a 100,000-gallon brick reservoir was installed for water storage, from which water was reticulated through service pipes to various points in the camp. 250 such water service taps of a "spring self-closing" type were installed for general use throughout the camp, 12 bib-taps were placed in hospitals, dressing stations, stores, etc., whilst 18 taps with hose fittings were provided in the vicinity of field kitchens connected to the refreshment tents. The total water consumption recorded on three days was: 14th, 117,680 gallons; 15th, 118,000 gallons, and on the 16th, 108,520 gallons. From these figures it may be deduced that an allowance of 4 gallons per head per day proved adequate, but caution should be exercised in using this figure for forecasting consumption for future occasions, as the weather conditions experienced were fairly cool, and several showers of rain fell during the period, thus reducing the amount of water necessary for both domestic use and road watering.

Drainage:

The natural contour of the site simplified the arrangements for storm and waste water disposal. Fifty wash places and showers were provided, fitted with tarmac floors suitably drained to french drains. The spring-type taps used proved useful in conserving water, and minimising the amount of waste water for disposal. Slop-water storage tanks, serviced by vacuum tank wagons, were provided at all refreshment tents.

Cooking Facilities:

Numerous fire places were provided at suitable points for the use of various units, and individual families. Ample supplies of firewood were deposited in the vicinity of the fireplaces.

Food Supplies:

Several refreshment tents, where food and drink were offered for sale, were conducted by various women's societies, and cooking at these centres was conducted over large open fires. All supplies offered for sale, such as milk, meat, bread, cakes, fruit, tinned foods, etc., were examined by the staff of the Municipal Health Department.

Latrine Accommodation:

The location of the camp, in relation to the springs in Fountains Valley, from which the City derives much of its water supply, precluded the use of any latrine system other than

pail latrines, and in order to reduce the number of pails in use, it was decided to have a continuous pail removal service to all latrines. At convenient sites throughout the camp, 32 blocks of latrines were erected, each block comprising two rows of seats placed back to back, and about 30 feet apart, thus forming a yard area between the rows. Fifteen seats were provided in one row for use of females, whilst there were nine seats and two large urine troughs in the other row for use of males. A 400-gallon galvanised iron tank was sunk into the ground immediately behind the row for males, to which the urinals were drained. At frequent intervals the latrine pails were emptied into this tank, cleansed and replaced in position. The contents of these underground tanks were removed frequently by vacuum tank service. One native cleaner was detailed to service each block of latrines. His duties included the washing of the seats, emptying and cleansing pails, etc. The blocks of latrines were constructed of gum poles roofed with galvanised iron, the sides, screens, divisions and enclosures being of 72" 10 oz. hessian, dividing each convenience into a separate apartment, and enclosing the yard area between the rows. A good supply of toilet paper was available in each compartment at all times. The entrances were suitably screened and designated "MALES" and "FEMALES." Latrines of similar construction were provided at the special camp for native servants.

One hundred portable wood and iron single latrines were also provided; 50 of these were placed at suitable sites adjoining the approaches to the camp, in order to prevent nuisance in the vicinity of these approaches, and the remaining 50 were used for rapid transport to any vicinity where crowds were expected to gather, and when peak periods were anticipated. The total amount of sewage removed from the camp was 48,000 gallons and the maximum removed in any one day was 11,000 gallons. This represents approximately one-third of a gallon per head per day of sewage disposed of.

All these arrangements in connection with latrines and sewage disposal functioned very successfully.

Hospitals and First Aid:

Complete hospital and First Aid dressing stations were provided at convenient points, and several ambulances were continually in attendance or on call. No cases of infectious disease was reported during the festivities.

Rubbish Removal:

Metal drums were placed at convenient places throughout the camp, and a regular removal service was maintained.

Lighting, Etc.:

After sundown the camp was illuminated by large floodlights, whilst all essential service centres were provided with electric lighting, telephones, etc. Amplifiers were fitted at convenient points and were available for broadcasting any requirements of this Department when necessary.

Cattle:

All cattle were removed from the vicinity of the camp and provided with water and grazing on the western town lands. This precaution doubtless served to reduce the number of flies attracted to the camp and rendered it practically flyfree.

The Voortrekker Celebration Committee, also the campers and visitors contributed in no small degree to the successful working of the camp hygiene.

This report is written some six months since the celebrations, and as far as I am aware, no outbreaks of infections have resulted in those campers who have since returned to their homes.

I must here record my sincere thanks to all members of the Staff, also to the heads and members of the various other Municipal Departments for their willing co-operation in providing and maintaining such good hygienic conditions on this occasion.

Our stock of tramcars and buses were insufficient to cater for the traffic and 29 additional buses were obtained from the South African Railways and the Johannesburg and Germiston Municipal Transport Departments.

These vehicles, together with the Pretoria stock of 13 tramcars and 48 buses, were able to cater satisfactorily for all who desired transport.

The volume of traffic was greater than ever previously handled in Pretoria and the success was due to careful planning which included temporary offices and servicing and garaging near the Monument site for the celebration week.

On the 16th December 50,000 persons were conveyed on the Monument section alone.

In addition to the ordinary passengers the Department carried under contract 3,000 members of local school choirs, 8,000 members of other choirs and organizations in both directions, together with the 14,000 packages of those who came by train to stay in the camp.

Sight-seeing tours were also run for camp residents.

The Staff of this Department worked an average of 17 hours per day during the week.

Only two minor accidents occurred during the week.

Half a million passengers were carried during the eight days as against the normal 200,000.

SANITARY AND RUBBISH REMOVAL SERVICES.

During the year under review many owners of disused wells in the Innesdale area have applied to have these wells filled in with domestic rubbish, and in all cases where no nuisance was anticipated such applications were approved, particularly to prevent mosquito breeding in these old wells.

Removal services are compulsory and are carried out daily or bi-weekly according to requirements. At the close of year ending 30th June, 1939, the total number of rubbish removal services were:—

In town and suburbs	14,637
In locations	1,398
TOTAL	16,035

The average quantity of refuse removed was 270 tons per day at a cost of 6s. 1d. per ton. Eight mechanical and twenty-nine animal-drawn vehicles were in operation daily.

No. of Regulation pattern rubbish bins issued: 9,760.

CONSERVANCY SYSTEM.

At the close of the year June, 1939, 6,403 stercus removal services were carried out, of which 150 were nightly and 6,253 were alternate night services. The total number of services carried out show a decrease of 369 on the previous year's figure owing to more premises having been connected to the water borne system.

The number of premises on the conservancy system is:—

Town and suburbs	5,426
Locations	977
TOTAL	6,403

RUBBISH BASKETS FOR STREETS.

The installation during the year of litter baskets at various points throughout the City has provided a longfelt want in Pretoria. Baskets are marked with the words "Keep Your City Clean", in both official languages, and do to a very great extent minimise the amount of litter in the streets.

SEWAGE WORKS REPORT.

Table I gives particulars as regards:—

- Daily average sewage flow.
- Raw sludge drawn off daily from the six sedimentation tanks and pumped into the sludge digestion tanks.
- Ration of sludge to raw sewage expressed as percentage by volume.

- (d) Rate of dosage of settled sewage on to biological filter beds.
- (e) Screenings not disintegrated by the stereophagus pumps and retained on $\frac{1}{4}$ inch bar screens—disposed of by burial.
- (f) Grit removed twice daily from detritus channels, screen chambers and sumps — disposed of by dumping.
- (g) Stream water measured over the Daspoort Weir, consisting of the Aapies Stream, Steenhoven and Skinner Spruits, plus Filter Bed Effluent.
- (h) Ratio of Dilution of final effluent to stream water.
- (i) Rainfall as measured at the Sewage Works.

The daily average sewage flow shows an increase of 14% over last year's figure. This can be accounted for partly by the increased rainfall for the year (32.75 inches as against 23.48 inches for last year) and partly by the additional sewage contributed by the Hatfield and Riviera pumping stations, and further linking up throughout the city. The dry weather flow, e.g. for the month of June, indicates the true increase in normal flow, which works out at 13% higher than the daily average flow for June of the previous year. This points to the necessity of further extensions to the Works in the near future, as the normal flow is rapidly approaching 3 million gallons per day, which is the capacity of the existing plant.

SEWAGE ANALYSIS.

The summarised results of analyses carried out during the year are given in Table II. The question of sampling for analysis was investigated thoroughly, and from the data collected for this purpose a new method was worked out and adopted for obtaining samples for the monthly analyses. As a result the samples now analysed are truly representative of 24 hours' flow, which, unfortunately, was not the case in the past. However, the effect of this change is noticeable only in the raw sewage figures. The "strength" of the raw sewage in this case is very much below the corresponding figures for the last few years, although, of course, the raw sewage strength changes very little from year to year. The settled sewage and filter bed effluent results are very much the same as before. The reason for this is that variations in strength are equalised very effectively by the sedimentation tanks, which has a retention period of approximately 3 hours. Hence the settled sewage and filter bed effluent figures show only normal differences from those of previous years, even though the method of sampling has been altered to give representative samples.

SLUDGE DIGESTION.

Two-stage digestion, using the four circular tanks as primary, and one set of the old rectangular tanks as secondary digestors, is still giving very satisfactory results.

SLUDGE AS FERTILISER.

The demand for digested sludge as fertiliser is as keen as before. Approximately 3,200 cubic yards of dried sludge were removed from the drying beds. A larger hammer mill, for pulverising the dried sludge was installed. The value of this pulverised sludge as a fertiliser for flower gardens is becoming better known to the public, and during the year approximately 2,100 bags of pulverised sludge were produced, as compared with 1,200 bags for the previous year. The unpulverised sludge is sold at one shilling per cubic yard, and the pulverised sludge at one shilling per bag.

SEWAGE WORKS REPORT.

Table I gives particulars as regards—
 (a) Daily average sewage flow
 (b) Raw sludge drawn off daily from the sedimentation tanks
 (c) Sludge digested in the sludge digestion tanks
 (d) Ratio of sludge to raw sewage expressed as percentage by volume

TABLE 1.

MONTH	Sewage Flow.		Raw Sludge.		Sludge : Sewage.		Filter Dosage.		Screenings.		Grit.		Dispoort Weir.		Ratio of Dilution Effluent to Stream Water.	Rainfall at Sewage Water.
	Daily Average Gallons.		Daily Average Gallons.		Percentage.		Gallons per Cubic yard per day.		Cubic yard per million gallons.		Cubic yard per million gallons.		Daily Average Gallons.			
1938																
July	2,314,000		20,900		0.90		88		0.59		0.56		4,774,000		1 : 1.08	0.09
August	2,495,000		23,400		0.94		94		0.62		0.53		4,839,000		1 : 0.96	0.24
September	2,511,000		23,300		0.93		95		0.65		0.55		4,771,000		1 : 0.92	0.57
October	2,709,000		24,600		0.91		103		0.64		0.49		7,833,000		1 : 0.92	1.61
November	2,688,000		24,600		0.92		102		0.63		0.41		5,769,000		1 : 1.17	1.31
December	2,760,000		23,600		0.86		104		0.63		0.41		21,493,000		1 : 6.86	7.68
1939																
January	2,959,000		25,000		0.85		112		0.54		0.44		11,689,000		1 : 2.99	3.74
February	4,576,000		26,700		0.58		174		0.35		0.25		44,350,000		1 : 8.75	11.83
March	3,327,000		26,200		0.79		126		0.47		0.32		10,690,000		1 : 2.24	2.57
April	2,827,000		25,600		0.91		107		0.56		0.41		5,853,000		1 : 1.09	0.15
May	2,822,000		25,600		0.91		107		0.60		0.42		9,124,000		1 : 2.26	2.96
June	2,740,000		26,400		0.96		104		0.58		0.39		5,162,000		1 : 0.90	0.00
Year 1938-39 ..	2,894,000		24,700		0.87		110		0.57		0.43		11,362,000		1 : 2.96	32.75

TABLE II. — SEWAGE ANALYSES.

PARTS PER 100,000.	Raw Sewage.			Settled Sewage.			Filtered Bed Effluent.			Total Purification		Filtered Filter Bed Effluent		Total Purification	
	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Per cent.		Max.	Min.	Mean.	Per cent.
Settleable Solids by Volume	2,000	1,200	1,500	200	50	122	70	54	60	91.9		—	—	—	—
Total Solids by Weight	154	107	131	85	69	78	41	24	31	—		—	—	—	—
Loss on Ignition	113	73	92	59	42	51	57	48	52	—		—	—	—	—
Dissolved Solids	76	57	67	66	58	62	39	19	26	—		—	—	—	—
Loss on Ignition	45	34	40	44	30	39	14	3	8	—		—	—	—	—
Suspended Solids	81	43	64	20	11	16	8	2	5	—		—	—	—	—
Loss on Ignition	68	39	52	16	8	12	2.40	0.60	1.74	76.2		—	—	—	—
Ammoniacal Nitrogen	10.0	4.00	7.30	6.00	3.00	5.00	0.85	0.13	0.27	85.0		—	—	—	—
Albumenoid Nitrogen	2.40	1.20	1.80	1.20	0.60	0.85	Nil	0.06	0.09	—		—	—	—	—
Nitrous Nitrogen	Nil	Nil	Nil	Nil	Nil	Nil	3.50	1.34	2.72	—		—	—	—	—
Nitric Nitrogen	Nil	Nil	Nil	Nil	Nil	Nil	11.2	8.60	9.90	—		—	—	—	—
Chlorides as Chlorine	12.8	8.30	10.7	11.8	8.00	10.0	0.89	0.38	0.66	80.9		0.45	0.23	9.35	89.9
Oxygen consumed from N/80 Permanganate in 3 mins.	4.81	2.54	3.46	2.13	1.41	1.89	2.22	0.97	1.75	83.9		1.02	0.54	0.89	91.8
Oxygen consumed from N/80 Permanganate in 4 hours at 26.7° C.	22.6	5.92	10.9	6.15	3.37	4.92	33.3	8.97	5.51	91.8		3.06	0.82	1.69	97.5
Dissolved Oxygen absorbed in 5 days at 18.3° C.	85.6	48.2	66.9	39.5	21.7	33.3	77.5	—	27.2	82.3		—	—	—	—
"Strength"	—	—	154	—	—	—	—	—	—	—		—	—	—	—

DRAINAGE.

The water carriage system of house drainage has been installed during the year in an additional:—

- 1,400 private dwelling houses.
- 34 business premises.
- 207 flats; and
- 11.75 miles of sewer pipes were laid.

WATER SUPPLY.

In previous reports a full outline has been given of the water supply of the City of Pretoria. It is sufficient therefore, to record here that the same high standard of purity of the water has been maintained.

The water is examined at regular intervals both chemically and bacteriologically, and there was not a single unsatisfactory result obtained.

Laying of Town Water Supply:

Since the Council has made special loans and special easy terms for the laying on of town water supply at a cost of £4, repayable over a period of four years, many householders on the outskirts have linked up with the town water supply. There still, however, remain a number of wells which should be gradually eliminated as sources of water supply for domestic use.

SWIMMING BATHS.

Pretoria has four large municipal swimming baths. These are magnificently laid out, in the open air and surrounded by beautiful lawns and gardens. Adjoining each bath there is a children's playground and paddling pool.

The water for the baths is derived from the City's mains and is constantly tested for chlorine and bacterial content. The samples to date have always given highly satisfactory results.

MUNICIPAL WASH HOUSES.

The re-arrangements and improvements as described in last year's report have been fully justified by results.

These wash-houses continue to serve a most useful purpose.

NATIONAL COMMITTEE FOR HEALTH EDUCATION.

The General Secretary for the South African Red Cross Society, as a result of approaches made to the Society by the Union Department of Public Health, has set up a National Committee for Health Education.

The principal function of the National Committee for Health Education was to be the provision of health propaganda material for both Europeans and non-Europeans on practically all aspects of the prevention of disease and the establishment of good health.

The scope of the activities of this Committee was to cover the whole of the Union of South Africa and the dissemination of health news and views amongst every section of the community.

The Council agreed to the Medical Officer of Health accepting the invitation to act on that Committee.

PUBLIC HEALTH PROPAGANDA.

As before, the Department has continued with its health education work, and a very large number of addresses were delivered by the Medical Officer of Health to various groups of persons.

The Department has encouraged all its officials to devote time to enlightening members of the public individually on all matters pertaining to health. It is firmly believed that this type of education is invaluable.

Further propaganda work is intended to be undertaken during the course of the following year. Application has already been made to the Committee for the erection of board-

ings in five prominent places in the City for the display of various posters dealing with health matters. It is intended to change all posters monthly.

Health education through the local cinemas is also under consideration. It is hoped that this will materialize during the ensuing year.

PHYSICAL EDUCATION AT THE PRETORIA TECHNICAL COLLEGE.

The Pretoria City Council does not directly provide for physical education. It does, however, subsidise the Pretoria Technical College in this direction.

The Physical Education Department of the Pretoria Technical College is now being reorganised so as to provide the public, in the near future, with the fullest facilities for instruction in recreational physical activities and in matters affecting the health of the individual.

The staff includes four highly qualified and experienced full-time teachers (two men and two women) in addition to such part-time instructors as are required for specialised subjects (e.g., Fencing).

Funds for building a new gymnastic block have now been raised, and building will shortly commence. When completed, the College will possess one of the largest and finest fully-equipped gymnasia in the country. In addition to the main gymnasium, measuring 95 feet by 45 feet by 25 feet high, there will be two smaller gymnasia, five changing rooms, shower baths, staff rooms, massage rooms, etc. The most modern equipment is being obtained, and will provide for all needs.

The instructional work of the Physical Education Department may be conveniently divided into three main groups—that given to the boys and girls attending the Day School, that given to special groups, and that given to the general public.

The only special group at present attending is that from the Girl's Training Centre (Kappiekommando) in Edward Street. The Department of Social Welfare has requested the College to arrange for the instruction in gymnastics and allied subjects of the girls attending the newly-instituted course at this Centre.

For the general public, there are morning and evening classes for men and women (separately) in Keep Fit Gymnastics, mixed classes in Fencing and Folk-Dancing, and a Saturday morning class in Recreational Sport for boys.

It is hoped shortly to arrange further classes in Apparatus Gymnastics, Acrobatics, Badminton, Boxing, Wrestling, Jui-Jitsu, Athletics and Athletic Training, Swimming and Diving, Life-Saving, and a Recreational Gymnastic class for junior girls.

The increased accommodation provided by the new gymnasia will allow for additional morning classes in keep-fit work for professional men and women, lunch-hour classes, and a special "Over 40" class.

The new gymnastic block has been specially designed to allow for displays and competitions, and the co-operation of other sporting interests is being sought in regard to this.

Co-operation is also being sought with bodies which have as their object the maintenance or improvement of health, especially in relation to sport. For example, the Red Cross Society has been granted facilities during their "Red Cross Week", and arrangements are being made for a lecture on "Injuries in Sport: Their Prevention and Treatment" at the Technical College.

In conjunction with the Bureau of Adult and Visual Education of and at the Technical College, a series of film-lecture-demonstration on sport and health will shortly commence. These will be open to the public. Beginning in August, the first five programmes will deal with Modern Rugby Football and its Training; Swimming; Posture, Carriage and Feet; Diet and Nutrition; and Fencing. The Physical Education Department is also assisting the Bureau in giving a series of Lectures on Elementary Anatomy and Physiology to the general public.

Summing up, the Department of Physical Education at the Pretoria Technical College is seeking, through the provision of first-class facilities, and through the engagement of fully trained and experienced experts: first, to develop the youth of Pretoria and District, giving them strength, suppleness and agility in due proportion, eradicating defects of carriage and posture, building up their character, training them to employ their leisure time in healthy recreational activities with a social value, maintaining their health through annual medical and dental inspections, and inculcating the elements of hygiene so that they may continue to

lead healthy lives; secondly, offering the general public the facilities for enjoying sports and exercises under expert guidance, and through its system of film shows, demonstrations, lectures and other publicity work, seeking to show clearly the value of health and the methods of acquiring or maintaining it.

SLUMS ACT AND HOUSING.

During the year 28 properties were listed to be dealt with under the Slums Act, comprising 171 dwelling apartments. Progress and action have been somewhat delayed on account of the Slums Court only coming into operation during June of this year, when five cases were dealt with.

As will be seen, the Sub-Economic housing scheme has made good headway and it will now be possible to deal with slum properties more expeditiously. Of the 171 dwelling apartments the following results have been obtained:—

Demolished	4
Under reconstruction	51
Under renovation	60
Vacated	11
No change	45
TOTAL	171

There are therefore 45 dwelling apartments where no progress has been made and with the Slums Court now in operation, it is hoped that the near future will see considerable improvement in speeding up the necessary action.

Apart from the sub-economic housing scheme, the general housing conditions still continue to improve throughout the City, and the building activities during the year included:—

939 Dwellings.

17 Flats.

403 Additions and alterations to dwellings.

SUB-ECONOMIC HOUSING (EUROPEAN).

Considerable progress has been made in the rehabilitation of the Sub-Economic classes, a further 200 houses having been completed.

A Housing Manageress was appointed as from 1st September, 1938, and the development of the scheme necessitated a female clerical assistant in March, 1939. A fumigator-handyman, and four natives to assist him, were also appointed.

Rent collection was taken over by the Housing Manageress as from 1st April, 1939. Arrear rents have proved a difficult problem, but it is hoped that personal contact with tenants will bring about an improvement in this matter, as it is a vital step in the education and social development of the Sub-Economic classes.

Two offices have been provided; a central one at the Health Department in Van der Walt Street, serving 125 tenants, living in Sub-Economic houses scattered throughout Muckleneuk, Innesdale and Pretoria West; the other at Proclamation Hill to serve the Township and its 200 tenants. One of the Sub-Economic houses is being used temporarily for this purpose and is also used for Infant Clinics and State-aided Butter distribution. It provides the handyman with a workroom and storeroom for fumigation materials.

These quarters are somewhat cramped, and it is hoped that, in the near future, proper offices, clinics and other essential accommodation will be incorporated in a Communal Hall where the social life and education of the community can be furthered.

It will be interesting to note as time goes on, whether the communal life of a township or the scattered homes in the community, as in Innesdale, and other places, is going to be the best means for gaining the greatest improvement in the development of the Sub-Economic classes.

Sub-Economic housing in Pretoria is divided into three schemes and they are as follows:—

Scheme.	Pretoria West.	New Muckleneuk	Innesdale	Proclamation Hill	TOTAL
I	14	11	—	—	25
II	—	35	35	50	100
III	—	20	30	150	200
TOTAL HOUSES					325

The variation in the types of houses is based on the bedroom accommodation, it being accepted that each house also has a living-room, kitchen and bathroom.

Scheme I: Two-bedroom houses, some detached and some semi-detached.

Schemes II and III consist of three types and are divided as follows:—

Type "A" — 1 bedroom.

Type "E" — 2 bedrooms.

Type "F" — 3 bedrooms.

		Type "A"	Type "E"	Type "F"	TOTAL
New Muckleneuk:	Scheme II	2	7	6	15
	Scheme III	3	10	7	20
Innesdale:	Scheme II	5	16	14	35
	Scheme III	4	15	11	30
Proclamation Hill	Scheme II	8	22	20	50
	Scheme III	10	73	67	150
		32	143	125	300

Rents vary in different types of houses, as follows:—

	Detached.	Semi-Detached.
Scheme I:		£2 5s. 0d. per month, plus the same allowance on water and Rubbish Removal as for Detached houses.
	£2 15s. 0d. per month, plus 4/- water and Rubbish Removal free.	
Schemes II and III:		
	£2 18s. 6d. per month, plus water up to 2,000 galls. and light up to 5/-, and Rubbish Removal free.	£3 9s. 6d. per month, plus same allowances as on Type "A" houses.
		£3 4s. 6d. per month, plus same allowances as on Type "A" houses.

There have been very many applications for Sub-Economic houses. Where no houses are available suitable applicants are placed on a waiting list.

The following is a list of changes and new tenants as from 1st July, 1938, to 30th June, 1939:—

Transfers	25
Tenants vacated houses	33
New tenants	262

Five prospective tenants signed their contracts and then failed to take possession of their houses. Two tenants, who proved undesirable, refused to leave after notice had been served and had to be ejected.

All houses vacated are inspected and cleaned where necessary before the new tenant takes over. Tenants who have been in residence more than a year are provided with colour-wash and are allowed to clean their own houses under supervision if it appears necessary and if they wish to do so.

It is felt that more care is likely to be taken of the property if the tenant himself has the labour of cleaning it. In many cases this has proved the first step towards building up the tenant's self-respect.

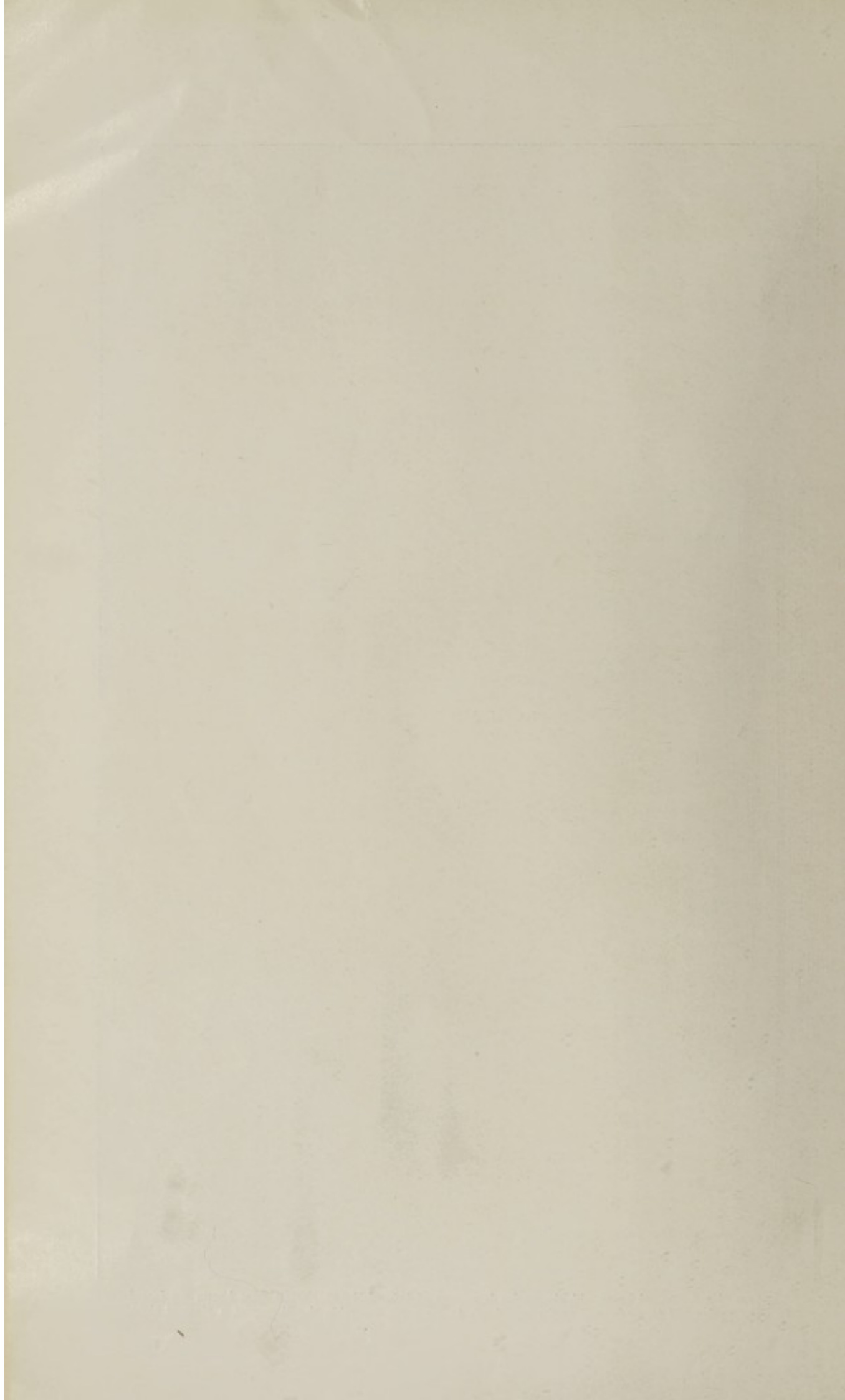
Six tenants were supplied with ornamental trees and climbers. When the fencing is put round the Scheme III houses, there will be a greater demand for these.



Proclamation Hill from Power Station Dam.



Close up of a 3 Roomed house with the garden in process of being laid out. When these houses are fenced in, more garden will be made, and as the trees begin to grow the Township should present a pleasant sight.



There is now a bus service running to Proclamation Hill and it is hoped that this is going to be extended to cover the whole area.

The Postal Department delivers letters twice daily at Proclamation Hill. There is, however, still no telephone available.

The handyman was provided with a light motor van in June as it proved impossible to carry out necessary repairs in the various areas without transport.

NON-EUROPEAN HOUSING.

As pointed out in the previous Annual Report, one of the major problems of Pretoria is the suitable housing of Non-Europeans.

Progress has now been made for the provision of Sub-Economic and Economic Housing for Natives in the New Native Location, and it is now almost certain that the first 700 houses will be built during the course of the next few months; about one half are to be built out of Sub-Economic and about one half out of Economic Loan Funds.

These houses will be commodious and the rooms will be about 20% larger in floor area and height of walls than has been the case in many similar native housing schemes. Unique features, as far as Native locations and Villages are concerned, are the installation of a shower-bath compartment, a water-borne sewerage lavatory and a washing area to each house. These amenities form an integral unit in each individual house. Each house has its own water supply, and the rubbish removal will be a house to house service (each house having its own suitable rubbish receptacle). This latter provision is far superior to the system of public middens in vogue in many Native Locations. Each house will also be provided with a strong coal and wood burning cast-iron stove to combat the evils of the "mbewela" or fire-tin. It is confidently expected that once a fire is made in this type of stove, the native will not make a second fire in a tin which is usually carried around from room to room.

Happily, the rent of the semi-detached dwelling consisting of two large rooms plus kitchenette with stove, lavatory and shower-bath, etc., is apparently not going to exceed 18/- per month inclusive of all services and also including small monthly charges for medical, clinic, sanitary, sewerage and electric light services. Since the average wage of a native family head in the Pretoria Locations is approximately £3 10s. 0d. per month, the monthly charge for this house will not appreciably exceed 25% of the native's wages.

It should also be noted that the installation of the water-borne sewerage system in the New Location will do away with the most insanitary practice of slop water being thrown into the streets and backyards.

The overcrowding in the Council's Native Location at Marabastad, in the Cape Location and in the Indian Bazaar has become, if anything, more acute during the year under review.

In July, 1938, the Government Census was taken, enumerating all natives within the Urban Area of Pretoria. The result of this Census was as follows:—

No. of natives resident in Urban Areas	35,930
Made up as follows:—	
Male adults	21,343
Female adults	7,461
Minor children, Males	3,684
Females	3,442
Excluding Visitors: TOTAL	35,930

Classification of the Native Population by Residence:—

Resident in Hostels, Compounds, Barracks and licensed housing	10,469
Resident in Coloured Location and Asiatic Bazaar	680
Domestic servants resident on employees' premises ..	12,070
In Hospitals, Asylums and other institutions	1,593

(1) Asiatic Bazaar:		
(a) Number of stands	.....	305
(b) Number of dwellings	.....	251
(c) Estimated population on 30th June, 1938	.....	2,900
(d) Average number of persons per dwelling	.....	11.5
(2) Cape Coloured Location:		
(a) Number of stands and dwellings	.....	168
(b) Estimated population on 30th June, 1938	.....	2,875
(c) Average number of persons per stand	.....	17
(3) Municipal Native Locations (Marabas, Bantule and Hove's Ground):		
(a) Total number of dwellings	.....	857
(b) Total Native population	.....	11,118
(c) Average number of persons per dwelling	.....	12.9

CONVEYANCE OF ANIMAL CARCASSES.

The purchase of two suitably equipped vehicles for the conveyance of carcasses has been authorized. The vehicles will be animal-drawn, metal lined and completely enclosed. Each will be fitted with a winch, rollers and a small trolley to facilitate loading.

This will be a big improvement over the old open trolley method.

The new wagons can be properly cleaned and sterilized after conveying cases of infectious disease, and it will be possible to convey carcasses without nuisance.

OFFICE ACCOMMODATION.

With the increase of the Staff there is a serious lack of office accommodation.

A certain amount of relief has been afforded by the Dental Clinic removing to its new quarters. This has provided three additional rooms, and, with certain minor structural alterations, the accommodation has been greatly increased.

The Council has under consideration a scheme for the provision of adequate office accommodation for the whole of the Municipal Staff, and it is anticipated that before long the Health Department Offices and the Central Clinic will be adequately provided for under this scheme.

For the compilation of these figures and the careful manner in which they were drawn up, I am grateful to the Senior Clerk, Mr. L. Drysdale.

No. of natives resident in Urban Areas	32,930
Males up to 15 years	15,443
Male adults	17,487
Female adults	15,443
Minor children	3,443
Female children	3,443
Excluding Villages	32,930
TOTAL	32,930

Classification of the Native Population by Residence—

Resident in Hostels, Compound Barracks and huts	10,459
Resident in Coloured Location and Asiatic Bazaar	2,880
Domestic servants resident on employers' premises	12,070
In Hospitals, Asylums and other institutions	1,521

Table No. 1.
BIRTHS: ALL RACES FOR THE YEAR ENDED 30th JUNE, 1939.

	EUROPEAN.				NATIVE.				ASIATIC.				EURAFRICAN.			
	Legitimate.		Illegitimate.		Legitimate.		Illegitimate.		Legitimate.		Illegitimate.		Legitimate.		Illegitimate.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
1938:																
July	60	65	1	5	6	3	8	2	4	—	—	—	1	3	—	1
August	88	76	1	8	8	6	7	11	6	—	—	—	3	3	1	1
September	71	71	2	5	8	8	8	3	5	—	—	—	2	1	4	2
October	78	78	3	4	4	5	10	6	5	—	—	—	2	3	—	1
November	68	73	3	6	9	2	5	11	6	—	—	1	3	1	2	1
December	73	73	2	3	7	6	8	6	8	—	—	—	2	3	1	2
1939:																
January	79	92	4	6	8	7	5	15	11	—	—	—	4	4	2	2
February	69	75	2	5	9	5	7	9	5	—	—	1	3	2	2	3
March	67	58	3	6	6	9	5	7	3	—	—	—	4	1	5	1
April	79	69	1	6	4	4	4	3	5	—	—	—	4	2	—	2
May	84	98	5	7	3	8	5	7	10	—	—	—	7	8	—	4
June	76	74	2	6	7	11	10	6	8	—	—	1	3	1	2	1
TOTALS	892	902	29	72	79	74	82	86	76	—	—	3	38	32	19	21
BIRTHS TO NON-RESIDENTS.																
STILLBIRTHS.																
BIRTHS TO NON-RESIDENTS.																
STILLBIRTHS.																
BIRTHS TO NON-RESIDENTS.																
STILLBIRTHS.																
1938																
July	1	1	1	6	6	2	2	12	5	—	—	—	4	2	—	—
August	2	3	3	3	3	2	2	11	9	—	—	—	3	1	—	—
September	3	2	2	2	2	2	2	16	19	—	—	—	3	2	—	—
October	—	2	2	2	2	4	4	11	17	—	—	—	6	—	—	—
November	1	2	2	3	3	2	2	19	12	—	—	—	3	8	—	—
December	2	2	2	2	2	2	2	21	16	—	—	—	8	5	—	—
1939																
January	2	4	4	4	4	—	—	14	22	—	—	—	9	7	—	—
February	3	3	1	1	1	1	1	15	16	—	—	—	5	1	—	—
March	4	4	1	1	1	3	3	18	16	—	—	—	11	7	—	—
April	1	—	—	3	3	—	—	15	11	—	—	—	7	2	—	—
May	3	3	3	2	2	4	4	25	17	—	—	—	2	8	—	—
June	4	—	—	3	3	4	4	23	12	—	—	—	7	6	—	—
TOTALS	26	18	32	32	32	26	26	200	172	—	—	68	49	—	—	—

Table No. 3.
DEATHS OF EUROPEANS FIVE YEARS OF AGE AND OVER WITHIN THE MUNICIPALITY FOR THE YEAR
ENDED 30th JUNE, 1939.

	5-10 years		-15 years		-20 years		-25 years		-30 years		-40 years		-50 years		-60 years		-70 years		-80 years		Over 80 years		TOTAL	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Males	Females
Infectious and Parasitic Diseases	3	1	-	-	1	1	2	-	1	-	1	1	1	1	4	1	4	2	-	-	-	-	17	7
Malignant and other Tumours	-	-	-	-	-	-	-	1	-	1	2	2	1	10	7	11	12	5	9	6	2	1	33	37
Diseases of Nutrition, of Endocrine glands and other general diseases	-	-	1	-	-	-	-	-	-	-	-	-	1	-	1	-	1	2	-	2	-	-	4	4
Diseases of the blood and blood-forming organs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	2	2
Diseases of nervous system and sense organs	-	1	-	2	1	1	-	-	2	1	4	1	1	1	1	2	4	1	8	4	3	4	24	18
Diseases of circulatory system	-	-	-	-	1	3	-	-	4	2	2	6	9	3	16	9	30	16	19	14	7	11	88	64
Diseases of respiratory system	-	1	-	-	2	2	1	2	3	1	2	3	5	2	4	4	8	4	5	8	2	4	31	27
Diseases of the digestive organs systems Non-venereal diseases of the genito- urinary system and adnexa	1	-	-	-	1	1	2	-	-	-	-	-	4	2	4	1	5	1	8	2	-	-	23	10
Diseases of pregnancy and puerperal state	-	-	-	-	-	-	-	-	-	1	1	3	3	2	3	5	-	2	1	1	1	1	14	9
Diseases of skin and cellular tissues	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Diseases of bones and organs of locomotion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Old age	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Deaths from violence and accidents	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	3	3	4	3
Ill-defined diseases	-	-	-	-	5	5	1	6	6	1	2	1	3	-	4	-	-	-	-	-	-	-	31	4
Congenital malformation of the heart	-	1	-	-	-	-	-	-	-	3	-	1	-	-	2	-	-	-	-	-	-	-	6	1
TOTAL MALES	4	-	1	-	8	-	10	-	15	-	22	-	28	-	42	-	77	-	53	-	18	-	278	-
TOTAL FEMALES	-	5	-	2	-	8	-	5	-	6	-	15	-	23	-	31	-	33	-	38	-	25	-	191

Figures for Europeans and Asiatics are not tabulated as the numbers are small and have been dealt with in the general summary of the causes of death.

Table No. 4.
DEATHS OF NATIVES WITHIN THE MUNICIPALITY FOR THE YEAR ENDED 30th JUNE, 1939.

	-1 year. M. F.	-5 years. M. F.	-10 years. M. F.	-15 years. M. F.	-20 years. M. F.	-25 years. M. F.	-30 years. M. F.	-40 years. M. F.	-50 years. M. F.	-60 years. M. F.	-70 years. M. F.	-80 years. M. F.	Over 80 yrs. M. F.	Male.	Female.	TOTAL
Infectious and Parasitic diseases	1	3	6	1	1	1	3	3	1	6	1	6	1	39	17	
Diseases of nutrition	-	1	-	-	-	-	-	-	-	1	-	-	-	1	2	
Malignant and other tumours	-	-	-	-	-	-	-	-	1	-	-	-	-	1	1	
Diseases of the blood and blood-forming organs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Diseases of the nervous system and sense organs	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Diseases of the circulatory system	-	-	-	-	-	1	-	-	4	3	1	-	-	6	2	
Diseases of the respiratory system	-	-	-	1	-	1	3	5	2	4	1	6	2	30	12	
Diseases of the digestive system	16	14	10	7	2	1	3	1	6	3	4	-	6	56	34	
Non-venereal diseases of the genito-urinary system and adnexa	19	13	14	4	-	2	1	3	1	1	1	-	-	42	20	
Diseases of pregnancy and puerperal state	-	-	-	1	-	-	-	-	-	-	-	-	-	1	1	
Diseases of the skin and cellular tissue	-	-	-	-	-	-	2	-	-	-	-	-	-	-	4	
Diseases of bones and organs of locomotion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Congenital malformation and congenital debility	2	-	1	-	-	-	-	-	-	-	-	-	-	2	1	
Prematurity	9	16	-	-	-	-	-	-	-	-	-	-	-	9	16	
Injury at birth	1	1	-	-	-	-	-	-	-	-	-	-	-	1	1	
Other diseases of early infancy	5	5	-	-	-	-	-	-	-	-	-	-	-	5	5	
Old age	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	
Homicide, Murder and Suicide	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Accidental burns	-	3	1	1	-	-	1	2	1	1	1	1	1	8	2	
Accident	-	-	-	-	-	-	-	-	-	-	-	-	-	5	4	
Sudden death and ill-defined causes	-	2	-	-	-	-	-	8	9	1	-	-	-	32	1	
TOTAL MALES	53	35	5	6	5	8	28	31	27	19	17	6	3	243	-	
TOTAL FEMALES	54	16	7	5	3	7	7	10	4	5	3	2	3	-	126	

Table No. 5.
INFANTILE MORTALITY: EUROPEAN: Causes of Death and Mortality Rates in the Districts for the Year ended 30th June, 1939.

	Infectious Diseases.		Diarrheal Diseases.		Bronchitis Pneumonia.		Congenital Causes.		Other Diseases.		Pre-maturity.		Total Deaths.		Total Births.		Mortality Rate per 1,000 Live Births.		Total Rates.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Central Area	—	1	1	5	3	5	4	1	5	3	7	3	20	18	264	266	75.75	67.66	71.69
Pretoria West	—	—	1	—	1	2	—	—	1	1	—	—	3	3	131	143	22.90	20.98	21.89
Leper and Mental Hospitals, Prison and Defence Reserves	—	—	1	—	—	—	—	—	—	—	—	—	1	—	7	13	142.85	—	50.00
Railway Reserve	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	11	62.50	—	28.57
Roberts Heights	—	—	—	—	—	—	—	—	—	—	—	—	1	—	16	19	67.22	63.06	65.21
Eastern Suburbs	—	—	4	2	4	5	1	2	5	1	2	4	16	14	238	222	—	50.00	32.25
Northern Suburbs	—	1	2	—	—	3	—	—	2	4	4	1	8	9	254	241	31.04	37.33	34.34
TOTALS	—	2	9	8	8	15	5	3	13	9	14	8	49	45	921	924	53.20	48.70	50.95

Table No. 6.
 INFANTILE MORTALITY: ALL NON-EUROPEAN RACES: District Incidence for the Year ended 30th June, 1939.

	Infectious Diseases.		Diarrhoeal Diseases.		Bronchitis Pneumonia.		Congenital Causes.		Other Diseases.		Pre-maturity.		Total Deaths.		Total Births.		Mortality Rates per 1,000 Live Births.		Total Rates.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Native:																			
Marabas	1	2	10	7	8	7	2	—	2	5	5	7	28	28	82	89	341.46	314.80	327.48
Bantule	—	1	8	6	6	6	—	—	—	2	2	5	16	20	33	40	484.84	500.00	493.15
Town	—	—	1	—	2	1	—	—	4	1	2	4	9	6	31	32	290.32	187.50	238.09
Total Natives	1	3	19	13	16	14	2	—	6	8	9	16	53	54	146	151	363.13	357.61	360.26
Asiatic:																			
Location	—	—	2	1	2	1	—	—	1	—	2	—	7	2	52	60	134.61	33.33	80.35
Town	—	—	—	—	—	—	1	—	2	—	1	1	4	1	34	19	117.62	52.63	94.33
Total Asiatic	—	—	2	1	2	1	1	—	3	—	3	1	11	3	86	79	127.90	37.97	84.84
Eurafrican:																			
Location	—	—	1	3	—	5	—	—	1	—	—	1	2	9	46	47	43.47	191.48	118.28
Town	—	—	1	—	—	—	—	—	—	—	1	—	2	—	10	7	200.00	—	117.64
Total Eurafican	—	—	2	3	—	5	—	—	1	—	1	1	4	9	56	54	71.42	166.66	118.18
All Non-European:																			
Locations	1	3	21	17	16	19	2	—	4	7	9	13	53	58	213	236	248.82	250.00	249.44
Town	—	—	2	—	2	1	1	—	6	1	4	5	15	6	75	58	200.00	120.68	165.41
TOTAL NON-EUROPEANS	1	3	23	17	18	20	3	—	10	8	13	18	68	66	288	294	236.11	228.48	230.24

Table No. 7.

DEATHS IN INSTITUTIONS OF PERSONS NOT RESIDENT IN PRETORIA FOR THE YEAR ENDED 30th JUNE, 1939.

	0-1 Year.		1-5 Years.		5-10 Years.		10-20 Years.		20-40 Years.		Over 40 Years.		Total Europeans.		Total-Non Europeans.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
PRETORIA AND OTHER HOSPITALS:																
European	15	6	12	7	3	5	5	4	12	12	51	40	98	74	199	96
Non-European	22	19	14	10	8	11	17	9	58	24	80	23	-	-	-	-
MENTAL HOSPITAL:																
European	-	-	-	-	-	-	-	-	5	2	35	22	40	26	-	-
Non-European	-	-	-	-	-	1	1	1	15	10	18	10	-	-	34	22
LEPER ASYLUM:																
European	-	-	-	-	-	-	-	-	2	3	3	-	5	3	2	-
Non-European	1	-	-	-	-	-	6	3	18	9	29	8	-	-	53	20
PRISONS:																
European	-	-	-	-	-	-	-	-	-	-	3	-	3	-	-	-
Non-European	-	-	-	-	-	-	-	-	18	-	4	1	-	-	22	1
VISITORS:																
European	1	1	-	1	-	-	-	-	1	4	13	7	15	13	-	-
Non-European	4	3	3	3	2	-	2	1	10	-	7	4	-	-	29	11
TOTAL: EUROPEAN																
.....	16	7	12	8	3	5	5	6	20	21	105	69	161	116	337	150
TOTAL: NON-EUROPEANS																
.....	27	22	17	13	10	12	26	14	119	43	138	46	-	-	-	-

Table No. 8.

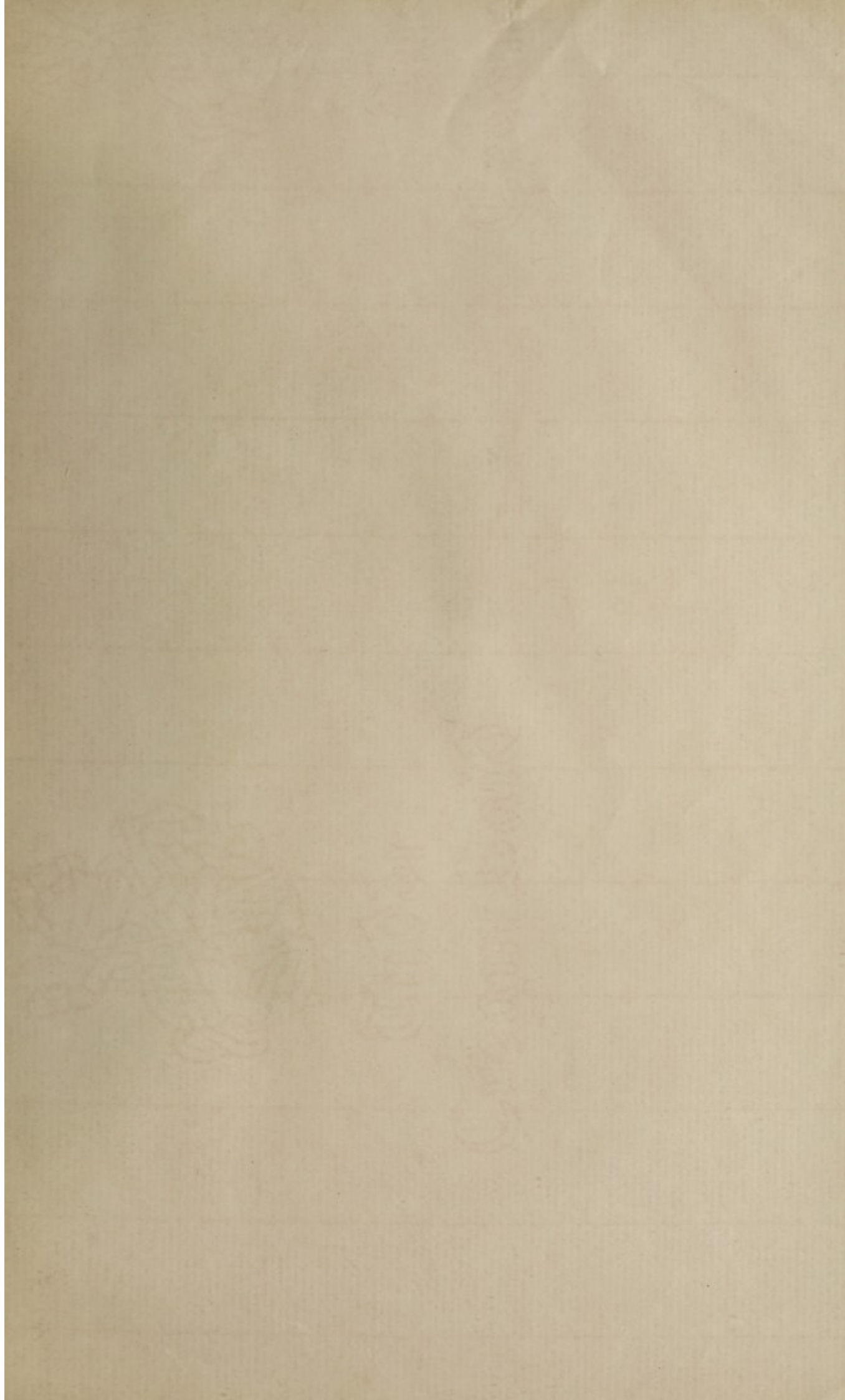
NOTIFICATION OF INFECTIOUS DISEASES: Local Cases: for the Year ended 30th June, 1939.

	0-1 Year.		1-5 Years.		5-10 Years.		10-20 Years.		20-40 Years.		Over 40 Years.		TOTALS.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
EUROPEANS:														
Typhoid Fever	-	-	1	1	1	1	3	3	5	4	1	4	11	13
Malta Fever	-	-	-	-	1	1	-	-	-	-	1	-	2	-
Malaria	-	-	-	-	1	1	1	3	4	1	2	2	15	7
Measles	-	-	-	3	8	10	5	6	1	2	-	-	14	21
Scarlet Fever	-	-	21	23	44	45	10	16	1	4	-	-	76	89
Whooping Cough	-	-	3	2	5	7	2	1	-	-	-	-	10	10
Diphtheria	1	2	14	17	4	9	3	5	4	8	-	1	26	42
Erysipelas	2	1	-	-	2	-	-	1	-	2	1	2	5	6
Polismyctis	-	-	-	1	-	-	-	-	-	1	-	-	-	2
Meningococcal Meningitis	1	-	1	-	1	1	2	-	2	-	-	-	7	1
Anthrax	-	-	-	-	-	-	-	-	1	-	-	-	1	-
Tuberculosis	-	-	-	-	-	-	-	-	3	2	4	-	9	3
Ophthalmic Neonatorum	2	1	-	-	-	-	-	-	-	-	-	-	2	1
Puerperal Fever	-	-	-	-	-	-	-	-	-	5	-	-	-	5
NON-EUROPEANS:														
Typhoid Fever	-	-	1	1	5	1	8	2	8	6	3	1	25	11
Malaria	-	-	-	-	1	-	-	1	2	-	2	-	5	1
Measles	-	-	1	-	-	-	1	-	2	-	-	-	4	-
Diphtheria	1	1	-	2	-	-	-	-	-	-	-	-	1	3
Erysipelas	-	-	-	-	-	-	-	1	-	1	2	-	2	2
Meningococcal Meningitis	-	-	-	-	-	1	1	-	-	-	-	-	-	1
Tuberculosis	-	-	3	3	-	-	2	3	10	11	11	1	26	18
Ophthalmia Neonatorum	3	1	-	-	-	-	-	-	-	-	-	-	3	1
Trachoma	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Puerperal Fever	-	-	-	-	-	-	-	-	-	3	-	1	-	3
G.C. Ophthalmia	-	-	-	-	-	-	-	-	-	1	-	-	2	-

Table No. 11.

INCIDENCE OF INFECTIOUS DISEASES FOR THE YEAR ENDED 30th JUNE, 1939.

			Typhoid Fever.	Typhus Fever.	Malta Fever.	Malaria.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria.	Leprosy.	Erysipelas.	Poliomyelitis.	Encephalitis.	Lethargica.	Meningococcal Meningitis.	Anthrax.	Tuberculosis.	Ophthalmia Neonatorum.	Lead Poisoning.	Trachoma.	Puerperal Fever.	Smallpox.	G.C. Ophthalmia.
1938:																								
July	European	Resident	-	-	-	1	3	20	-	3	-	1	-	-	-	1	-	-	-	-	-	1	-	-
		Imported	1	-	-	3	1	-	-	1	-	-	-	-	-	-	-	-	1	-	-	1	-	-
	Non-European	Resident	1	-	-	-	2	-	-	-	-	1	-	-	-	-	-	6	-	-	-	-	-	-
		Imported	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-
August	European	Resident	-	-	-	-	7	17	1	4	-	1	-	-	-	1	-	2	-	-	-	-	-	-
		Imported	1	-	-	4	-	2	-	2	-	-	-	-	-	1	-	5	-	-	-	-	-	-
	Non-European	Resident	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	1	-	-
		Imported	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	-	-	-	-	-	-
September	European	Resident	2	-	-	-	11	17	2	-	-	1	-	-	-	1	-	-	-	-	-	1	-	-
		Imported	1	-	-	2	-	-	-	1	-	-	-	-	-	1	-	1	-	-	-	1	-	-
	Non-European	Resident	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	1
		Imported	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	4	-	-	-	-	-	-
October ..	European	Resident	1	-	-	-	8	15	-	2	-	1	-	-	-	-	-	2	-	-	-	-	-	-
		Imported	3	-	-	1	-	1	-	2	-	1	-	-	-	-	-	1	-	-	-	1	-	-
	Non-European	Resident	2	-	-	-	1	-	-	-	-	1	-	-	-	1	-	10	-	-	-	-	-	-
		Imported	-	-	-	-	-	-	-	-	-	1	-	-	-	2	-	20	1	-	-	1	-	-
November	European	Resident	5	-	-	-	1	15	1	8	-	-	-	-	-	-	-	-	-	-	-	1	-	-
		Imported	7	-	-	1	-	5	-	6	-	-	-	-	-	-	-	-	-	-	-	1	-	-
	Non-European	Resident	3	-	-	-	-	-	-	2	-	-	-	-	-	1	-	2	-	-	1	1	-	-
		Imported	8	-	-	1	-	-	-	1	-	-	-	-	-	-	-	7	-	-	1	1	-	-
December	European	Resident	2	-	-	-	-	8	-	2	-	1	-	-	-	2	1	3	-	-	-	-	-	-
		Imported	5	-	-	1	-	-	-	3	-	1	-	-	-	-	1	2	-	-	-	-	-	-
	Non-European	Resident	4	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	3	-	-	-	-	-
		Imported	4	-	-	-	-	-	-	-	-	-	-	-	-	1	1	6	-	-	-	3	-	-
1939:																								
January	European	Resident	2	-	-	-	-	7	1	5	-	2	-	-	-	-	-	2	-	-	-	1	-	-
		Imported	8	-	-	5	-	2	-	3	-	1	-	-	-	-	-	-	-	-	-	1	-	-
	Non-European	Resident	6	-	-	-	-	-	-	-	-	1	-	-	-	1	-	3	1	-	-	-	-	1
		Imported	5	-	-	1	-	-	-	-	-	-	-	-	-	-	-	4	1	-	-	1	-	-
February ..	European	Resident	5	-	-	3	2	12	1	3	-	-	2	-	-	1	-	-	1	-	-	-	-	-
		Imported	7	-	-	11	-	1	-	2	-	-	-	-	-	1	1	3	-	-	-	-	-	-
	Non-European	Resident	4	-	-	1	-	-	-	1	-	-	-	-	-	-	-	5	-	-	-	-	-	-
		Imported	5	-	-	1	-	-	-	3	-	-	-	-	-	-	-	12	1	-	-	-	-	1
March	European	Resident	4	-	-	9	2	15	7	10	-	11	-	-	-	-	-	-	1	-	-	-	-	-
		Imported	4	-	-	25	-	-	-	4	-	2	1	-	-	-	-	-	3	-	-	-	-	-
	Non-European	Resident	5	-	-	2	-	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-
		Imported	8	-	-	37	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-
April	European	Resident	2	-	-	7	-	16	2	16	-	1	-	-	-	1	-	-	-	-	-	-	-	-
		Imported	3	-	-	30	-	1	-	2	-	-	-	-	-	-	1	-	2	-	-	-	-	-
	Non-European	Resident	2	-	-	3	-	-	-	-	-	-	-	-	-	-	-	7	-	-	-	1	-	-
		Imported	8	-	-	46	-	-	-	2	-	1	-	-	-	1	-	10	1	-	-	1	-	1
May	European	Resident	-	-	-	-	-	11	1	9	-	1	-	-	-	-	-	3	1	-	-	-	-	-
		Imported	1	-	-	16	-	-	-	3	-	-	-	-	-	-	1	-	-	-	-	1	-	-
	Non-European	Resident	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Imported	7	-	-	17	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	2	-	-
June	European	Resident	7	-	2	2	1	12	4	6	-	1	-	-	-	1	-	-	-	-	-	1	-	-
		Imported	2	-	-	9	-	-	-	2	-	-	-	-	-	-	1	-	-	-	-	-	-	-
	Non-European	Resident	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-
		Imported	5	-	-	10	-	-	-	-	-	-	-	-	-	1	-	9	-	-	1	1	-	-



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