[Report 1958] / Medical Officer of Health, Dartford R.D.C.

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Borough of Dartford

ANNUAL REPORT

ON CERTAIN MATTERS CONCERNING

PUBLIC HEALTH

FOR THE YEAR

1958

SUMMARY

The population increased in 1958 and although the population was only 680 more than the previous year it was the greatest annual increase since 1950 apart from when the boundary was changed. The increase was largely due to immigration.

The birth rate was slightly down on the previous year. The recent trend of a mild increase in the percentage of births at home continued.

Town deaths were the highest in number of recent years largely due to an increase in the first quarter. The number of deaths aged 75 and over increased. The practice of area assignment of institutional deaths was modified by the Registrar General.

Vaccination rates against smallpox and diphtheria were good. Revaccination against smallpox was again neglected. Vaccination against poliomyelitis became an established practice.

The number of new houses built was similar to previous years but the number built by private enterprise was the highest and the number built by the Council was lowest for recent years.

Most premises used for the preparation of food achieved the necessary standards for hygiene.

Flooding occurred in September.

The problem of dust from cement works is reviewed.

BOROUGH OF DARTFORD

Annual Report on Certain Matters Concerning Public Health for the Year 1958

TO THE MAYOR, ALDERMEN AND COUNCILLORS
OF THE BOEOUGH OF DARTFORD

July, 1960.

Sir, Ladies and Gentlemen,

I am writing to discuss the information which accrues from my annual attempt to review a year's experience of the health of the people of Dartford Borough.

POPULATION
Appendix I

The Registrar General's estimated mid year home population showed an increase of 680 which is the greatest increase of the last nine years apart from 1957 when the Borough took in more houses with a change of boundary. This increase is mainly due to immigration and only a small fraction is due to natural increase.

BIRTHS
Tables I & II

There were fewer births than in the previous year and the birth rate also dropped. However in rates of the last 8 years an upward trend seems discernible although these rates are generally below those of England and Wales. The difference from the national rate is not due to the difference in the proportion of women aged 18 - 44 years compared with the national proportion as this difference is compensated for by the comparability factor. Presumably it is due to a difference in social conditions e.g. the practice of women going out to work. Incidently it is of interest to note that the neighbouring Rural District has according to the comparability factor the same proportion of women aged 18 - 44, yet there the birth rate overtook the national rate as soon as private enterprise housing asserted its influence on that district. The number of babies born at home in 1958 was 16% which was our lowest yet. In this Local Health Authority area No. 5. the figure was 23% and in Dartford Rural District the figure was 33% having risen to our highest yet. Again these differences are no doubt due to differences in social conditions.

Table VII

The social classification of births shows much the same pattern as in former years and presents a higher percentage of social classes I, II and III and lower percentage of classes IV & V than the generation leaving us by death.

1958 will be the last year for which we shall have a social classification of births as the method of classification has now altered and years subsequent to 1958 will not be comparable with the years before. We have therefore discontinued this classification.

DEATHS
Tables I, III, IV, V, VI, VII

In 1958 the number of deaths assigned to Dartford Borough was greater than in the previous year and this increase occurred in spite of the change of practice in assigning deaths to this

district. In 1957 and previous years all deaths at the mental hospital were assigned to the Borough but in 1958 only those who had been resident here for more than 6 months were so assigned. Excluding the mental hospital the town deaths increased by 126 on the previous year and the death rate rose from 8.2 to 10.9. Nevertheless the death rate, adjusted for the age structure of the population was less than the rate for England and Wales.

The first quarter contributed the greatest number of deaths and furthermore the figure for this quarter was the biggest since the influenza of 1953. No doubt this was due to the aftermath of the influenza in the last quarter of 1957.

There was an increase of 62 in the number of town deaths of those aged 75 and over and again much of this was due to the first quarter when the deaths numbered 76 compared with 35 for the first quarter of 1957.

DISEASES OF THE RESPIRATORY SYSTEM
Tables IV, V, VII

Diseases of the respiratory system in the town increased from 47 in 1957 to 59 in 1958 and the first quarter resumed its usual role of producing the greatest quarterly figure for respiratory deaths.

		Town Deaths in first quarter	
		Respiratory disease.	All causes (compiled by pre-1953 methods)
1950		14	122
1951	Influenza A	30	134
1952		21	115
1953	Influenza A	64	173
1954		13	100
1955	Influenza B	19	132
1956		20	122
1957		15	89
1958	?Influenza A	30	153

In Bexley Mental Hospital too the greatest number of deaths from this cause occurred in the first quarter

	Respiratory disease.	All causes
1st. Quarter	22	60
2nd. Quarter	8	28
3rd. Quarter	5	29
4th. Quarter	11	32

I mention this to show that a warm enviroment - central heating etc. - does not always protect from the adversity of winter.

Aged respiratory mortality in the Town by which I mean the percentage of respiratory deaths of deaths from all causes at ages 75 and over showed nothing abnormal.

	First Quarter	Year
1955	22%	20%
1956	15%	12%
1957	20%	16%
1958	20%	16%

In Bexley Mental Hospital the figures for 1958 were 35% in first Quarter and 32% for the year.

CANCER OF THE LUNG

In 1958 cancer of the lung caused 13 deaths in the Town, the figures for the last 4 years were -

	Number	Rate per 1000 population
1955	15	0.37
1956	12	0.31
1957	10	0.25
1958	13	0.32

The death rate in 1958 for England and Wales was 0.44 and for London 0.64.

CORONARY DISEASE

In 1958 coronary disease caused 76 deaths in the Town and 15 in the mental hospital. 13 of the town deaths were under 55 years of age. The Town figures for the last 4 years were -

	Number	Rate per 1000 population
1955	71	1.86
1956	60	1.56
1957	52	1.30
1958	76	1.86

The death rate in 1958 for England and Wales was 1.68 and for London 1.84.

DEATHS FROM VIOLENCE

Motor vehicle accidents. These caused six deaths. Four were pedestrians - a male of 3 who ran in front of a motor car, a female of 54 who walked into a motor cycle and two females aged 81 and 88 who were knocked down by motor car and lorry respectively. The other two were males 16 and 32 each riding motor cycles.

All other accidents. There were eight according to our own compilation as follows:-

Male aged 20 - drowned
" " 32 - drowned
Female " 57 - carbon monoxide poisoning
" " 70 - " " "
" " 71 - " " "
" " 75 - fracture (accident at home)
Male " 79 - drowned (B.M.H.)
Female " 81 - fracture (B.M.H.)

Suicide. There were 7. 4 males aged 66, 65, 62 and 58 and females aged 60, 57 and 32.

DEATHS RELATING TO THE WELFARE OF MOTHERS AND INFANTS.

Maternal Deaths. There was none.

Stillbirths. There were 12. In 1957 there were 11 and in 1956 - 8. The stillbirth rate was less than that of England and Wales.

Neonatal deaths. All occurred within a week of birth. Causes - prematurity 7, atelectasis 3, congenital malformation 1, pneumonia 1, meningitis 1, brain injury 1 and asphyxia 1. All but 3 of these deaths occurred in hospital.

Deaths at ages 4 weeks to 1 year. There were 5. The causes were congenital malformation 2, bronchitis 1, pneumonia 1, virus hepatitis 1. The rates are much the same as England and Wales. Infective conditions played little part in their causation.

INFECTIOUS DISEASE

Virus infections

POLIOMYELITIS
Table XII

No case of poliomyelitis occurred during 1958. There were 6 in 1957. Vaccination against poliomyelitis by the Local Health Authority got under way and 6072 children of school age received two injections which is something like 70% of the child population.

MEASLES
Table XI

Measles made its expected appearance at the end of 1958 but it was preceded by several sporadic cases from April onwards.

INFLUENZA
Table XI

Influenza was not a feature of 1958.

SMALLPOX
Table XIII

Infant vaccination rates were less than in the previous year and this change also occurred in the rest of the county. This lowering of the vaccination rate was perhaps related to the introduction of vaccination against poliomyelitis into the routine immunisation procedures. The percentage of births of those vaccinated at the age of under 1 year was 63% in 1957 and 52% in 1958. In England and Wales the figures for these two years were 43% and 45%. Perhaps these differences in trend were due to the fact that in 1957 smallpox occurred in London whereas in 1958 it occurred in Liverpool.

Revaccination of school children is still negligible. As I have mentioned in previous reports this is of importance here in view of the presence of a smallpox hospital within our boundaries.

Bacterial infections

DIPHTHERIA
Table XIII

The infant vaccination rate was much the same as the previous year and so was the percentage of children

under 5 years of age who had obtained immunity. The latter figure was appreciably less than that of the Rural District.

WHOOPING COUGH
Table XI

Only 4 notifications were received in 1958 compared with 75 in 1957. 738 children, mostly infants, received primary vaccination against whooping cough. It is not possible to compare the vaccination figures with previous years as 1958 is the first year we have received them.

DYSENTERY
Table XI

4 cases occurred in a mental hospital, 3 Sh. flexneri and 1 Sh. schmitzii.

FOOD POISONING

There was none.

TUBERCULOSIS RESPIRATORY
Table XII

The total number of notifications received in 1958 was the lowest in recent years and the figures taken in conjunction with the increasing population indicate a downward trend. As usual males of middle age and over are a noticeable feature. Almost half of the cases notified were infectious. Although 27 were added to the register by notification 16 were removed as recovered. With other amendments the number on the register slightly diminished from the previous year. Further details are given in the tables.

TUBERCULOSIS
NON-RESPIRATORY
Table XII

The number on the register shows little change. Details of the cases are given in the tables.

CHEMICAL POISONS

LEAD FROM SCRAP
BATTERY CASES

The use of discarded battery casings for domestic fuel has caused lead poisoning in this and other countries. In children the poisoning is incurred through the pollution of their hands and food with the ash which may also gain access to the body through being inhaled as dust. In 1958 in Dartford Rural District inquiries into a source of atmospheric pollution at a piggery revealed that scrap battery cases were being used as fuel and that the ash from this fuel contained 4.1% lead. In view of the risks involved the dealer who supplied the battery cases who traded in Dartford Borough agreed to dispose of this scrap on this Council's controlled tip in order to prevent it being used as fuel. Unfortunately however although the Cleansing Committee wished to refrain from charging for the acceptance of this trade refuse they had no power to do this formally and this gave rise to difficulty.

LEAD ARSENATE IN APPLES

Sprays of Lead Arsenate are widely used in agriculture and in the absence of rain at the right time a residue may persist on fruit. This has been recognised by some producers who wash their fruit in a weak solution of hydrochloric acid before marketing it.

In February 1958 we were informed that imported apples had been delivered to a wholesaler and retailer in Dartford Borough and that samples of the same consignment had shown 1 - 10 p.p.m. arsenic and 6 - 30 p.p.m. lead. Samples taken locally showed similar results. Most of the cases of apples, i.e. all that it was practicable to return, were withdrawn from the shops and sent back to the suppliers who arranged for them to be washed. Subsequently the following statement appeared in the Monthly Bulletin of the Ministry of Health:-

"Apples recently imported from certain Mediteranean and Middle East countries have been found to have surface contamination of excessive amounts of lead and arsenic derived from insecticidal sprays. The trade has co-operated with local authorities to protect the consumer against any toxic hazard by having the fruit washed before it is distributed or retailed. A few firms are able to wash large consignments and to repack the fruit for the distributors.

Contamination has been found to vary within wide limits, even in the same case of apples, and it may be that some contaminated fruit has escaped detection before retail sale. The elementary hygienic practice of washing all fruit before eating affords adequate protection from any hazards to the consumer: peeling and coring provide an added safeguard.

The Ministry of Health and the Board of Trade have made representations to the exporting countries concerned and urged that the fruit should be inspected and washed when necessary, before it is shipped. Washing of fruit before marketing has been the practice of North American growers for many years.

Since this statement a limit for arsenic of 1.0 p.p.m. has been provided by statutory regulations.

ACCIDENTS IN THE HOME

Table XIV

The hospital admissions suggest a reduction on former years. Two of the cases of poisoning were due to coal gas. Fractures resulting from falls of aged persons were followed by death in three admissions. Scalding from boiling fat kept a 2 year old in hospital 7 days. A burn from an electric fire kept an adult in hospital 42 days.

Cases not admitted to hospital whose deaths occurred at home included two cases of coal gas poisoning.

RECORDS

The records department of the Dartford group of hospitals now have established the practice of

classifying and recording admissions due to accidents in the home. The classification is in accordance with the international code of practice and is in accordance with the type of accident and the type of injury. Interest in home safety is increasing and so far as records are concerned the next step is also to record cases treated in the casualty department but not admitted to hospital but before this additional work is contemplated we should first see the use to which the existing information can be put. Until we can ensure that the information is going to be put to practical use we should not be too ready to involve others in additional records.

ENVIRONMENTAL MATTERS

HOUSING Appendix II

The number of houses built was much the same as in previous years, the trend however of increase in the proportion built by private enterprise continued. The number of applicants for council houses was about one hundred less than the previous year. The number of unfit houses demolished was 16 compared with 68, 24 and 14 in 1955, 1956 and 1957.

WATER Appendix II

The full details of the bacteriological analyses of wells of the Metropolitan Water Board supplying this area are given in view of the fact that this district contributed to the gathering ground for this water and should be kept under observation for evidence of pollution.

FLOODS

On the evening of 5th September thunderstorms of exceptional severity developed over Southern England. In this district during the 24 hours ended 9 a.m. 6th September there were 4 inches of rain. There was serious flooding of fields and houses, some of which had to be evacuated, sewers were overloaded and sewage and flood water erupted through the manholes fouling the surrounding areas. Although flood water entered several of the Metropolitan Water Board works the protective measures, such as the sealing of well tops, prevented flood water gaining direct access to any of the wells. The exception was at Southfleet where the well was out of use on account of installation of new machinery. However, polluted flood water did gain access to the water stored in the chalk, the evidence of this being the deterioration in the standard of the water drawn into some of the wells but owing to chlorination no unwholesome water was pumped into supply. At Green Street Green the quality of the raw water was such that it had to be pumped to waste for six days until the quality of the raw water improved and as this station supplies Southfleet service reservoir which was flooded and which is also supplied by the Southfleet pumping station which was then out of action, certain consumers in that part of the district had to be supplied by tank waggon by the Metropolitan Water Board from the 11th to the 17th Deptember.

At Dartford the pumping station yard was flooded by the rainfall which could not get away and also by river water and sewage from the surcharged sewer which entered the works from Overy Street. The floor of the pumping station was covered to a depth of six inches and pumping was stopped at 8.15 p.m. on Friday, September 5th. On the following day water from the well was pumped to waste and a sample taken. This was found to be satisfactory and on Sunday the 7th pumping into supply was resumed.

We are obliged to the Metropolitan Water Board for supplying us with the above information. The abnormal analyses resulting from flooding are excluded from the yearly summary.

MILK AND ICE CREAM

These two foods which in previous years were a cause of illhealth have been subject to increasing statutory control to ensure their safety. Since 1947 ice cream has been required to be made from pasteurised materials and since 1956 only designated milk which can pass prescribed safety tests may be sold here.

Not all the ice cream samples taken in this Borough in 1958 satisfied the prescribed tests but of 41 milk samples taken all did.

It will be seen from the Chief Public Health Inspector's report that 73 visits were made to ice cream premises.

SMOKE CONTROL

In 1958 proposals were made for smoke control areas to be created in that part of the town where the housing was such that adaptations could be effected with least difficulty which was both expedient and in accordance with the Ministry's recommendations. In planning smoke control areas we tend to think entirely in terms of fireplaces and chimneys and the desirability of placing smoke control areas where the residents are aged, the incidence of damaged lungs highest and the buildings most congested tends to be overlooked.

DUST FROM CEMENT WORKS

(a) Administrative Features

THE YEARS 1930-45

Atmospheric pollution lends itself to study over a wider area than this District and discussion of dust from cement works has been omitted from previous reports in view of the reports by the Thames-side Joint Committee to which reference can be made. However, it may now be useful to sketch the position regarding dust from cement works so far as it is known to me at the office desk.

The nuisance caused to the general public by this dust had been the subject of comment for many years before the last war and there is one oft quoted case which occurred about 1932 when a market gardener received satisfaction after action had been started in the Courts for damages caused by this dust.

The installation of electrical precipitators to arrest the dust from cement kilns began in 1933 and after 1935, when cement works were brought under the influence of the Alkali etc., Act, all new works were fitted with electrical precipitators which were also provided for certain kilns operating before 1935. During the 1939-45 war certain kilns along Thames-side were out of production, there was a suspension of the policy of progressive installation of precipitators and a deterioration of those already in use. Dusty pollution of the atmosphere was encouraged for defence purposes.

After the war the need for cement led to an increase in production at a time when dust arrestment plant was in disrepair and new plant and spare parts were unobtainable owing to a shortage of steel. Thus the dust nuisance was accentuated.

LOCAL GOVERNMENT ACTION

In 1947 Dartford Rural District Council and Swanscombe Urban District Council convened a conference of Thames-side local authorities to discuss this nuisance and this conference appointed an Investigation Committee. This Committee found, amongst other things, that the cement industry was taking the best practicable means to abate the nuisance but was hindered by non-delivery of the necessary plant and consequently the Committee asserted their influence on the Ministry to release the necessary steel. There was, however, one case where there was a difference of opinion with the Chief Alkali Inspector in that at certain works the Committee thought that the absence of electrical precipitators for structural reasons was not justified; twelve years later following technical advances these precipitators were being provided.

In 1949 after amendment by a further conference of Thames-side local authorities, the report of this Committee was formally presented to the Parliamentary Secretary

to the Ministry of Health in the presence of three Members of Parliament.

In 1952 the Thames-Side Advisory Committee for the Abatement of Atmospheric Pollution was formed. However in consequence of dry weather and disrepair of five precipitators the dust nuisance was again accentuated and in 1953 a further conference of local authorities was called. This conference requested the Minister to hold a public inquiry to find what further steps should be taken to abate the nuisance and the same year a Towns Meeting at Dartford supported this request. However the Minister did not consider that a public inquiry would be of any practical assistance. In 1955 the Thames-side Advisory Committee was succeeded by the Thames-side Joint Committee who, in 1957, made a further approach to the Minister for a public inquiry which received a similar response. Early in 1959 a public hearing to inform the public rather than the Minister was under consideration.

PARLIAMENTARY ACTION

The question of this nuisance has been raised in the House in 1947, in 1953 and on other occasions. The local Members of Parliament have been closely associated with local government action in all its phases. The Parliamentary Secretaries of the Ministry of Health of two governments have visited the area and so also has the Parliamentary Secretary of the Ministry of Housing and Local Government. The Investigation Committee of 1947 produced a petition of almost 5,000 signatures and in 1954 the officers of the Ministry of Housing and Local Government received a deputation from the Thames-side Advisory Committee which presented a petition of 32,000 signatures. In 1955 suggestions were made to the Members of Parliament for amendments to the Clean Air Bill with the intention of bringing the cement industry under more effective and more local control. In the 1959 General Election the problem became a political issue although the emphasis on a parliamentary remedy varied inversely with the candidates' chances of return.

PLANNING

Two fifths of the United Kingdom supplies of cement are manufactured in the Thames-side area but about 1944 it became the policy of the government and the industry for all new cement works to be sited elsewhere. In 1952 the local cement industry obtained planning permission which would enable them to obtain chalk in the Thames-side area for another fifty years.

LAW

Common Law

"If atmospheric pollution is believed to cause a 'nuisance at common law', an action may be brought, in a County Court or the High Court, for damages and an injunction to restrain the defendants from committing the nuisance....When an injunction is granted, the offender must stop the nuisance or be liable to more serious penalties." No doubt the Court will be influenced in its judgement by whether the best practicable means are being taken to prevent the nuisance occurring.

Statute Law

The Clean Air Act, 1956, and Alkali etc., Works Regulation Act, 1906, require owners of cement works to use the best practicable means to prevent the escape of grit and dust. This refers not only to the provision and efficient maintenance of appliances adequate for preventing such escape but also to the manner in which such appliances are used and to the proper supervision by the owner of any operation in which such grit and dust are evolved.

Air pollution from cement works is subject to control by the Minister through the Chief Alkali Inspector, who is the expert with a wealth of experience and with a responsibility to the public. Local authorities may take proceedings under the Clean Air Act regarding dust from cement works but must first obtain the consent of the Minister which will only be forthcoming in exceptional circumstances.

Numerical Limits

English law provides no statutory numerical limit to the amount of dust that may be emitted from industry. In the United States of America certain cities do have Ordinances which prescribe a limit to dust emission. The city of St. Louis limits the emission of fly ash to 0.45 grains per cubic foot of flue gas. Los Angeles provides a scale which varies in proportion to the total weight of raw material used up to a maximum discharge rate of 40 lbs./hour but Los Angeles burns no coal and has no cement factories. (Report Cmd.9322 - 1954.)

In the Federal German Republic tentative limits have been devised for the emission of dust from new cement works (V.D.I. 2092 - 1959) and the amount permitted is expressed as a percentage of clinker production. This is the mean of six percentages provided by reference to tables assessing

1) type of locality,
2) amount of clinker production,
3) distance from sensitive neighbours,
4) chimney height
5) land contours
6) meteorological conditions.

The figure for a new works with 300 foot chimney at Thames-side would be $\frac{1}{6}$ (2 + 0.5 + 0.25 + 1.6 + 0.75 + 0.75) = $\frac{5.85}{6}$ = .98 = about 1.0% production and this figure should rarely be exceeded although double i.e. 2.0% will be allowed in exceptional circumstances. This figure is not as good as that already being achieved here.

(b) Technical Features

METHODS OF MANUFACTURE

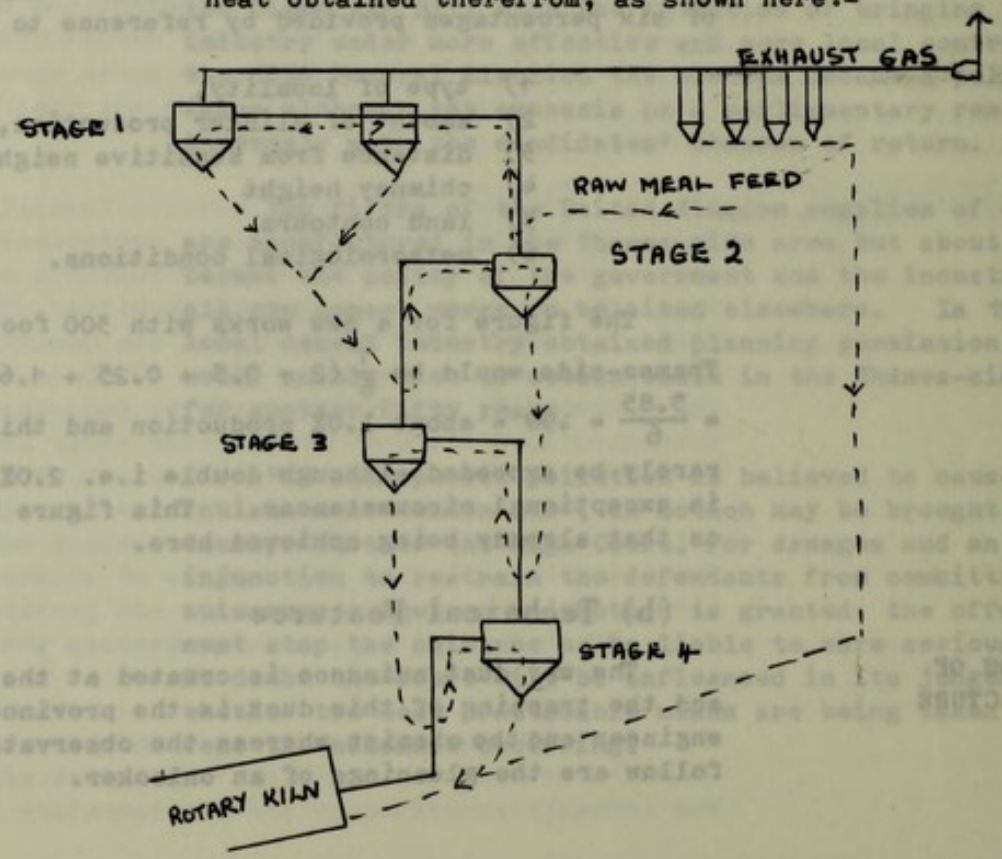
The way dust nuisance is created at the cement works and the trapping of this dust is the province of the engineer and the chemist whereas the observations which follow are the gleanings of an onlooker.

Kilns

The origin of the dust that affects the general public is in the kilns wherein the furnace creates cement clinker out of the raw materials. Cement can be manufactured either in vertical kilns, which are stationary and have a rotating grate or in rotating kilns slightly inclined to the horizontal. The more common method is the rotary kiln using one of three ways by which to introduce the raw materials; the wet, the semi-dry and the dry. In the wet method the raw material enters in the form of a slurry containing 40% water; in the semi-dry method it enters as nodules containing 12% water.

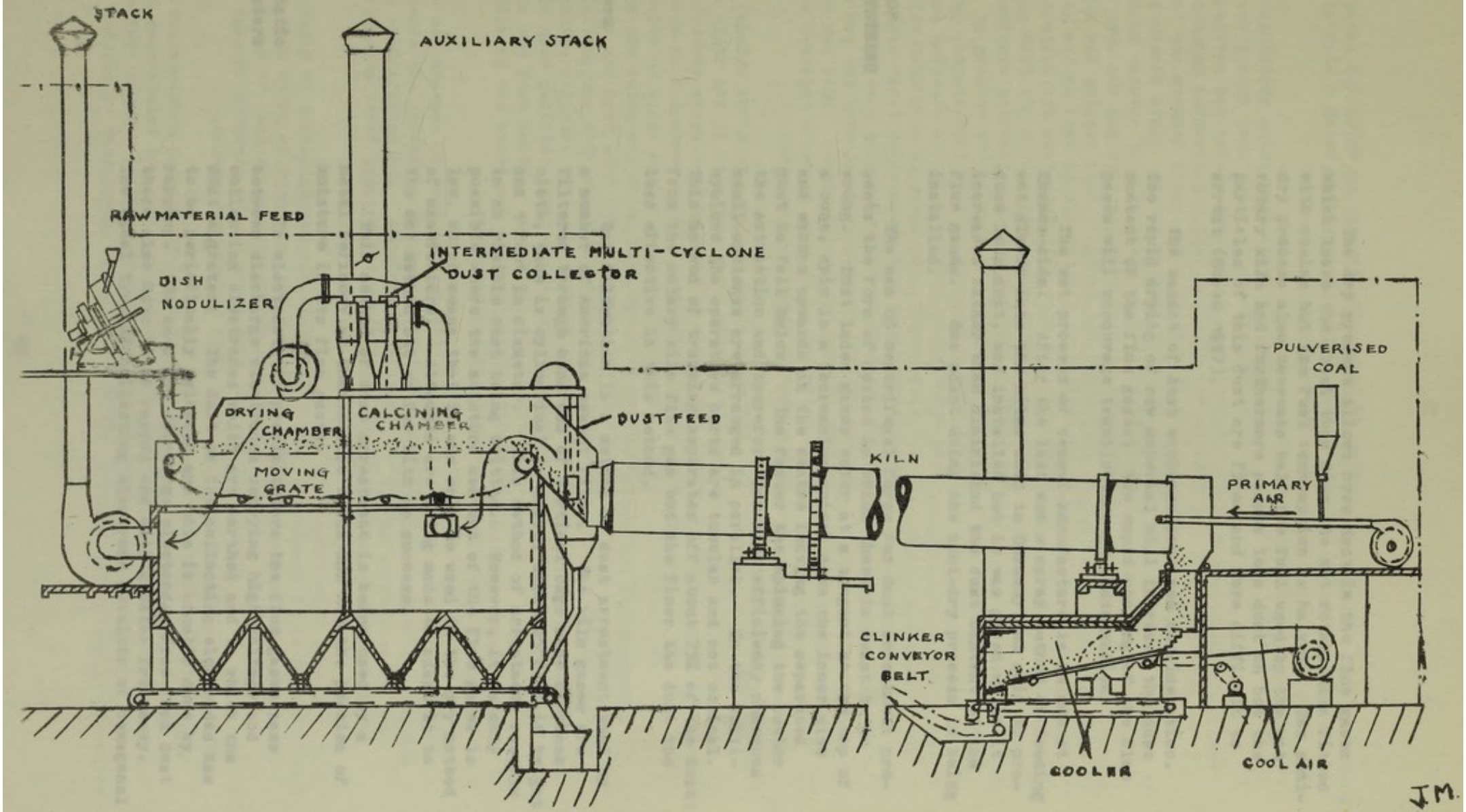
Heat Exchange

The raw materials are cold and have to be roasted and therefore it is expedient for the heat of the flue gases to be utilisedto give up some of their heat as they pass the entering raw materials and it so happens that methods of heat exchange are complementary to dust arrestment. In the wet method the cooler part of the kiln is festooned with chains which provide a curtain of slurry for the exchange of heat and trapping of dust. In the semi-dry method the nodules enter the kiln from a moving grate and the flue gases pass through the layer of nodules before the latter enter the kiln and are again passed through the bed of nodules at the cooler part of the grate where the raw materials enter (see diagram). These arrangements both exchange heat and trap dust. In one dry method the powdery raw material enters the first of a series of cyclones i.e. the last through which the flue gases escape and from the hopper of that cyclone it enters the inlet of the next cyclone and so on until from the hopper of the cyclone nearest the kiln the raw material enters the kiln together with the arrested dust of the flue gases and the heat obtained therefrom, as shown here:-

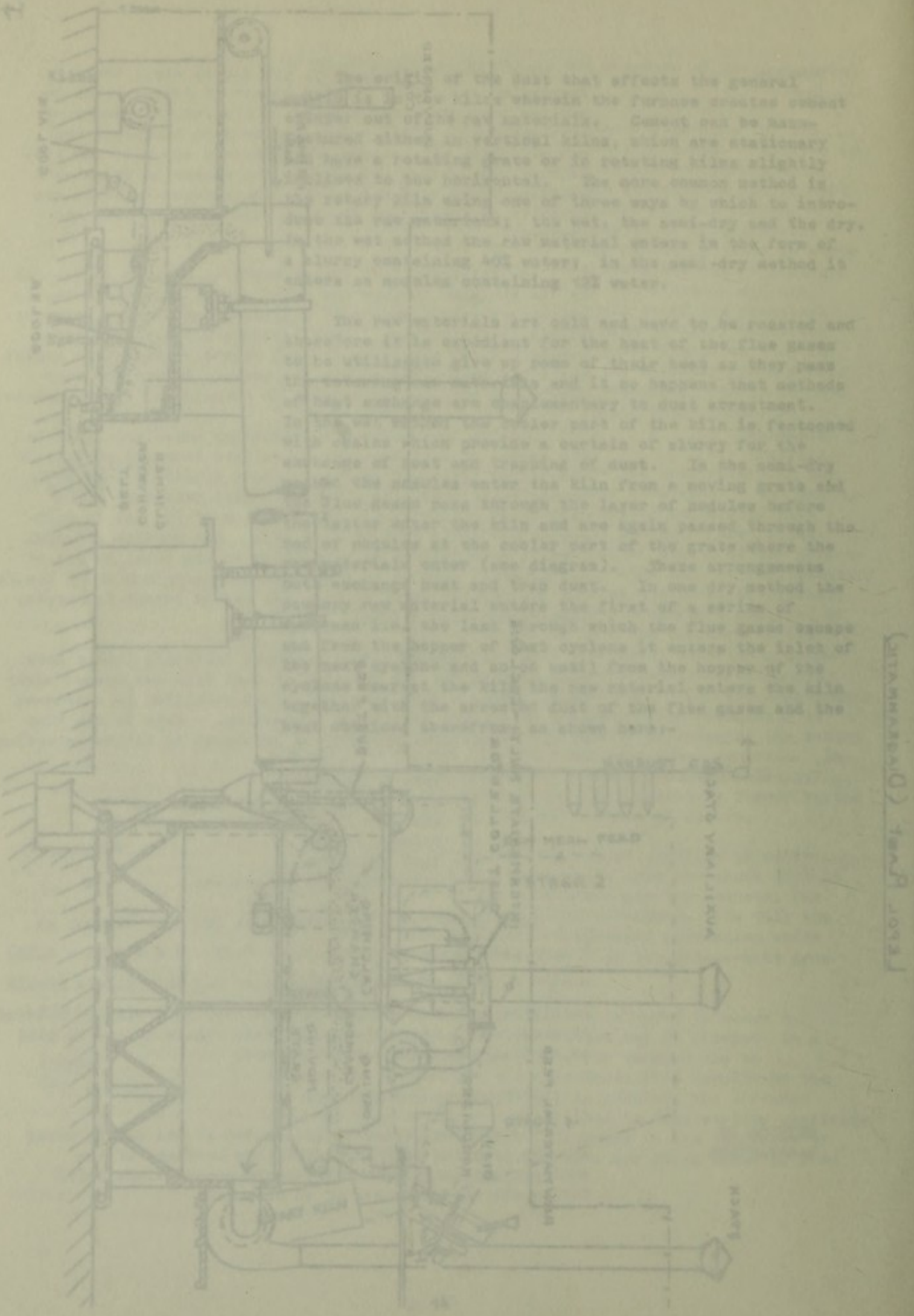


THE SEMI-DRY PROCESS OF CEMENT MANUFACTURE

LEPOL PLANT (DIAGRAMMATIC)



JM.



The dry process allows more dust in the flue gases which leave the plant than does the wet rotary kiln fitted with chains but the fuel consumption is halved. The semi-dry process also consumes half the fuel used by the wet rotary kiln and furthermore passes less dust on but the particles of this dust are finer and more difficult to arrest (Burke 1957).

The amount of heat exchange requires consideration. Too rapid drying of raw material will increase the dust content of the flue gases; too rapid cooling of the flue gases will encourage trouble through condensation.

The wet process of cement manufacture is in use at Thames-side. After the last war a spray method of feeding wet slurry into the kilns used in Germany and said to produce less dust, was installed but it was given up as it increased rather than diminished the dust content of the flue gases. One plant using the semi-dry process is being installed.

METHODS OF DUST ARRESTMENT

The use of centrifugal force for dust arrestment presents the form of device in which there is least to go wrong. Dust laden gases enter at a tangent at the top of a cone, spin in a decreasing spiral down the inner side and escape upwards in the centre leaving the separated dust to fall below. The faster the spinning the better the extraction and therefore for high efficiency numerous small cyclones are arranged in parallel. In the multi-cyclone the operative parts are tubular and not conical. This method of trapping separates off about 75% of the dust from the rotary kiln flue gas but the finer the dust the less effective is this method.

Cyclones

Bag filters

Bag filtration is a method of dust arrestment used by a number of American cement firms. The kiln gases are filtered through hundreds of vertical bags made of glass cloth, each is cylindrical in shape, about 25 feet in height and 1 foot in diameter. This method of arrestment results in no visible dust being emitted. However, it is only possible where the moisture content of the flue gases is low, which means that it can only be used in the dry method of manufacture. Attempts are being made to adapt it to the wet method but so far with no success.

This method of dust arrestment is being used by a metal refinery at Thames-side which has not the problem of moisture in its flue gases.

Electrostatic Precipitators

In electrostatic precipitators the flue gases pass between discharge electrodes carrying high voltage and collecting electrodes which are earthed and to which the dust migrates. The dust on the collecting electrodes has to be periodically released and this is usually done by rapping. To keep the discharge electrodes free from dust these also have to be rapped and with greater frequency. The usual type of collecting electrode consists of hexagonal

tubes 10 inches in diameter up which the gases flow vertically, the discharge electrode being a wire or rod down the centre.

Modifications

The cement industry have tried modifications in the collecting electrodes to which they have given the form of rod curtains, corrugated plates and sectionalised plates, all of which take a horizontal gas flow. The practice of rapping with impact hammers has been modified to the use of vibrators and for plate electrodes by cam-operated springs. Scavenging of tubular collecting electrodes by high velocity flue gas has been the subject of experiment and study. With rapping the rate has had to be studied so that it can be kept as low as possible in order that the dust will fall from the collector as a sheet and further entrainment with the flue gases avoided. The trend is for batches of collecting electrodes to be operated independently so that the working of the electrostatic precipitator is divided into stages, each stage being operated in harmony with the changing dust content of the flue gases. As there is an optimum voltage at which precipitators work and above which flash-over occurs between discharging and collecting electrodes an automatic voltage control to prevent flash-over and yet maintain optimum voltage has been devised. Each new arrestment plant installed is in some respects regarded as a trial with a view to improving technique.

Problems

The white plume emerging from the chimney stack is steam albeit with dust particles in its train and as this steam represents 40% of the flue gases corrosion is an ever present problem. It is essential to keep electrostatic precipitators near to the kilns in order that the flue gases will not fall below dew-point and cause short-circuiting and corrosion and this need has created difficulties in providing old kilns with new precipitators. Unfortunately, however near the kiln the precipitator may be inleaks of air create local chilling with the resultant condensation and corrosion. Steel work has therefore to be avoided where possible and where not possible a corrosion resistant coating provided.

Thus it will be seen that to operate the electrostatic precipitators precision, supervision, adjustment and continual study are required. The permutations and combinations of the factors influencing their effective use are numerous.

To accommodate the possibilities of break-down precipitators are best arranged in pairs used in parallel so that when a defect appears in one, it can be shut down and all the flue gases can be directed through the other until the former is back in service.

Cost

The cost of an electrostatic precipitator is £60,000 and the annual cost for power and maintenance £2,400 and £600 respectively (Burke 1957). Since 1945 the Thameside cement industry has spent over £1 million on providing

and maintaining electrostatic precipitators. All the works at Thames-side have been provided with this form of arrestment with the exception of one small kiln on the north side of the Thames and one works with four kilns on the south which is now being equipped.

Standard of dust arrestment

In discussing the efficiency of arrestment plant percentages are quoted of the flue gas dust which can be arrested. These may be misleading as the percentage of dust arrestment varies with the dust burden and the size of the dust particles. Electrostatic precipitators require artificial draught and this causes more dust to be drawn out of the kilns into the flue gases than when the kilns are on natural draught. What matters is the amount of dust leaving the plant and its percentage by weight related to the cement clinker produced. This is more useful as a guide as it takes into account the amount of dust produced as well as the amount arrested. The table (Löbner 1954) shows that the semi-dry process of manufacture even if associated with only 75% dust arrestment, has the lowest dust emission in relation to the clinker produced. It produces less dust than certain rotary kilns equipped with precipitators arresting 95% of the dust burden, since its dust burden is appreciably lower. An arrestment plant of 75% efficiency has five times the "slip" of one with 95%.

In assessing the discharge of dust and grit from a chimney it is advisable to consider all the following together:

(a) The percentage escape ("slip") relative to the inlet quantity of suspended matter.

(b) The total weight of escape in, for example, lbs./day.

(c) The concentration of solid matter in the effluent gases in, for example, lbs. per million cubic feet.

(d) The size grading of the escaping dust. Sizes less than 0.020 mm. do not fall to ground. (Report Cmd.9322 - 1954).

The 1947 Investigation Committee were of the opinion that an average arrestment of 95% by electrostatic precipitators was the best that in practice could then be hoped for, perhaps 98% is more appropriate now. The Committee on Air Pollution (1954) considered that even with precipitators working at full efficiency it is problematical whether dust emission from cement manufacture can be kept below a rate equivalent to 0.5% of the cement made.

Water Washing

"Regarding water washing, this is an excellent method of dust arrestment, but because of secondary difficulties we hesitate to recommend it. It was tried out at our request on a full scale at a works (not on Thames-side) and was efficient. The difficulty was that the specially designed washer was rapidly corroded and virtually dissolved

DUST EMISSION AT CEMENT WORKS WITH DUST ARRESTORS

(After Ihlefeldt, Löbner 1954)

Type of Dust Arrestor		Type of Furnace		A	B		C			
				Production kilogram/ hour	Dust content of raw flue gas		Dust content of de-dusted flue gas		Dust arrested kg/hour B-C	Degree of dust arrest-ment as % $\frac{B-C \times 100}{B}$
					kg/hour	% of A	kg/hour	% of A		
German	Presumable translation	German	Presumable translation							
Zyklon	Cyclone	Schachtofen	Vertical kiln (dry process)	6,772	146	2.2%	51	0.8%	95	65%
Rotex		Schachtofen	Vertical kiln (dry process)	4,685	161	3.4%	43	0.9%	118	74%
Elektro-Ent-Staubung	Electrostatic precipitation	Drehofen, nass, mit Ketten und Einspritzung	Rotary kilns with chains and spray feed (wet process)	9,900	2,888	29.2%	148	1.5%	2,740	95%
Multi-aerodyn		Drehofen, nass, mit Kalzinator	Rotary kilns with calcinator (wet process)	15,000	2,100	14.0%	314	2.1%	1,786	85%
Abas-Doppel-Enstauber		Lepolofen	Lepol kiln (semi-dry process)	7,640	358	4.7%	89	1.2%	268	75%
Zyklon (Eigenbau)	Cyclone (Special type)	Lepolofen	Lepol kiln (semi-dry process)	9,225	500	5.4%	157	1.7%	343	69%

away. On Thames-side a modified method was applied for several years to emissions from two kilns at the Kent Works in spite of serious corrosion troubles. The practice was stopped early in the war at the request of the Defence Authorities who objected to the conspicuous, dense, white plume of steam. During the war the wash towers fell into a state of decrepitude and it was then decided to replace them by electrical precipitators."

This statement was made by the Chief Inspector of Alkali etc., Works to the 1947 Investigation Committee. Is the difficulty of corrosion as great to-day? The Battersea Power Station has had corrosion difficulties in washing sulphur dioxide from its flue gases but the process is, so far as I know, still in operation.

DISPERSAL

Chimney height, chimney design, the number and position of chimneys in relation to buildings and hills determine the way the flue gases will be dispersed. The height of the stack, its diameter, the heat and velocity of the flue gases and their dust content, all determine what the maximum dust concentration on the ground will be and formulae using these factors are available for calculating this concentration.

The cement industry has aimed at increasing dispersion by increasing chimney height, presumably with a view to lowering the maximum ground concentration. The influence of chimney height on dispersal can perhaps be illustrated with the garden hose which is inclined upwards to water the lawn and is levelled to cleanse the path. Increasing chimney height receives approval but should it? Is there not too ready an assumption that effluvium containing dust should be treated in the same way as effluvium which is gaseous? The dust nuisance here is in the main due to dust particles large enough to be influenced by gravity and maximum concentration can only be reduced by increasing dispersion and spreading the nuisance over a greater area. For this size of particle what goes up must come down. Is there not a case for reversing this policy and requesting the industry to restrict dispersal? This could be done by lowering chimney height, increasing the number of chimneys and cooling the flue gases by water washing which would not only remove sulphur oxides but as we have seen, would be an effective method of dust removal.

The area neighbouring the cement works can be regarded as industrial and the development is in the form of a ribbon along the Dartford - Gravesend road. Decreased dispersion with water washing would mean that it would probably receive no more dust than at present. Elsewhere for about a mile around the cement works are open spaces, the river or barren chalk pits where dust will trouble no one and whereon it seems logical to concentrate the dust deposit.

The reason why this is not done may be that the dust emitted from the chimneys of the cement works contains not only large particles under the influence of gravity but also

particles small enough to be permanently suspended in the air which only adhere to objects after being brought down by turbulence or by cold ground temperature, for instance in times of fog. For purposes of dispersal the larger particles should be treated as solids while the minute particles should be considered as a gas, thus with this variation in particle size the problem of dispersal is complex.

(c) Effects

DEPOSITED DUST

The Investigation Committee of 1947 carried out surveys which measured the dust deposit in the neighbourhood of the cement works and used its calcium content to indicate origin.

The standard practice for the analyses of the contents of deposit gauges is for the soluble calcium content to be estimated. This practice for the 23 deposit gauges of the Thames-side Joint Committee, however, is supplemented by an analysis of the total calcium content from which the amount of dust from cement works is estimated. The records of the Thames-side Committee therefore show the amount of dust from cement works that has fallen over Thames-side since 1954.

The noteworthy deposits of dust from cement works appear in the gauges within about three miles of the works. As percentages of deposits from other sources the following are approximate averages of six monthly deposits from April 1954 to March, 1959:-

Gauge	Distance of nearest cement works	Ratio of dust from cement works to other deposits
Horns Cross	¼ mile	175%
Swanscombe	¼ mile	150%
Northfleet	¼ mile	125%
Dartford central	2½ miles	50%

The deposit in these industrial areas from sources other than cement works is about 100 tons per square mile every six months. Thus, at Horns Cross there is in addition 175 tons per square mile of dust from cement works every six months.

There are variations over this period but although generally the pattern is one of no change, an upward trend is now discernible. However no figures of cement production are available and it may be that while cement production has gone up dust emission has remained almost stable.

SUSPENDED DUST

Suspended dust may be capable of absorbing gaseous air pollutants most of which are the acid oxides of sulphur and being alkaline the dust here might have a neutralizing

action. Deposited dust renders the contents of the deposit gauges alkaline and similarly suspended dust in a humid atmosphere may neutralize acid gaseous pollution. Whether this sort of action occurs in sufficient degree to be protective is a matter for conjecture but the only gauges we have whose readings may reflect this are the lead peroxide and volumetric gauges. The lead peroxide gauges do register lower readings in the cement making districts than elsewhere but this can be explained by these districts being more open. The volumetric gauge at Greenhithe shows a lower daily average than elsewhere but again this can be similarly explained.

HEALTH

Indirect Effect

On dry, still days the dust forms a haze which interferes with the penetration of sunlight but such a haze is limited to a defined area which changes with a breeze. The dry, drab greyness evident in the district is said to be depressing but generally this is cleaned away by rain. Indirectly, the dust interferes with ventilation as it compels the housewife to keep her windows shut.

All, including the cement industry, are agreed that the dust is annoying. However any nuisance is tolerated better if it is known that it is not the product of thoughtlessness and that everything possible has been and is being done to keep it down to a minimum. It is therefore essential that not only should the best practicable means be taken towards this end but that it should be seen by the public that this is being done. For this purpose words alone will not suffice - perhaps a permanent public exhibition giving technical information on the problem would be a worth while contribution to understanding.

Direct Effect

To estimate the effect on the lung one needs to get down to the physics, chemistry and biology of the interrelationship between the particles of dust and the minute air sacs, such as is the practice in studying industrial dust hazards. Such meticulous study is hardly within our resources.

One can theorize that the dust is harmful, one can theorize that it is beneficial.

Of the cement works flue dust 30% has a particle size of less than 5/1000 mm., and will therefore be suspended and it is this suspended dust which if biologically harmful is going to cause lung damage.

The dust may be a vehicle for the transmission of the organisms of infection. It is perhaps mildly caustic.

On the other hand, although silicates are present the amount of free silica in the dust is negligible. Presumably the dust is capable of neutralizing the harmful acid constituents of industrial and domestic pollution. The deposited particles which cause nuisance are too big to be taken into the lungs in respiration. The dust consists of chalk and clay, about 3:1 with some of the

chalk calcined; this type of material has been used experimentally as a protective dust against lung disease.

By and large the dust seems to be inert and in insufficient quantity to have any direct effect on the health of the general population.

Recently, with the co-operation of the Thames-side cement industry it has been shown that chromic oxide in clay is oxidised at the furnace end of the cement kilns to hexavalent chromium and that this might cause allergic reactions in a small fraction of susceptible workers handling cement (Johnston 1958). It may be of interest to know if any significant amount of hexavalent chromium is present in the dust emitted with the flue gases.

Standardised mortality ratios for cancer of the lung and crude death rates for respiratory disease in the Thames-side area provide no indication that this dust is injurious to health but the number of deaths in the area is small for statistical analysis. The health records of the cement industry, I gather, are good and the records of mass-radiography both in the industry and the neighbouring general population show no undue incidence of respiratory disease.

The late Reverend Stanley Morgan said at the 1947 Conference of Local Authorities that in a survey of the problem around 1911 "We could not get enough evidence that there was any damage to health to the district from 'cement dust'. To put it pithily, the churchyards were against us and the burial register did not aid us".

That is about the position to-day.

SUMMARY

The problem of dust from cement works is discussed not with the purpose of attempting to show the way to a remedy but with a view to giving an idea of its nature.

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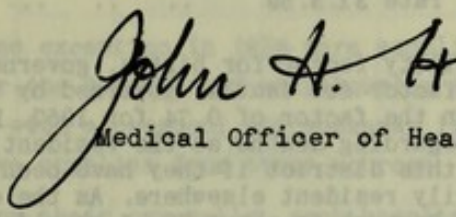
ACKNOWLEDGEMENTS

I wish to thank the Chairman and Members of the Public Health Committee for their interest and support, the staff of this department for their willing co-operation and a number of colleagues for providing information for this report. Out thanks are also due to the Borough Treasurer's department for their skill and patience in the printing.

I am, Mr. Chairman, Ladies and Gentlemen,
Your obedient Servant,



Medical Officer of Health.

APPENDIX I

Social Conditions

Area (acres) 1958		4,292
Population (Census 1931)		28,928
Population (Census 1951)		40,544
Mid-year home population 1958 (Register General's estimate)		43,140
Number of dwellings (items 1,2,3,6 and 13 of Table 1 of Abstract of Accounts)	31.3.58	12,858
	31.3.59	13,156
Rateable value 31.3.58		£609,152
Rateable value 31.3.59		£624,472
Sum represented by 1d. rate 31.1.58		£2,475
Sum represented by 1d. rate 31.3.59		£2,474

The 1958 comparability factor for births, governed by the proportion of women aged 18 to 44 years is 0.98. The factor for deaths, governed by the proportion of all age groups is 0.76 which is an increase on the factor of 0.74 for 1957. Presumably this increase is linked with a change in practice regarding deaths at the residential institution which from 1.1.58 are no longer assigned to this district if they have been resident in the institution less than six months and ordinarily resident elsewhere. As the consequent reduction in institutional deaths assigned to the Borough is about 70, I should have expected the factor to have been increased to more than 0.76. The crude birth or death rate of any local area multiplied by its comparability factor is said to make it comparable with the crude rate for England and Wales and with any other local area which has been adjusted by its own comparability factor.

POPULATION. In 1958 the estimated mid-year home population increased by 680 on the previous year. Increases in the population are due to natural causes (i.e. excess of births over deaths) and immigration both being related to new houses built. On 1st April, 1957 with the change of boundary 486 Borough Council houses came to the Borough, 46 of which had been built by the Borough in 1957.

	1950	1951	1952	1953	1954	1955	1956	1957	1958
Population	40,440	40,050	40,020	40,430	40,410	40,490	40,850	42,460	43,140
Increase or decrease from previous year	-140	-390	-30	+410	-20	+80	+360	+1,610	+680
Natural increase (excess of births over deaths)	204	190	112	136	86	22	68	146	82
Immigration or Emigration	-344	-580	-142	+274	-106	+58	+292	+1,464	+598
House built in Borough by Council and Private Enterprise	161	143	293	338	247	315	94	323	322
Houses built outside Borough by Council	69	31	-	-	35	67	219	46	-

Social conditions for 1958 may be indicated by:-

Dartford Borough (about 2/3rds) and Dartford Rural District (about 1/3rd)

Cases dealt with by N.S.P.C.C.

Neglect 27, Ill treatment 4, Aid Sought 5, Beyond Control 1,
Moral danger 2, Children affected 127, Prosecution for neglect 0.

Unemployed on December 31st, 1958 (Dartford Borough and Dartford Rural)

Men	337
Women	88

Illegitimate birth rate 1958 per 1,000 live births -

Dartford Borough	29
Dartford Rural	31
England and Wales	49

APPENDIX II

Environmental Conditions

WATER.

Water supplies interest us in regard to the source of supply, the quantity and quality available to the population in the district. This district is part of the gathering ground for water supplies in this part of Kent and we should keep ourselves informed of any evidence that the gathering ground is becoming polluted.

SOURCES OF SUPPLY.

The dwellings in the Borough with one exception in 1958 were supplied by the Metropolitan Water Board from wells in the chalk under the Borough and neighbouring areas. The exception was a farmhouse supplied by its own well with a cesspool and soakaway in the vicinity. In addition the following communities receive supplies from other sources:

2 hospitals received supplies from their own wells, each hospital having one well.

2 papermills received supplies from their own wells. One mill had 2 wells in use and the other one well.

An engineering works received supplies from its own 3 wells.

A chemical works received supplies from its own well.

QUALITY.

In the following analyses, with the exception of those of the Metropolitan Water Board, the number of E. coli type 1 per 100 ml. in the bacteriological analyses and albuminoid ammonia as nitrogen in parts per million in the chemical analyses are used to summarise the information provided by sampling.

The results of the numerous hundreds of analyses of bacteriological samples and the several chemical samples taken by the Metropolitan Water Board are shown in the Table.

At the farmhouse mentioned above, 8 results of bacteriological analyses of samples taken by this office showed 7 with E. coli absent and one with 17 E. coli per 100 ml., the latter sample was however primarily taken for chemical analysis at the same time as one of the bacteriological samples which showed E. coli absent. 5 chemical samples showed figures of 0.00, 0.02, 0.02, 0.02 and 0.06 parts per million albuminoid ammonia.

At one hospital 6 bacteriological samples each showed E. coli absent. One chemical sample showed 0.02 p.p.m. albuminoid ammonia and as some 1,300 births take place at this hospital each year it should be added that the nitrate figure was 4 p.p.m. (sometimes this figure in the wells here rises to 17 p.p.m. almost an undesirable amount for the preparation of infants' foods). 4 bacteriological samples from the other hospitals each showed E. coli to be absent.

At the two papermills, 4 bacteriological samples from each of the three wells showed E. coli absent.

At the engineering works, five, ten and six bacteriological samples from the three wells each showed E. coli absent but from one well two bacteriological samples not included in the above showed 1 and 2 E. coli respectively. This latter sample was taken at the end of September and beginning of October; there had been a flood on September the 5th. Three chemical samples from these wells showed albuminoid ammonia figures of 0.02, 0.01 and 0.01.

BACTERIOLOGICAL RESULTS - METROPOLITAN WATER BOARD, FOR 1958

Borough of Dartford

Well	No. of samples	BEFORE TREATMENT: Plate count per ml. 20-24 hours at 37°C.	BEFORE TREATMENT: Plate count per ml. 3 days at 22°C.	BEFORE TREATMENT: Coliform count % samples negative in 100 ml.	BEFORE TREATMENT: Coliform count Count per 100 ml.	BEFORE TREATMENT: Escherichia coli count % samples negative in 100 ml.	BEFORE TREATMENT: Escherichia coli count Count per 100 ml.	AFTER TREATMENT: Plate count per ml. 20-24 hours at 37°C.	AFTER TREATMENT: Plate count per ml. 3 days at 22°C.	AFTER TREATMENT: Coliform count % samples negative in 100 ml.	AFTER TREATMENT: E.coli count % samples negative in 100 ml.
Dartford	246	0.3	11.7	99.59	-	100		0.5	11.3	100	100
Wilmington No. 1	161	0.7	71.1	86.96	0.6	97.52)	0.4	0.1	2.7	99.59	100
Wilmington No. 2	226	0.5	39.8	72.12	1.6	87.61)					
Darenth	249	0.3	7.8	87.95	0.2	99.20)	0.1	0.1	193.5	100	100
Darenth borehole	214	0.1	92.0	88.79	0.7	96.73)					
Bexley	269	0.1	7.5	94.80	0.3	99.26		0.1	5.7	97.28	100
Rural District of Dartford											
Horton Kirby	244	0.4	8.3	93.03	0.9	96.31	0.6	0.3	16.7	99.60	100
Eynsford	160	0.4	65.5	75.00	0.7	96.25	0.1	0.1	40.0	98.86	100
Eynsford borehole	138	0.1	45.7	93.48	0.2	99.28		0.03	11.4	100	100
Orpington	249	0.1	16.0	94.78	0.1	99.60		0.1	20.4	100	100
North Orpington	227	2.9	32.2	1.32	53.3	14.54	16.3	1.8	23.3	99.57	100
Lullingstone	200	0.1	4.3	100		100		0.1	6.6	97.09	100
Southfleet	105	0.01	8.6	51.43	2.1	100		0.04	7.2	100	100
Green Strdet Green	241	0.2	15.8	82.99	2.3	86.72	2.0	0.1	4.8	100	100
Urban District of Swanscome											
Southfleet	105	0.01	8.6	51.43	2.1	100		0.04	7.2	100	100
Green Street Green	241	0.2	15.8	82.99	2.3	86.72	2.0	0.1	4.8	100	100

CHEMICAL RESULTS - METROPOLITAN WATER BOARD, FOR 1958
(Milligrammes per litre)

Borough of Dartford

Well	No. of samples	Ammonia Nitrogen	Albuminoid Nitrogen	Nitrate Nitrogen	Chlorides as Chlorine	Oxygen absorbed in 4 hrs at 27°C.	Hardness Total	Hardness (non-carb.)	pH. Value	Conductivity reciprocal megohms
Dartford	4	.003	.020	4.6	20	0.08	274	44	7.3	525
Wilmington No. 1	4	.011	.026	5.6	21	0.14	280	48	7.3	525
Wilmington No. 2	4	.009	.024	7.3	22	0.13	294	60	7.3	550
Darenth	4	Nil	.019	5.4	16	0.06	260	30	7.2	475
Darenth borehole	4	.002	.023	5.9	17	0.08	274	38	7.2	525
Bexley	4	.005	.020	5.6	17	0.15	302	64	7.2	550

Rural District of Dartford

Horton Kirby	4	.002	.018	5.0	17	0.12	262	42	7.3	500
Eynsford	2	.002	.030	4.8	17	0.08	268	40	7.3	475
Eynsford borehole	3	.003	.020	3.3	15	0.06	254	32	7.3	450
Orpington	4	Nil	.025	6.9	15	0.05	272	36	7.2	525
North Orpington	4	Nil	.018	5.2	14	0.07	260	20	7.3	500
Lullingstone	4	.002	.021	3.3	15	0.08	242	22	7.3	450
Southfleet	2	.005	.018	6.0	15	Nil	286	30	7.2	550
Green Street Green	13	.004	.022	6.9	17	0.06	280	34	7.3	525

Urban District of Swanscombe

Southfleet	2	.005	.018	6.0	15	Nil	286	30	7.2	550
Green Street Green	13	.004	.022	6.9	17	0.06	280	34	7.3	525

SWIMMING BATHS

The water at the Council's Open Air Bath receives its supply from its own well and this is subject to continuous filteration and chlorination. A bacteriological sample from the well showed E. coli absent and a chemical sample showed albuminoid ammonia absent. 7 bacteriological samples from the shallow end and 7 from the deep end taken in pairs all showed E. coli absent.

The swimming bath at the Dartford College of Physical Education is in use from April to September and apart from its use by the students there is used by schoolchildren on Saturdays and also on two afternoons a week for physiotherapeutic purposes. The source of supply is the Metropolitan Water Board and the water is subject to continuous filteration and chlorination. Four bacteriological samples taken from the deep end and four from the shallow end, taken in pairs, all showed E. coli absent.

HOUSING

An account of the action taken to obtain the repair, improvement or demolition of existing dwellings will be found in the report of the Council's Chief Public Health Inspector.

The following dwellings have been completed in the last six years:-

	1953	1954	1955	1956	1957	1958
By Corporation	289	199	184	227	152	68
By Private Enterprise	49	83	200	86	217	254
	338	282	384	313	369	322

No. of improvement grants made in 1958 18

The dwellings completed by the Corporation in 1958 were as follows:-

One bedroom houses	29
Two bedroom houses	35
Three bedroom houses	4
Four bedroom houses	2
	70

Number of applicants on waiting list at the end of December, 1957 - 1383
Number of applicants on waiting list at the end of December, 1958 - 1272

Recommendations for priority on medical grounds:-

	Tuberculosis				Other than tuberculosis			
	No. of applications rec'd	0.	No. of points given 1-4	5-8	No. of applications rec'd	0.	No. of points given 1-4	5-8
1954	31	14	11	6	Points not available			
1955	20	8	9	3				
1956	18	4	12	2				
1957	33	5	25	3				
1958 -								
Applicantions for transfer from persons already in Council accommodation	-	-	-	-	26	14	12	-
Applicants for re-housing not tenants of Council accommodation	24	6	15	3	85	31	54	-

TABLE I BIRTHS & DEATHS, 1958.

	Males	Females	Persons
LIVE BIRTHS			
Legitimate	341	327	668
Illegitimate	8	12	20
	349	339	688
DEATHS FROM ALL CAUSES			
Dartford Town	239	215	454
Bexley Mental Hospital	53	96	149
Dartford Borough compiled locally	292	311	603
Dartford Borough compiled by Registrar General	291	315	606
Deaths from Pregnancy, Childbirth, Abortion			0
Still Births:			
Legitimate	8	4	12
Illegitimate	-	-	0
Deaths - aged 0 to 6 days:			
Legitimate	6	9	15
Illegitimate	-	-	-
Deaths - aged 7 to 27 days:			
Legitimate	-	-	-
Illegitimate	-	-	-
Deaths - aged 28 to 364 days:			
Legitimate	3	2	5
Illegitimate	-	-	-

RATES PER 1000 HOME POPULATION		
Crude live birth rate	Dartford M.B.	15.9
" " " " "	" adjusted by comparability factor	15.6
" " " "	England and Wales	16.4
Crude death rate	Dartford Town - population 40,870	11.2
	Bexley Mental Hospital - population 2,270	65.5
	Dartford Borough - population 43,140	14.0
	" " adjusted by comparability factor	10.6
	England and Wales	11.7
RATES PER 1000 LIVE & STILL BIRTHS		
Maternal death rate -	Dartford M.B.	0
	England and Wales	0.43
Still birth rate -	Dartford M.B.	17.1
	England and Wales	21.6
Perinatal death rate (s.b. + deaths 0 - 6 days)	Dartford M.B.	38.5
	England and Wales	35.1
RATES PER 1000 LIVE BIRTHS		
Neonatal death rate - (deaths 0-27 days)	Dartford M.B.	21.7
	England and Wales	16.2
Infant death rate - (deaths 0-364 days)	Dartford M.B.	28.8
	England and Wales	22.6

TABLE II BIRTHS 1958.

BIRTH RATES

	Births	Birth rate (adjusted by comp. factor)	Birth rate England and Wales
1951	562	13.4	15.5
1952	533	12.8	15.3
1953	591	14.0	15.5
1954	579	13.7	15.2
1955	581	13.7	15.0
1956	632	15.0	15.6
1957	697	16.3	16.1
1958	688	15.9	16.4

BIRTHS CLASSIFIED ACCORDING TO PLACE OF EVENT

Classification by Registrar General

	1958	Percentage 1958	1957	1956
Born at home	150	22%	19%	16%
Born in hospital or nursing home	538	78%	81%	84%
	688	100%	100%	100%

Classification by County Medical Officer for area 6 of the Local Health Authority (Bexley, Crayford, Erith, Dartford Borough and Rural District)

	1952	1953	1954	1955	1956	1957	1958
Born at home	22%	20%	21%	20%	21%	22%	23%
Born in hospital or nursing home	78%	80%	79%	80%	79%	78%	77%

BIRTHS BY SOCIAL CLASS

Social Class	Legitimate births by social class of father	Illegitimate births by social class of mother	Total	Percentage 1958	1957	1956
I	50	-	50	7%	4%	7%
II	105	3	108	16%	14%	16%
III	394	8	402	58%	63%	58%
IV	47	5	52	8%	8%	11%
V	71	1	72	10%	11%	8%
Not stated	1	3	4	1%	0%	0%
	668	20	688	100%	100%	100%

TABLE III CAUSES OF DEATH ACCORDING TO SEX 1958

BOROUGH

Registrar General's Return

	Male	Female	Persons	
All causes	291	315	606	
Tuberculosis, respiratory	7	3	10	
Tuberculosis, other	-	-	-	
Syphilitic disease	-	-	-	
Diphtheria	-	-	-	
Whooping Cough	-	-	-	
Meningococcal infections	-	-	-	
Acute poliomyelitis	-	-	-	
Measles	-	-	-	
Other infective and parasitic diseases	2	-	2	
Malignant neoplasm, stomach	5	1	6	
Malignant neoplasm, lung, bronchus	9	5	14	
Malignant neoplasm, breast	-	4	4	
Malignant neoplasm, uterus	-	6	6	89
Other malignant and lymphatic neoplasms	33	20	53	
Leukaemia aleukaemia	1	5	6	
Diabetes	2	3	5	
Vascular lesions of nervous system	32	40	72	
Coronary disease, angina	54	37	91	
Hypertension with heart disease	6	9	15	
Other heart disease	41	63	104	234
Other circulatory disease	11	13	24	
Influenza	-	1	1	
Pneumonia	18	38	56	
Bronchitis	26	15	41	104
Other diseases of respiratory system	5	1	6	
Ulcer of stomach and duodenum	1	2	3	
Gastritis, enteritis and diarrhoea	1	-	1	
Nephritis, nephrosis	3	4	7	
Hyperplasia of prostate	1	-	1	
Pregnancy, childbirth, abortion	-	-	-	
Congenital malformations	4	3	7	
Other defined and ill-defined diseases	19	29	48	
Motor Vehicle accidents	3	3	6	
All other accidents	3	7	10	
Suicide	4	3	7	
Homicide and operations of war	-	-	-	

TABLE IV CAUSES OF DEATH ACCORDING TO AGE 1958

TOWN

Compiled Locally

	Total	Under 4 weeks	4 weeks to 1 year	1 - 2	2 - 5	5 - 15	15 - 25	25 - 35	35 - 45	45 - 55	55 - 65	65 - 75	75+
All causes	454	15	6	1	2	4	3	9	10	43	70	95	196
Tuberculosis, respiratory	4	-	-	-	-	-	-	-	-	-	2	1	1
Tuberculosis, other	-	-	-	-	-	-	-	-	-	-	-	-	-
Syphilitic disease	-	-	-	-	-	-	-	-	-	-	-	-	-
Diphtheria	-	-	-	-	-	-	-	-	-	-	-	-	-
Whooping Cough	-	-	-	-	-	-	-	-	-	-	-	-	-
Meningococcasl infections	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute Poliomyelitis	-	-	-	-	-	-	-	-	-	-	-	-	-
Measles	-	-	-	-	-	-	-	-	-	-	-	-	-
Other infective and parasitic diseases	2	-	1	-	-	-	-	1	-	-	-	-	-
Malignant neoplasm, stomach	7	-	-	-	-	-	-	-	-	1	3	3	-
Malignant neoplasm, lung, bronchus	13	-	-	-	-	-	-	-	1	4	3	2	3
Malignant neoplasm, breast	4	-	-	-	-	-	-	-	-	4	-	-	-
Malignant neoplasm, uterus	4	-	-	-	-	-	-	-	-	1	2	1	-
Other malignant and lymphatic neoplasms	52	-	-	-	-	1	1	2	5	5	13	9	16
Leukaemia, aleukaemia	6	-	-	-	1	2	-	-	-	1	-	1	1
Diabetes	5	-	-	-	-	-	-	-	-	-	-	2	3
Vascular lesions of nervous system	51	-	-	-	-	-	-	-	-	3	7	14	27
Coronary disease, angina	76	-	-	-	-	-	-	-	1	12	17	24	22
Hypertension with heart disease	6	-	-	-	-	-	-	-	-	-	-	-	6
Other heart disease	65	-	-	-	-	-	-	-	1	3	4	4	53
Other circulatory disease	18	-	-	-	-	-	-	1	-	-	2	5	10
Influenza	1	-	-	-	-	-	-	-	-	-	-	1	-
Pneumonia	18	-	1	-	-	-	-	-	-	1	3	4	9
Bronchitis	36	-	1	-	-	-	-	-	-	1	3	10	21
Other diseases of respiratory system	4	-	-	-	-	-	-	-	-	-	1	1	2
Ulcer of stomach and duodenum	2	-	-	-	-	-	-	-	-	1	-	1	-
Gastritis, enteritis and diarrhoea	1	-	-	-	-	-	-	1	-	-	-	-	-
Nephritis, nephrosis	7	-	-	-	-	-	1	-	1	2	-	1	2
Hyperplasia of prostate	-	-	-	-	-	-	-	-	-	-	-	-	-
Pregnancy, childbirth, abortion	-	-	-	-	-	-	-	-	-	-	-	-	-
Congenital malformations	7	1	2	1	-	-	-	1	1	1	-	-	-
Other defined and ill-defined diseases	46	14	1	-	-	-	-	-	-	2	5	7	17
Motor vehicle accidents	6	-	-	-	1	1	-	1	-	1	-	-	2
All other accidents	6	-	1	-	-	-	1	1	-	-	1	2	1
Suicide	7	-	-	-	-	-	-	1	-	-	4	2	-
Homicide and operations of war	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE V CAUSES OF DEATH ACCORDING TO AGE 1958

BEXLEY MENTAL HOSPITAL

Compiled Locally

(Resident more than 6 months)

	All Ages	Under 4 weeks	4 weeks to 1 year	1 - 2	2 - 5	5 - 15	15 - 25	25 - 35	35 - 45	45 - 55	55 - 65	65 - 75	75+
All Causes	149	-	-	-	-	-	-	1	1	6	15	44	82
Tuberculosis, respiratory	6	-	-	-	-	-	-	-	-	2	1	3	-
Tuberculosis, other	-	-	-	-	-	-	-	-	-	-	-	-	-
Syphilitic disease	-	-	-	-	-	-	-	-	-	-	-	-	-
Diphtheria	-	-	-	-	-	-	-	-	-	-	-	-	-
Whooping Cough	-	-	-	-	-	-	-	-	-	-	-	-	-
Meningococcal Infections	-	-	-	-	-	-	-	-	-	-	-	-	-
Acute Poliomyelitis	-	-	-	-	-	-	-	-	-	-	-	-	-
Measles	-	-	-	-	-	-	-	-	-	-	-	-	-
Other infective and parasitic diseases	-	-	-	-	-	-	-	-	-	-	-	-	-
Malignant neoplasm, stomach	-	-	-	-	-	-	-	-	-	-	-	-	-
Malignant neoplasm, lung, bronchus	-	-	-	-	-	-	-	-	-	-	-	-	-
Malignant neoplasm, breast	1	-	-	-	-	-	-	-	-	-	1	-	-
Malignant neoplasm, uterus	-	-	-	-	-	-	-	-	-	-	-	-	-
Other malignant and lymphatic neoplasms	3	-	-	-	-	-	-	-	-	-	-	2	1
Leukaemia, aleukaemia	-	-	-	-	-	-	-	-	-	-	-	-	-
Diabetes	1	-	-	-	-	-	-	-	-	-	1	-	-
Vascular lesions of nervous system	21	-	-	-	-	-	-	-	-	1	1	6	13
Coronary disease, angina	15	-	-	-	-	-	-	-	-	1	4	3	7
Hypertension with heart disease	3	-	-	-	-	-	-	-	-	-	-	-	3
Other heart disease	38	-	-	-	-	-	-	-	-	-	1	12	25
Other circulatory disease	6	-	-	-	-	-	-	-	-	-	1	2	3
Influenza	-	-	-	-	-	-	-	-	-	-	-	-	-
Pneumonia	39	-	-	-	-	-	-	1	-	2	2	11	23
Bronchitis	6	-	-	-	-	-	-	-	1	-	1	2	2
Other diseases of respiratory system	1	-	-	-	-	-	-	-	-	-	-	-	1
Ulcer of stomach and duodenum	-	-	-	-	-	-	-	-	-	-	-	-	-
Gastritis, enteritis and diarrhoea	-	-	-	-	-	-	-	-	-	-	-	-	-
Nephritis, nephrosis	1	-	-	-	-	-	-	-	-	-	-	-	1
Hyperplasia of prostate	-	-	-	-	-	-	-	-	-	-	-	-	-
Pregnancy, childbirth, abortion	-	-	-	-	-	-	-	-	-	-	-	-	-
Congenital malformations	-	-	-	-	-	-	-	-	-	-	-	-	-
Other defined and ill-defined diseases	6	-	-	-	-	-	-	-	-	-	2	3	1
Motor Vehicle accidents	-	-	-	-	-	-	-	-	-	-	-	-	-
All other accidents	2	-	-	-	-	-	-	-	-	-	-	-	2
Suicide	-	-	-	-	-	-	-	-	-	-	-	-	-
Homicide and operations of war	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE VI QUARTERLY DEATHS

DEATHS.

Prior to 1953 the only deaths in Bexley Hospital allotted to Dartford were those whose home addresses were either in Dartford or were unknown. In 1952 there were 17 so allotted. For the year 1953 a change in practice was begun and all deaths of patients there were attributed to Dartford, the allocations increasing from 17 in 1952 to 123, 141, 158, 176 and 222 in 1953, 1954, 1955, 1956 and 1957 respectively. In 1958 the only deaths of persons in the long stay hospital which were assigned to this district were those who had been resident there for over six months and 60 were so assigned.

These deaths, although now allowed for in the comparability factor, have to be separated from our total if we are to follow the trend of deaths in the town population. The latter will be taken as the total deaths less those of the mental hospitals plus 17:

	Quarters				
	1st	2nd	3rd	4th	Year
Deaths - Dartford Borough 1958	208	121	128	146	603
Less Mental Hospital deaths	60	28	29	32	149
.. Town deaths	148	93	99	114	454
Add	5	4	4	4	17
Dartford deaths by pre-1953 methods	153	97	103	118	471

Hence the annual and quarterly deaths and death rates as calculated by the pre-1953 method, including adjustment of death rates by comparability factor (except in 1956 and 1957 when it was radically lowered) are:-

Quarterly Deaths:-

		1st	2nd	3rd	4th	Year
Dartford M.B. -						
	1951	134	80	64	94	372
	1952	115	88	88	130	421
	1953	173	92	86	104	455
	1954	100	87	72	109	368
	1955	132	94	88	103	417
	1956	122	95	93	94	404
	1957	89	88	73	95	345
	1958	153	97	103	118	471

Quarterly Death Rates:-

Dartford M.B. -						
	1951	13.6	8.2	6.5	9.6	9.5
	1952	11.7	9.0	9.0	13.2	10.7
	1953	17.1	9.1	8.5	10.3	11.3
	1954	9.7	8.4	6.9	10.6	8.9
	1955	12.8	9.1	8.5	10.0	10.1
	1956	12.0	9.4	9.2	9.3	9.9
	1957	8.5	8.4	6.7	9.0	8.2
	1958	14.1	8.9	9.5	10.9	10.9
England and Wales -						
	1951	19.1	11.1	9.1	11.0	12.5
	1952	13.4	10.6	8.9	12.4	11.3
	1953	15.8	10.5	8.9	10.7	11.4
	1954	14.0	10.6	9.3	11.4	11.3
	1955	15.4	11.2	9.1	11.1	11.7
	1956	15.3	10.8	9.3	11.3	11.7
	1957	12.2	10.6	9.7	13.4	11.5
	1958	14.7	11.0	9.3	11.7	11.7

TABLE VII MAIN CAUSES OF DEATH, ETC.

Town

ALL AGES

	All causes	Main causes	Other causes	Main Causes in detail (440-468) Circulatory Diseases	(140-205) Cancer	(330-334) Vascular les. C.N.S.	(470-527) Respiratory diseases
1956	387	304	83	134	77	48	45
%	100%	78%	22%	34%	20%	12%	12%
1957	328	279	49	130	60	42	47
%	100%	85%	15%	40%	18%	13%	14%
1958	454	361	93	165	86	51	59
%	100%	80%	20%	37%	19%	11%	13%
England and Wales -							
1958	526,843	431,140	95,703	197,514	95,804	76,177	61,645
%	100%	82%	18%	38%	18%	14%	12%

DEATHS OF THOSE AGED 75 YEARS AND OVER

1956	138	125	13	61	24	23	17
%	100%	91%	9%	44%	17%	17%	12%
1957	134	125	9	65	17	22	21
%	100%	93%	7%	48%	13%	16%	16%
1958	196	170	26	91	20	27	32
%	100%	87%	13%	47%	10%	14%	16%
Quarters							
1st.	76	68	8	36	5	12	15
2nd.	30	26	4	10	8	3	5
3rd.	42	35	7	26	1	4	4
4th	48	41	7	19	6	8	8

DEATHS AT AGES OF 65 AND OVER AS PERCENTAGE OF DEATHS AT ALL AGES.

	65 to 74	75 and over
1956	100 (26%)	138 (36%)
1957	84 (26%)	134 (41%)
1958	95 (21%)	196(43%)

DEATHS BY PLACE OF OCCURRENCE.

	All ages			Aged 75 and over		
	Hospital	Home	Elsewhere	Hospital	Home	Elsewhere
1956	217	170	5	80	58	-
1957	193	132	3	65	68	1
1958	272	175	7	94	101	1

DEATHS BY SOCIAL CLASS

	1958	1958	1957	1956	1955	1954	1953
Class I	14	3%	2%	2%	3%	2%	2%
Class II	58	13%	13%	17%	14%	14%	16%
Class III	229	50%	54%	49%	51%	50%	50%
Class IV	67	15%	15%	14%	18%	16%	13%
Class V	79	17%	14%	16%	13%	17%	17%
Unclassified	7	2%	2%	2%	1%	1%	2%
	454	100%	100%	100%	100%	100%	100%

TABLE VIII CAUSES OF DEATH AT AGES 75 YEARS AND OVER

Town

	Total Persons	MALE 75 - 79	80 - 84	85 - 89	90 - 94	95+	FEMALE 75 - 79	80 - 84	85 - 89	90 - 94	95+
All causes	196	34	29	21	3	3	29	39	26	10	2
Respiratory tuberculosis	1	-	-	-	-	-	-	1	-	-	-
Malignant neoplasm, bronchus	3	2	-	-	-	-	-	1	-	-	-
Other malignant & lymphatic neoplasms	16	4	4	3	-	-	1	3	-	-	1
Leukaema, Aleukaemia	1	-	-	-	-	-	1	-	-	-	-
Diabetes	3	-	-	1	-	-	-	2	-	-	-
Vascular lesions of nervous system	27	5	2	4	-	-	4	4	6	2	-
Coronary disease, angina	22	5	4	2	-	-	6	4	1	-	-
Hypertension with heart disease	6	3	-	-	-	-	1	-	2	-	-
Other heart disease	53	4	10	3	2	1	8	7	12	5	1
Other circulatory disease	10	2	1	1	1	-	1	2	2	-	-
Pneumonia	9	1	2	1	-	-	2	3	-	-	-
Bronchitis	21	3	6	3	-	2	1	4	1	1	-
Other diseases of respiratory system	2	2	-	-	-	-	-	-	-	-	-
Nephritis, nephrosis	2	-	-	1	-	-	-	1	-	-	-
Other defined and ill-defined diseases	17	3	-	2	-	-	3	6	1	2	-
Motor vehicle accidents	2	-	-	-	-	-	-	1	1	-	-
All other accidents	1	-	-	-	-	-	1	-	-	-	-

(Bexley Mental Hospital)

	Total Persons	MALE 75 - 79	80 - 84	85 - 89	90 - 94	95+	FEMALE 75 - 79	80 - 84	85 - 89	90 - 94	95+
All Causes	82	14	6	5	-	-	20	20	12	4	1
Other malignant & lymphatic neoplasms	1	-	1	-	-	-	-	-	-	-	-
Vascular lesions of nervous system	13	4	1	-	-	-	3	2	3	-	-
Coronary disease, angina	7	-	2	-	-	-	4	1	-	-	-
Hypertension with heart disease	3	-	-	-	-	-	1	1	1	-	-
Other heart disease	25	3	1	5	-	-	3	3	6	3	1
Other circulatory disease	3	1	-	-	-	-	1	1	-	-	-
Pneumonia	23	4	1	-	-	-	7	9	1	1	-
Bronchitis	2	-	-	-	-	-	-	1	1	-	-
Other diseases of respiratory system	1	1	-	-	-	-	-	-	-	-	-
Nephritis nephrosis	1	-	-	-	-	-	1	-	-	-	-
Other defined and ill-defined diseases	1	-	-	-	-	-	-	1	-	-	-
All other accidents	2	1	-	-	-	-	-	1	-	-	-

TABLE IX CAUSES OF DEATH ACCORDING TO SOCIAL CLASS

Town

MALES	Total	I	II	IIIa	IIIb	IIIc	IIId	IIIe	IVa	IVb	Va	Vb	X
All causes	239	3	25	-	8	14	2	101	5	34	7	38	2
Tuberculosis, respiratory	2	-	-	-	-	-	-	1	-	-	-	1	-
Other infective & parasitic disease	2	-	1	-	-	-	-	-	-	-	-	1	-
Malignant neoplasm, stomach	6	-	-	-	-	-	-	2	-	2	-	2	-
Malignant neoplasm, lung, bronchus	10	-	1	-	1	1	-	6	-	-	1	-	-
Malignant neoplasm breast	1	-	-	-	-	-	-	1	-	-	-	-	-
Other malignant & lymphatic neoplasms	31	-	6	-	1	5	-	14	-	3	-	2	-
Leukaemia, aleukaemia	1	-	-	-	-	-	-	1	-	-	-	-	-
Diabetes	2	-	-	-	-	-	-	1	1	-	-	-	-
Vascular lesions of nervous system	21	-	1	-	1	1	1	10	1	3	-	3	-
Coronary disease, angina	51	3	8	-	1	4	-	12	-	11	1	11	-
Hypertension with heart disease	3	-	1	-	-	-	-	-	-	-	2	-	-
Other heart disease	27	-	1	-	1	-	-	14	-	4	-	6	1
Other circulatory disease	6	-	1	-	1	-	-	3	-	-	1	-	-
Pneumonia	10	-	-	-	1	1	-	6	-	-	-	1	1
Bronchitis	25	-	1	-	1	1	-	12	2	4	-	4	-
Other diseases of respiratory system	3	-	-	-	-	-	-	1	-	1	-	1	-
Ulcer of stomach and duodenum	1	-	-	-	-	-	-	1	-	-	-	-	-
Gastritis, enteritis and diarrhoea	1	-	-	-	-	-	-	1	-	-	-	-	-
Nephritis, nephrosis	3	-	-	-	-	-	-	2	-	-	-	1	-
Congenital malformation	3	-	1	-	-	1	-	1	-	-	-	-	-
Other defined and ill-defined diseases	20	-	1	-	-	-	1	9	1	5	-	3	-
Motor vehicle accidents	3	-	-	-	-	-	-	1	-	1	1	-	-
All other accidents	3	-	1	-	-	-	-	1	-	-	-	1	-
Suicide	4	-	1	-	-	-	-	1	-	-	1	1	-

FEMALES	Total	I	II	IIIa	IIIb	IIIc	IIId	IIIe	IVa	IVb	Va	Vb	X
All causes	215	11	33	2	10	9	1	82	5	23	5	29	5
Tuberculosis, respiratory	2	-	1	-	-	-	-	1	-	-	-	-	-
Malignant neoplasm, stomach	1	-	-	-	-	-	-	1	-	-	-	-	-
Malignant neoplasm, lung, bronchus	3	-	1	-	1	1	-	-	-	-	-	-	-
Malignant neoplasm, breast	3	1	1	-	-	-	-	1	-	-	-	-	-
Malignant neoplasm, uterus	4	-	-	-	1	-	-	1	-	-	-	1	1
Other malignant and lymphatic neoplasms	21	1	6	-	1	-	-	8	-	3	-	2	-
Leukaemia, aleukaemia	5	-	1	1	-	-	-	1	-	-	1	1	-
Diabetes	3	-	-	-	-	-	-	1	-	-	-	2	-
Vascular lesions of nervous system	30	4	3	1	1	1	-	10	3	-	3	3	1
Coronary disease, angina	25	1	5	-	1	-	-	11	-	5	1	1	-
Hypertension with heart disease	3	-	1	-	-	-	-	2	-	-	-	-	-
Other heart disease	38	1	4	-	2	2	1	16	-	4	-	6	2
Other circulatory disease	12	-	-	-	-	1	-	6	1	1	-	3	-
Influenza	1	-	-	-	-	-	-	1	-	-	-	-	-
Pneumonia	8	-	-	-	1	-	-	5	-	2	-	-	-
Bronchitis	11	1	3	-	1	1	-	1	1	2	-	1	-
Other diseases of respiratory system	1	-	-	-	-	-	-	-	-	1	-	-	-
Ulcer of stomach and duodenum	1	-	-	-	-	-	-	-	-	-	-	1	-
Nephritis, nephrosis	4	1	-	-	-	-	-	1	-	1	-	1	-
Congenital malformation	4	-	-	-	-	-	-	4	-	-	-	-	-
Other defined & ill defined diseases	26	1	5	-	1	2	-	8	-	4	-	5	-
Motor vehicle accidents	3	-	-	-	-	-	-	2	-	-	-	-	1
All other accidents	3	-	1	-	-	-	-	1	-	-	-	1	-
Suicide	3	-	1	-	-	1	-	-	-	-	-	1	-

TABLE X CAUSES OF DEATH ACCORDING TO SOCIAL CLASS

Bexley Mental Hospital

MALES	Total	I	II	IIIa	IIIb	IIIc	IIId	IIIe	IVa	IVb	Va	Vb	X
All causes	53	1	4	-	1	2	-	22	1	7	3	8	4
Tuberculosis, respiratory	5	-	-	-	-	-	-	2	1	2	-	-	-
Other malignant and lymphatic neoplasms	2	-	-	-	-	-	-	-	-	-	-	-	2
Vascular lesions of nervous system	8	-	1	-	-	1	-	2	-	2	-	2	-
Coronary disease, angina	6	-	1	-	1	-	-	3	-	-	1	-	-
Other heart disease	15	-	1	-	-	1	-	10	-	-	-	2	1
Other circulatory disease	4	-	-	-	-	-	-	2	-	1	1	-	-
Pneumonia	7	-	-	-	-	-	-	2	-	1	1	2	1
Bronchitis	3	1	1	-	-	-	-	-	-	-	-	1	-
Other disease of the respiratory system	1	-	-	-	-	-	-	-	-	-	-	1	-
Other defined and ill-defined diseases	1	-	-	-	-	-	-	-	-	1	-	-	-
All other accidents	1	-	-	-	-	-	-	1	-	-	-	-	-

FEMALES	Total	I	II	IIIa	IIIb	IIIc	IIId	IIIe	IVa	IVb	Va	Vb	X
All causes	96	-	14	-	3	3	1	36	-	12	4	9	14
Tuberculosis, respiratory	1	-	-	-	-	-	-	-	-	1	-	-	-
Malignant neoplasm, breast	1	-	-	-	-	-	-	1	-	-	-	-	-
Other malignant and lymphatic disease	1	-	-	-	-	-	-	-	-	-	1	-	-
Diabetes	1	-	-	-	-	-	-	-	-	-	-	1	-
Vascular lesions of nervous system	13	-	2	-	-	-	-	6	-	2	-	3	-
Coronary disease, angina	9	-	1	-	1	-	-	2	-	1	1	-	3
Hypertension with heart disease	3	-	-	-	-	-	-	2	-	1	-	-	-
Other heart disease	23	-	4	-	-	-	-	9	-	2	1	2	5
Other circulatory disease	2	-	-	-	-	-	-	1	-	-	-	-	1
Pneumonia	32	-	6	-	1	3	1	9	-	4	1	3	4
Bronchitis	3	-	-	-	-	-	-	2	-	-	-	-	1
Nephritis, Nephrosis	1	-	1	-	-	-	-	-	-	-	-	-	-
Other defined and ill-defined diseases	5	-	-	-	1	-	-	3	-	1	-	-	-
All other accidents	1	-	-	-	-	-	-	1	-	-	-	-	-

TABLE XI PREVALENCE OF INFECTIOUS DISEASES

(a) Notifiable Diseases (other than Tuberculosis) during 1958

Disease	Totals	0-1	1-3	3-5	5-10	10-25	15-25	25-45	45+
Scarlet Fever	20	-	3	1	12	4	-	-	-
Whooping Cough	4	1	1	1	1	-	-	-	-
Measles	76	2	16	28	30	-	-	-	-
Pneumonia	11	1	-	-	-	-	1	2	7
Erysipelas	2	-	-	-	-	-	-	-	2

In addition to the above the following cases were notified from institutions:-

Dysentery - 4 Puerperal Pyrexia - 23

The following non-notifiable diseases were reported from schools:-

Impetigo	5	Influenza	10
Chicken Pox	143	Conjunctivitis	5
Mumps	3		
Rubella	6		

(b) Distribution of Measles, Scarlet Fever, Whooping Cough and Pneumonia, 1958.

MEASLES	St. Alban's	Town	Brent	Highfield	Priory	Heath	Total Borough
January	-	-	-	-	-	-	0
February	-	-	-	-	-	-	0
March	-	-	1	-	-	-	1
April	-	-	-	-	4	1	5
May	-	1	1	-	1	4	7
June	-	1	-	-	2	-	3
July	-	-	-	-	1	1	2
August	2	-	1	-	-	-	3
September	-	-	4	-	1	-	5
October	-	-	1	2	4	16	23
November	-	2	-	-	1	17	20
December	1	-	-	-	3	3	7
TOTAL FOR YEAR	3	4	8	2	17	42	76

BIENNIAL CYCLE	November	December	January	February	March	April	Total
1949-50	-	-	-	-	-	1	1
1950-51	138	288	161	58	44	20	709
1951-52	-	-	-	-	-	-	-
1952-53	154	238	255	77	88	17	829
1953-54	-	-	-	-	-	-	-
1954-55	-	-	6	43	284	473	806
1955-56	-	-	-	-	-	1	1
1956-57	-	-	12	25	107	303	447
1957-58	-	-	-	-	1	5	6
1958-59	20	7	20	47	105	175	347

TABLE XI (continued)

SCARLET FEVER

	St. Alban's	Town	Brent	Highfield	Priory	Heath	Total Borough
January	-	-	-	-	-	-	-
February	-	-	-	-	-	1	1
March	-	-	-	-	1	1	2
April	-	-	-	-	1	1	2
May	-	-	-	-	1	-	1
June	-	-	-	-	-	-	-
July	-	-	1	-	-	-	1
August	-	-	-	-	-	-	-
September	-	-	-	-	-	-	-
October	-	1	-	1	2	1	5
November	-	2	1	-	1	-	4
December	1	1	1	-	1	-	4
TOTAL FOR YEAR	1	4	3	1	7	4	20

WHOOPING COUGH

January	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-
March	-	-	-	-	-	1	1
April	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-
August	-	-	-	-	-	-	-
September	-	2	1	-	-	-	3
October	-	-	-	-	-	-	-
November	-	-	-	-	-	-	-
December	-	-	-	-	-	-	-
TOTAL FOR YEAR	-	2	1	-	-	1	4

PNEUMONIA

January	-	1	2	-	1	1	5
February	-	-	1	-	-	-	1
March	-	-	-	1	-	-	1
April	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-
August	-	-	1	-	-	-	1
September	-	-	-	-	-	-	-
October	-	-	-	-	-	-	-
November	1	-	-	-	-	-	1
December	1	-	-	1	-	-	2
TOTAL FOR YEAR	2	1	4	2	1	1	11

Table XII

TUBERCULOSIS, 1958

(a) Respiratory

NOTIFICATIONS IN RECENT YEARS

	Town	Bexley Mental Hospital
1953	28	16
1954	44	15
1955	37	7
1956	21	22
1957	32	3
1958	22	5

NOTIFICATIONS IN 1958 BY AGE AND SEX

	Total.	0-1	1-5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65+
Males	20	-	-	1	-	1	2	2	3	3	4	4
Females	7	-	-	1	-	-	1	3	1	-	1	-
	27	-	-	2	-	1	3	5	4	3	5	4

Of the 27 cases notified in 1958 the infectious state of 20 were known and of these, 9 were infectious and these were 3 labourers aged 21, 25 and 64, a shop assistant aged 22, a printer aged 24, a bus driver aged 52 and a publican aged 52.

2 of the 27 new cases notified also had tuberculosis of sites other than the lungs, namely the urogenital tract and the sacroiliac joint.

NUMBER OF CASES OF RESPIRATORY TUBERCULOSIS ON THE REGISTER

		Male	Female	Persons
Number on register at	31.12.51	237	165	402
-ditto-	31.12.52	266	197	463
-ditto-	31.12.53	278	207	485
-ditto-	31.12.54	302	225	527
-ditto-	31.12.55	277	204	481
-ditto-	31.12.56	297	209	506
-ditto-	31.12.57	293	227	520
-ditto-	31.12.58	295	221	516

CHANGES IN THE REGISTER IN 1958 WERE AS FOLLOWS:

Additions:	New notifications	27
	Came into district	13
	Restored to register (moved back into district)	1
		41
Removals	Lost sight of	1
	Left district	20
	1958 deaths	5
	Recovered	16
	Not tuberculosis	1
	1957 deaths	3
		46

TABLE XII (continued)

Deaths of death register of 1958 removed from tuberculosis register in 1958 were 5,

Males aged 57, 58 and 74 years, Females aged 57 and 64 years.

All died from pulmonary tuberculosis. The female of 57 and male aged 58 were well known through being infectious cases causing public health problems. The male aged 74 was diagnosed post-mortem.

One of the deaths was not on the tuberculosis register but as the case was residing in Bexley Hospital it may have been that it had been notified many years back when notifications were transferred out.

Three deaths of the death registers of 1957 were removed from the tuberculosis register in 1958. They were 2 males aged 58 and 59 years certified causes being chronic bronchitis and coronary disease and the female aged 59 certified cause, pulmonary tuberculosis.

4 deaths of the death register of 1958 were removed from the tuberculosis register in 1959, certified cause of death, pulmonary tuberculosis in each case. The late removal was due to the information not coming to our notice until a review of the tuberculosis register.

1 death on the death register for 1958 whose cause of death was pulmonary tuberculosis was in the tuberculosis register as tuberculosis of the glands of the neck.

(b) Non-Respiratory

NOTIFICATIONS IN RECENT YEARS

1952	5
1953	5
1954	6
1955	6
1956	2
1957	2
1958	6

The 6 new cases were 2 females aged 27 and 39 and a male aged 67 suffering from tuberculous glands of the neck. The male died from pulmonary tuberculosis and is mentioned above. 2 males both aged 39 were notified as suffering from tuberculosis of the urogenital tract and 1 was known to be excreting the organism of tuberculosis. A male aged 17 who was suffering from tuberculosis of the eyes.

NUMBER OF CASES OF NON-RESPIRATORY TUBERCULOSIS ON THE REGISTER

		Male	Female	Persons
Number on register at	31.12.51	33	36	69
-ditto-	31.12.52	33	36	69
-ditto-	31.12.53	30	38	68
-ditto-	31.12.54	30	42	72
-ditto-	31.12.55	24	36	60
-ditto-	31.12.56	27	33	60
-ditto-	31.12.57	25	33	58
-ditto-	31.12.58	28	33	61

CHANGES IN THE REGISTER IN 1958 WERE AS FOLLOWS:

Additions:	New notifications	6	Removals:	Lost sight of	1
	Came into district	1		Died	1
		7		Recovered	2
					4

DEATHS

There were again no non-respiratory deaths in 1958 except the above registered as pulmonary tuberculosis.

TABLE XIII VACCINATIONS

(a) Diphtheria

From figures supplied by the County Medical Officer the following are derived:-

INOCULATIONS DONE EACH YEAR

	Age at 31st December	Primary Inoculations done in the year	Re-inforcing Inoculations done in the year
1958	0 - 4 years	528	46
	5 - 14 years	38	210
1957	0 - 4 years	512	48
	5 - 14 years	52	368
1956	0 - 4 years	486	46
	5 - 14 years	69	707
1955	0 - 4 years	384	42
	5 - 14 years	53	412
1954	0 - 4 years	501	66
	5 - 14 years	38	347

PERCENTAGE OF CHILDREN WITH EFFECTIVE IMMUNITY

Immunisation is effective for about five years and then requires to be re-inforced. Hence:-

December 31st	Age Group	Children vaccinated at any time in their life	Children vaccinated in the last 5 years	Population Census 1951	Percentage children immune	
1958	0 - 4 years	1,908	1,908		56%	51%
	5 - 14 years	5,202	2,595		48%	
1957	0 - 4 years	1,871	1,871		55%	50%
	5 - 14 years	4,937	2,594		48%	
1956	0 - 4 years	1,800	1,800)		53%	51%
	5 - 14 years	4,690	2,655)	3,414	49%	
1955	0 - 4 years	1,769	1,769	5,416	52%	50%
	5 - 14 years	4,352	2,642	8,830	48%	
1954	0 - 4 years	1,882	1,882)		55%	50%
	5 - 14 years	3,975	2,517		46%	

INFANT VACCINATION RATE

Percentage of those born in a given year who were vaccinated in that year or the next:

Year of birth	Number of live births	Year vaccinated	Number vaccinated	%	Total	%
1958	688	1958	113	16	?	?
		1959	?	?		
1957	697	1957	99	14	446	64
		1958	347	50		
1956	632	1956	86	14	411	65
		1957	325	51		
1955	581	1955	55	9	369	64
		1956	314	53		
1954	579	1954	69	12	369	64
		1955	300	52		

TABLE XIII (continued)

Vaccination by age at date of vaccination.

	Number of live births	Number under 1 year of age vaccinated	Percentage of births of previous year
1958	688	391	56
1957	697	300	47
1956	632	291	46
1955	581	256	44
1954	579	342	58
1953	591	?	?

COMPARISON WITH OTHER AREAS

	Dartford Rural Dist.	Dartford Borough	Kent A.C.	England & Wales
Percentage of those born in 1957 vaccinated in 1957 or 1958	60%	64%	60%	-
Percentage of births of previous year of those vaccinated at age of under 1 year	48%	56%	-	-
Percentage of children under 15 years vaccinated in the 5 years ending 31. 12. 1958	51%	51%	50%	
Children under 5 years vaccinated at any time in their life	64%	56%	54%	54%

(b) Smallpox

Numbers vaccinated:		Age at December 31st Under 1	1 - 4	5 - 14
1958	Vaccinated	203	180	16
	Revaccinated	-	1	11
1957	Vaccinated	258	227	51
	Revaccinated	-	5	19
1956	Vaccinated	251	145	13
	Revaccinated	-	1	8
1955	Vaccinated	195	124	17
	Revaccinated	-	1	4
1954	Vaccinated	224	159	15
	Revaccinated	-	1	27
1953	Vaccinated	229	110	4
	Revaccinated	-	3	10
1952	Vaccinated	250	125	12
	Revaccinated	-	3	12

INFANT VACCINATION RATE

Percentage of those born in a given year who were vaccinated in that year or the next:

Year of birth	Number of live births	Year vaccinated	Number vaccinated	%	Total	%
1958	688	1958	203	30	?	?
		1959	?	?		
1957	697	1957	258	37	422	61
		1958	164	24		
1956	632	1956	251	40	441	70
		1957	190	30		
1955	581	1955	195	33	334	57
		1956	139	24		
1954	579	1954	224	39	340	58
		1955	116	20		
1953	591	1953	229	39	380	64
		1954	151	25		
1952	533	1952	250	47	350	66
		1953	100	19		

TABLE XIII (continued)

Vaccination by age at date of vaccination

	Number of live births	Number vaccinated by age at date of vaccination			Percentage of births of those vaccinated under one year
		Under 1	1 - 4	5 - 14	
1958	688	357	27	16	52%
1957	697	441	50	45	63%
1956	632	381	14	15	60%
1955	581	309	12	16	53%
1954	579	369	13	5	64%
1953	591	326	15	1	55%
1952	533	359	21	10	67%

VACCINATION DONE BY PRIVATE DOCTORS AND CLINICS

The analysis of 1958 vaccinations is as follows:-

Age Group	Vaccinated		Revaccinated	
	Private Doctors	Clinics	Private Doctors	Clinics
Under 1	160	197	-	-
1 - 4 years	19	8	1	-
5 - 14 years	16	-	10	-
TOTAL UNDER 15	195	205	11	-

COMPARISON WITH OTHER AREAS

	Dartford Rural Dist.	Dartford Borough	Kent A.C.	England & Wales
Percentage of those born in 1957 vaccinated in 1957 or 1958	58%	61%	60%	-
Percentage of births of those vaccinated in 1958 at age under 1 year	47%	52%	55%	45%

RE-VACCINATION

The number of children due each year for re-vaccination in school life (assuming only one re-vaccination during that period) is roughly the number of infant vaccinations done five years previously and the percentage re-vaccinated is shown by the following calculations:

	Dartford Rural Dist.	Dartford Borough	Kent A.C.	England & Wales
Infant vaccinations done in 1953	273	380	13,845	231,200
Children aged 5-14 re-vaccinated	14	10	354	13,569
Percentage of possible number of those re-vaccinated	5%*	3%	3%	6%

* Correction for increase in school population through immigration and other errors would result in an even lower percentage.

(c) Poliomyelitis

The following table gives the numbers of children who received a course of injections against poliomyelitis during the year ended 31st December, 1958:

TABLE XIII (continued)

(c) Poliomyelitis

The following table gives the numbers of children who received a course of injections against poliomyelitis during the year ended 31st December, 1958:

Year of birth	Dartford Rural District		Dartford Borough	
	Given two injections	Given third injection	Given two injections	Given third injection
1958	79	-	118	-
1957	538	18	497	18
1956	561	53	506	44
1955	547	35	486	47
1954	446	22	390	41
1953	415	24	377	40
1952	377	13	318	40
1951	357	16	333	37
1950	227	20	241	35
1949	221	16	230	44
1948	201	11	222	33
1947	256	13	227	37
1946	416	1	451	-
1945	405	2	370	1
1944	326	-	364	2
Others	627	7	942	22
Total	5,999	251	6,072	447

(d) Whooping Cough

The following table gives the numbers of children who received a primary injection against whooping cough during the year ended 31st December, 1958:

Year of birth	Dartford Rural District	Dartford Borough
1958	275	229
1957	488	403
1956	80	57
1955	11	14
1954	12	10
1953	8	16
1952	2	5
1951	4	1
1950	1	-
1949	-	-
1948	-	-
1947	-	-
1946	-	-
1945	-	-
1944	-	-
Before 1944	-	3
Total	881	738

TABLE XIII (continued)

(e) Tuberculosis
(Vaccinated with B.C.G.)

The following figures are kindly provided by the Chest Physician, Dartford:

	Dartford Rural District	Dartford Borough
Children under 15 years of age	87	99

It must be remembered, however, that some persons from those parts of the rural district adjacent to other urban areas attend other clinics and therefore these figures are not quite complete for the rural district. Furthermore, vaccination with B.C.G. is carried out by the School Health Service and these figures are not available.

TABLE XIV - ACCIDENTS IN THE HOME

Persons receiving in-patient treatment at the Dartford Group of Hospitals

	Age	Falls	Burns & Scalds	Poisoning	Other	Total
1956						
	0 - 4	6	8	1	1 (Died)	16
	5 - 64	8	1	1	3	13
	65+	6	-	-	-	6
		20	9	2	4	35
1957						
	0 - 4	1	6	1	1	9
	5 - 64	3	6	5	5	19
	65+	4	-	-	-	4
		8	12	6	6	32
1958						
	0 - 4	3	1	1	1	6
	5 - 64	4	1	1	1	8
	65+	7 (3 died)	-	1	-	8
		14	2	3	3	22

Deaths at Home

1956						
	0 - 65+	None				
1957						
	0 - 65+	None				
1958						
	0 - 4	-	-	-	-	-
	5 - 64	-	-	1	-	-
	65+	-	-	2	-	-

Length of stay in hospital

	Under 1 week	1-	2-	3-	4-	8-	12-	13+	Total Cases
1956	11	7	7	1	4	4	-	1	35
1957	13	6	2	-	7	1	-	3	32
1958	11	2	3	2	2	-	-	2	22

ANNUAL REPORT OF CHIEF PUBLIC HEALTH INSPECTOR

TO THE MAYOR, ALDERMEN AND COUNCILLORS
OF THE BOROUGH OF DARTFORD

YOUR WORSHIP, LADIES AND GENTLEMEN,

I have the honour to present my Annual Report, which includes a summary of the work carried out by the Public Health Inspectors during 1958.

INSPECTIONS UNDER PUBLIC HEALTH ACTS

Complaints and Routine Visits in connection with Nuisances

The following is a summary of the complaints entered in the Complaint Book during the year:-

Complaints re accumulations, etc.	20
Complaints re food	9
Choked Drains (cleared by Public Health Department)	202
Choked Drains (cleared by Owners)	29
Matters requiring execution of works of repair	108
Complaints re dustbins	39
Overcrowding	4
Bugs	11
Woodworm	8
Wasps	12
Fleas	5
Other Insects	9
Miscellaneous	70
Complaints of matters where no nuisance was found	32
	558

The number of complaints in connection with choked drains is an exceedingly variable one from year to year but the figure for other complaints has remained at under 400 since 1955. Prior to that the figure was usually of the order of 550 to 600.

DUSTBINS

The policy of the Council in the event of no dustbin being provided by either owner or occupier, is to provide a bin and recover a sum of 7s. 6d. with the rates on the 1st April. Seventy-one new bins were supplied during the year (initial supply) and ten were supplied as replacements for bins provided previously by the Council. These figures are very similar to those for the preceding year.

ERADICATION OF VERMIN

During the course of the year 14 premises were treated for bugs, 6 for woodworm, 10 for wasps, 5 for fleas and 1 for other insects. A liquid spray containing D.D.T. and pyrethrum is used for normal disinfestation. Wasps nests are treated with Magnesium Cyanide. A charge of 5s.0d. is made in respect of treatment for wasps, woodworm, ants, etc.

INFECTIOUS DISEASES

Visits and investigations by Public Health Inspectors	93
Premises disinfected (tuberculosis)	19
Premises disinfected (all other infections)	-

ATMOSPHERIC POLLUTION

Observations of atmospheric pollution by the use of standard deposit gauges and lead peroxide gauges are made at three sites in the Borough. Volumetric apparatus for the daily measurement of smoke and sulphur dioxide was brought into operation in November, 1956. Details in connection with the observations and results of analyses together with those in respect of adjacent local authority areas, will be found in the Annual Report of the Thames-side Joint Committee for the Abatement of Atmospheric Pollution.

During the early part of the year proposals were placed before the Public Health Committee for dealing with two smoke control areas, either individually or jointly, one containing 2,390 houses and the other 1,848. As both areas contained a number of Council houses and consideration was being given by the Housing Committee of the Council to the modernisation of some of these houses, consideration of the smoke control area proposals was deferred until a decision had been reached by the Housing Committee in connection with its modernisation proposals.

Frequent intermittent contraventions of the Clean Air Act occurred by the emission of dark smoke from a chimney in the Council's area. This was due to the occasional use of 2 Lancashire Boilers at a factory which had converted to a fully automatic oil fired water tube boiler. As a result of discussions with the Engineer of the firm concerned the assistance of N.I.F.E.S. was sought and some improvement obtained. A series of recommendations with regard to the maintenance and operation of the plant was made by N.I.F.E.S. Engineer and these are being implemented.

MOVEABLE DWELLINGS

A site at Stonehill Woods, Joydens Wood, is licensed for twenty-four chalet type bungalows and Town Planning approval has been given for the siting of ten trailer-type caravans upon this site. Ten such caravans have been granted individual licences and are being used for residential purposes.

Changes in the occupants of these residential caravans occur at fairly frequent intervals.

OVERCROWDING

Four complaints of overcrowding were received during the year. At three of the premises there was no statutory overcrowding. One case of overcrowding had occurred at a house let in lodgings and was abated upon service of informal notice.

SWIMMING BATHS

The open air swimming bath in Burnham Road, which is under the administrative control of the Borough Surveyor, has a continuous heating and chlorination plant, the water being chlorinated so as to give a residual chlorine figure of 0.5 ppm. at the inlet.

The swimming bath at the Dartford College of Physical Education is open during the summer months for certain school children. Samples from the deep and shallow ends of both baths were submitted for bacteriological examination at intervals throughout the season. All were reported to be satisfactory.

TABLE OF NUISANCES REMEDIED AND REPAIRS EFFECTED

Accummulation of refuse or manure removed		7
Animals - Nuisance abated		4
Brickwork	(a) repaired	48
	(b) repointed or rendered	164
Ceilings	(a) cleansed	10
	(b) repaired	113
Cesspools	(a) emptied	-
	(b) repaired	-
Cooking apparatus repaired or renewed		-
Coppers repaired or renewed		5
Doors - frames or fittings repaired or renewed		177
Drains	(a) cleared by service of notice	10
	(b) cleared by Department	203
	(c) reconstructed	1
	(d) repaired	19
	(e) gully fenders repaired	38
	(f) inspection chambers provided	-
	(g) inspection chambers repaired	11
	(h) vent shafts or fresh air inlets repaired	4
Fireplaces	(a) grates provided	-
	(b) other repairs	37
Floors	(a) floorboards repaired	94
	(b) floor joists repaired	12
	(c) sub floor ventilation improved	41
	(d) solid floors repaired	52
Roofs	(a) repaired	175
	(b) stripped and re-roofed	6
	(c) eaves gutters repaired	70
	(d) down pipes repaired	28
Sinks	(a) sinks renewed	11
	(b) sink waste pipes renewed	12
Stairs	(a) new treads or risers	29
	(b) handrails provided	9
Walls	(a) cleansed and re-decorated	10
	(b) plaster repaired	315
	(c) dampness abated	415
Water supply	(a) taps, pipes, etc. repaired	10
	(b) water storage tanks repaired or renewed	2
Windows	(a) frames, sashes or casements repaired	223
	(b) glazing or putties	218
	(c) sashcords, etc. repaired	131
W.Cs.	(a) flushing cisterns repaired or renewed	36
	(b) W.C. pans renewed	17
	(c) W.C. seats repaired or renewed	16
Yard Paving	(a) repaired	67
	(b) re drained	4
Miscellaneous defects not included above		64

DRAINAGE WORK

Number of drains tested by water	13
Other tests	37
	50

In all, 258 visits were made to drainage works for the purpose of drain testing or supervision.

HOUSING ACT

Information in connection with housing has already been provided in the Quarterly Return to the Ministry of Housing and Local Government on Form P.13 (Hsg).

Briefly summarised this shows the demolition of 16 houses, the closing of 3 and part of one and the repair of 328.

RENT ACT, 1957

In general, little advantage has been taken of the provisions of the Rent Act by the tenants of properties in a state of disrepair. During the first four months of the operation of the Act there were 40 applications for Certificates of Disrepair and 39 Certificates were issued. During the succeeding 12 months there were only 26 applications for Certificates of Disrepair and 24 Certificates were issued; 14 Certificates were cancelled during the year. It is not considered that these figures are indicative of a good state of repair but rather that they indicate either apathy on the part of the tenants or, alternatively, a distruct of the unduly complicated procedure associated with the Act. In some cases a fear has been expressed that an application for a Certificate of Disrepair is likely to result in a notice to vacate the premises.

Details of applications for certificates received, certificates issued and applications for cancellations received, are set out in the following table:-

Applications for Certificates of Disrepair

Number of applications for Certificates	26
Number of Certificates issued	24

Applications for Cancellations of Certificates

Number of Certificates cancelled	14

IMPROVEMENT GRANTS

Twenty-two applications for improvement grants were received during the year. Eighteen grants were made and four cases had not received consideration at the end of the year. Eight of the properties were tenanted. The total cost of the works involved was £7,588. 15s. 0d. and the Council's grant was 50% in all cases.

LABORATORY SERVICES

The laboratory examinations were carried out at the Public Health and County Analyst's Laboratories at Maidstone and also at the Pathological Laboratories of the Dartford Group of hospitals. The following specimens were submitted for examination.

Drinking water (bacteriological)	43
Drinking water (chemical)	6
Swimming Bath water (bacteriological)	23
Milk (bacteriological)	41
Food and Drug samples	173
Ice Cream (biochemical)	17
Food for infection	-
Faeces	24

ICE CREAM

Premises used for the sale of ice cream

Number of premises registered for sale of ice cream and from which ice cream was sold	73
Number of premises registered and used for manufacture of ice cream	1
Number of samples taken for biochemical examinations	16

Results of examination are set out below:-

	Hot Mix Manufactured inside District	Hot Mix Manufactured outside District
Grade I	7	6
Grade II	1	1
Grade III	1	-
Grade IV	-	-

Seventeen samples of ice cream were submitted to the County Analyst for examination. Seven samples of ice cream from five sources, manufactured outside the district, had average fat and total solids contents of 12.6 and 40.4 respectively. Ten samples of "hot mix" ice cream, manufactured within the district had average figures of 5.82 and 28.69. Two of these had fat contents of 3.9% and 2.7% which are considerably below the legal minimum of 5%. The manufacturer was warned on each occasion.

MILK - LICENCES ETC

The following are details in connection with licences issued and premises in use in the area:-

	1960
Number of Dairies (excluding dairy farms)	2
Number of registered distributors with premises in the Borough (including 17 distributors selling sterilized milk only)	19
Number of registered distributors with premises outside the Borough (including 2 selling sterilized milk only)	8
Tuberculin Tested Milk Dealer's licences issued	12
Tuberculin Tested Milk Supplementary Licences issued	12
Pasteurised Milk Dealer's Licences issued	12
Pasteurised Milk Supplementary Licences issued	13
Sterilized Milk Dealers Licences issued	30

SAMPLES

During the year 23 samples of Pasteurised Milk, 6 samples of Tuberculin Tested Milk (Pasteurised), 6 samples of Channel Island Milk (Pasteurised) and 6 of Sterilized Milk were submitted to the County Analyst for routine examination.

All samples satisfied the prescribed tests.

SLAUGHTERHOUSES

There is no licenced slaughterhouse in the Borough, but the following figures are in respect of inspection of animals at a large hospital within the Council's area:-

1 heifer, 12 cows, 26 calves and 628 pigs were killed at this slaughterhouse during the year and all were inspected. Cysticerous Bovis was not found in any carcase. For diseases other than tuberculosis, 2 pig's carcases and parts of 58 pig's carcases representing 9.5% were condemned. For tuberculosis, parts of 19 pig's carcases representing 3.2% were condemned. Tuberculosis was not found in any bovine carcase. Disease other than tuberculosis was found in 2 cows representing 16.2% and in one calf representing 3.8%.

OTHER INSPECTIONS

Apart from the figures included in other sections of the report, the following visits were made during the year:-

Visits to:

Fruit Pickers Huts	6
Offensive Trades	14
Public Conveniences at Inns	73
Other Public Conveniences	84
Slipper Baths	26
Stables, Piggeries, etc.	40
Tents, Vans and Sheds	96
Re-inspections and visits to works in progress	4411
Miscellaneous visits	451

In all a total of 8,773 visits or inspections were made during the year.

PUBLIC BATHS

PUBLIC CONVENIENCES AND SLIPPER BATHS

The Corporation have provided and maintain the following, which are under the administrative control of the Chief Public Health Inspector:-

Public Conveniences with wash and brush up facilities and Slipper Baths for both sexes at Spital Street.

Public Conveniences for both sexes on The Brent.

Public Conveniences for both sexes in Market Street.

The number of persons using the Slipper Baths is given below, together with comparative figures for 1956 and 1957:-

	1956	1957	1958
Men	14,144	16,259	15,378
Boys	686	526	514
Women	3,488	3,955	3,675
Girls	258	432	413
	18,576	21,172	19,980

FOOD AND DRUGS ACT, ETC.

FOOD PREPARATION PREMISES

The following table shows the number of food premises of various types in the Council's area and the number of visits of inspection or re-inspection paid to such premises during the year. All premises in which food is prepared or stored for sale for human consumption are inspected at least twice in every year. Some are inspected as a routine measure three times a year and some quarterly. The frequency of inspection varies according to the type of business carried on and the manner in which the particular business is conducted.

Where more than one trade or business is carried on in a particular shop, e.g. grocers who also sell ice-cream, or grocers who also sell a small amount of greengrocery, the premises are classified according to the predominant trade and one inspection entry only is made in connection with visits to such multi-purpose shops.

It is gratifying to note that compared with previous years there has been a reduction in the number of offences in connection with the exposure of food to risk of contamination and uncleanliness of rooms, equipment and personnel. Most of the rooms used for the sale or preparation of food are now structurally in good condition and provided with proper facilities for maintaining cleanliness of personnel, equipment and premises.

	Number of Premises	Number of Inspections
Bakehouses	7	37
Butchers	27	155
Cafes, Restaurants, Canteens etc.	55	352
Confectioners-Sugar confectionery	102	151
Flour "	17	4
✱ Dairies	2	4
Fish Friers	11	49
Fishmongers (not friers)	4	20
Greengrocers	32	137
Grocers	71)	298
Mixed Grocers and Greengrocers	8)	
Ice Cream premises (including Manufacturers)	73 *	91
Licenced Premises (non-catering)	38	144
Knackers Yards	1	12
Slaughterhouses	1	79

✱ Although two premises are registered as dairies, one only is used as such and this only on rare occasions.

* This figure represents the number of premises registered most of which are grocers or confectioners and inspections of which are recorded under those headings.

REGISTERED PREMISES

In accordance with the provision of Section 16 of the Food and Drugs Act, 1955, the following table indicates the number of premises registered for:-

Sausage Making and Cooked Meats	29
Curing and Preservation of Fish	4

Ice Cream Manufacture and Sale	1
Ice Cream Storage and Sale	73

Visits to these premises are included in the figures tabulated above.

As a result of the foregoing inspections, 119 Notices were served during the year and 121 Notices were complied with. The following table sets out the defects remedied:-

Premises and Equipment

1. Disrepair of walls and ceilings of food rooms	1
2. Unclean walls and ceilings of food rooms	23
3. Disrepair of floors or floor coverings of food rooms	3
4. Unclean condition of floors of food rooms	5
5. Inadequate lighting	1
6. Inadequate ventilation	3
7. Disrepair of equipment	4
8. Unclean equipment	6
9. Inadequate sinks or other facilities for cleansing equipment:-	
(a) New sinks provided	1
(b) Polythene bowls provided	2
10. Inadequate water supplies for sinks	6
11. Inadequate wash-hand basins	2
12. Inadequate water supply to wash-hand basins	10

Personnel and Clothing

13. Unclean personnel	1
14. Unclean clothing	-
15. Inadequate accommodation for outdoor clothing	2
16. Inadequate provision of dressings, antiseptics etc.	34
17. Inadequate provision of soap, nailbrushes and towels	14
18. Absence of Notice re Washing of Hands	9

Protection of Food from risk of contamination

19. Surfaces, having contact with food, constructed of unsuitable materials	4
20. Animals likely to contaminate food in food rooms	5
21. Food not covered against risk of contamination	22
22. Personnel smoking in food preparation rooms	3

Sanitary Accommodation

23. Disrepair	2
24. Unclean condition	4
25. Communicating directly with premises used for cleansing of food equipment	0

Miscellaneous

Miscellaneous defects not included above	19

The supply of food hygiene posters to various catering establishments has been continued during the year.

FOOD AND DRUG SAMPLING

During the year 173 samples were obtained (1 formal and 172 informal). The following table shows the results of the analyses of these samples:-

	Formal	Informal	Genuine	Inferior	Adulterated
Apples - Red Delicious	-	11	1	-	10
Arrowroot	-	1	1	-	-
Beef Suet	-	1	1	-	-
Bread	-	5	4	1	-
Butter	-	5	5	-	-
Camphorated Oil	-	1	1	-	-
Cheese - Spread	-	5	4	-	1
- Processed Cheddar	-	1	1	-	-
Cinnamon - Ground	-	1	1	-	-
Corned Beef	-	1	-	-	1
Cornflour	-	1	1	-	-
Cream	-	2	2	-	-
Creamed Rice Milk Pudding	-	1	-	1	-
Currants	-	1	1	-	-
Custard Powder	-	2	2	-	-
Epsoms Salts	-	1	1	-	-
Flour-self raising	-	2	2	-	-
Flour confectionery:-					
Custard Tarts	-	4	4	-	-
Madeira Cake	-	1	1	-	-
Scones - Dairy Cream	-	1	1	-	-
Sultana Cake	-	1	1	-	-
Gluco-Juice	-	1	1	-	-
Ginger - Ground	-	2	2	-	-
Ice Cream	-	16	13	2	1
" " - with Dairy Cream	-	1	1	-	-
Jam and other Preserves:-					
Lemon Curd	-	1	1	-	-
Marmalades	-	1	1	-	-
Raspberry Jam	-	1	1	-	-
Red Plum Jam	-	1	-	1	-
Strawberry Jam	-	2	2	-	-
Jelly	-	1	1	-	-
Lard	-	5	5	-	-
Margarine	-	3	3	-	-
Meat Pastes:- Chicken	-	1	1	-	-
Chicken & Ham	-	2	2	-	-
Milk - Channel Island Pasteurised	-	6	6	-	-
Pasteurised	-	23	23	-	-
Sterilized	-	6	6	-	-
T.T. Pasteurised	-	6	6	-	-
Nutmeg - Ground	-	1	1	-	-
Olive Oil	1	1	2	-	-
Pepper	-	1	1	-	-
Rolls - buttered	-	1	1	-	-
Sauce - Tomato	-	2	2	-	-
Sausages - Beef	-	1	1	-	-
Pork	-	20	13	7	-
Pork Chipolatas	-	3	-	3	-
Sausage Meat - Pork	-	2	2	-	-
Sausage Rolls	-	3	3	-	-
Soup - Chicken	-	1	1	-	-
Steak Pie	-	1	1	-	-
Sugar Confectionery:-					
Buttered Coffee	-	1	1	-	-
Buttermint Toffee Rolls	-	1	1	-	-
Butter Crunch	-	1	1	-	-
Walnut Chip	-	2	-	-	2
Sultanas	-	1	1	-	-
Vinegar - Malt	-	1	1	-	-
	1	172	143	15	15

The following are details in connection with the samples in the foregoing table which were reported as either inferior or adulterated:-

Apples: Samples of apples were taken on two occasions upon receipt of information that apples imported from the Lebanon were contaminated with a lead arsenic spray. The first batch consisted of 8 apples all of which were reported by the Analyst as adulterated and which had arsenic content of from 1.4 to 5.4 parts per million (average 2.6 parts per million), and lead 7.3 to 24 parts per million (average 14.7 parts per million). Two apples were taken from a subsequent consignment and both were reported as adulterated having arsenic contents of 10 and 7 parts per million and lead 31 and 35 parts per million.

It would appear that apples imported from the Lebanon at this time were distributed to numerous local authority districts and in the absence of any clear central direction, varied procedures were adopted for dealing with the incidents. In some cases the apples were seized and destroyed as unfit for human consumption and in other cases they were returned for washing, in some cases several washings were necessary before the degree of contamination was reduced to a satisfactory level. It was reported in some areas that by the time this level had been reached, the apples had been handled so much that they were commercially valueless.

The varying degrees of importance that were attached to the incidents by different authorities no doubt had an influence upon the wholesalers at markets and subsequently upon some of the retailers. In this local authority's area one month after the main incident, a further consignment was found to have been delivered to a greengrocer in this area; the apples were found to be heavily contaminated and he was asked to withdraw them from sale. During the afternoon of the same day, the heavily contaminated apples were still found on display at branch shops within a few hundred yards of the main shop.

Bread: A sample was submitted upon complaint by the purchaser that foreign matter was present in the bread. The Analyst reported the presence of an area of mould and a poppy seed. The matter was referred to the Chief Public Health Inspector of the district in which the bread was made.

Cheese Spread: Following a complaint by the purchaser that foreign matter had been found in cheese spread, the sample was submitted to the Public Analyst and the foreign matter was found to be glass. Proceedings were instituted in accordance with the provisions of Section 2 of the Food and Drugs Act 1955 and a fine of £10 was imposed upon the manufacturers.

Corned Beef: Following a complaint by the purchaser, part of a tin of corned beef was submitted to the Public Analyst for examination who found a piece of sheet rubber tubing embedded in the corned beef. A letter was sent to the manufacturers in Australia but no reply was received.

Creamed Rice Milk Pudding: In an informal sample the Public Analyst reported the presence of 24% added water. The manufacturers were unable to explain this and said that no water had been added. A repeat sample taken some months later during the following year was found to be satisfactory.

Ice Cream: Two samples of ice cream were found to be deficient in fat having 3.9% and 2.7% respectively, and one sample was slightly deficient in fat and sugar. All were of local hot mix manufacture and the matter was taken up strongly with the manufacturer concerned.

Jam, Red Plum: An informal sample of Red Plum Jam from the supply of a local hospital was submitted for examination and found to be slightly deficient in fruit. The hospital subsequently changed its source of supply and no repeat samples could be taken.

Sausages, and Pork Chipolata Sausages: In 8 samples preservative was present but not declared; in 2 there was a slight deficiency in meat and in one the amount of fat considerably exceeded the amount of lean meat. In all cases the matter was dealt with informally, either by visits or by letter.

Sugar Confectionery, Walnut Chip: A complaint was received from the purchaser about the condition of Walnut Chip. The remnants of the purchaser's confectionery and a sample from the shop were submitted to the Public Analyst for examination. One sample contained larva of the cacao bean moth and both contained insect excreta. A strong warning letter was sent to the vendor.

Complaints with respect to the condition of food or conditions under which food was sold were received in the following instances, apart from those which have already been referred to in connection with samples submitted to the Public Analyst for examination:-

(1) A complaint was made that a bottle of milk delivered to premises in the Council's area, contained a small screw and nut. The matter was taken up with the dairy concerned who reported that an investigation showed that these could have originated in the Bottling Plant where nuts and bolts of similar size were used. The matter was dealt with by a warning letter to the firm concerned.

(2) A complaint was made in connection with the condition of butter purchased in the Council's area. The butter complained of and samples of a similar brand at the shop, were found to have a slightly strong taste but were not unfit for human consumption.

(3) A complaint was made by a resident in the Council's area about wrapped sliced bread which was found to be bright salmon pink in colour. The purchaser stated that she thought the bread had been spread with rat poison.

An investigation showed that this was due to the presence of a mould, monilia sitophila.

The matter was investigated at the Bakery at which the bread had been baked but no evidence of the source of the mould was found and no further complaints were received by the bakers.

(4) A complaint was made by the purchaser of mould in an apple turnover. Some little time had elapsed between purchase and presentation of the turnover at the Public Health Department and in view of the warm humid weather at the time no further action was taken apart from advising the manufacturers of the complaint.

(5) A complaint was made that small white insects had been seen in a vinegar bottle at a restaurant in the town. A visit was made to the premises but the vinegar had been changed during the short time that had elapsed between the complaint by the customer and the visit by the Public Health Inspector.

UNSOUND FOOD

The total quantity of unsound food dealt with during the year was 1 ton 8 cwts. 7 qrs. 7 lbs. 2¼ ozs. Details of the food surrendered are tabulated below:-

	Tons	Cwts.	Qrs.	Lbs.	ozs.
FISH					
Dogfish	-	-	1	10	-
Skate	-	-	2	-	-
MEAT, POULTRY, ETC.					
Beef	-	-	2	7	-
Beef Sausages	-	-	-	8	-
Chicken	-	-	2	23	-
Ox Liver	-	-	-	14	-
Ox Heart	-	-	-	2	-
Pigs Pluck	-	-	1	12	8
" Liver	-	-	1	6	8
" Heart	-	-	-	1	-
" Head	-	-	2	19	-
" Mesenteries	-	-	-	7	-
Pork	-	9	2	5	-
Pork Sausages	-	-	-	9	8
MISCELLANEOUS GROCERIES					
Almonds	-	-	-	-	8
Cereals	-	-	2	6	11
Cheese (Processed)	-	-	-	7	2
Confectionery - Biscuits	-	-	-	7	2
Swiss Rolls	-	-	-	9	3
Cream	-	-	-	2	3
Currants	-	-	1	24	-
Jelly	-	-	-	-	5
Lard	-	-	-	1	8
Lemon Squash	-	-	-	2	8
Nescafe	-	-	-	-	5

	Tons	Cwts.	Qrs.	Lbs.	Ozs.
MISCELLANEOUS GROCERIES (continued):-					
Prunes	-	-	-	20	-
Soups	-	-	-	-	10
Sultanas	-	-	-	-	8
Sugar	-	-	-	2	-
TINNED GOODS					
Cereals 13 tins; Fish 66 tins; Fruit 548 tins; Ham 26 tins; Meat 196 tins; Milk 106 tins; Vegetables 193 tins; Soup 6 tins.	-	14	3	27	11¼
Total	1	8	7	7	2¼

FACTORIES ACT, 1937

The following is a summary of inspections carried out in accordance with the provisions of the above Act:-

(1) INSPECTIONS

	Number on Register	Inspections	Number of Notices	Prosecutions
(i) Factories in which Section 1,2,3,4 and 6 are to be enforced by Local Authorities	12	63	2	None
(ii) Factories not included in (i) in which Section 7 is enforced by the Local Authority	165	391	33	None
(iii) Other premises in which Section 7 is enforced by the Local Authority (excluding Outworkers' premises)	34	91	8	None
	211	545	43	None

(2) CASES IN WHICH DEFECTS WERE FOUND

Particulars	No. of cases in which defects were found				
	Found	Remedied	Referred To H.M. Inspector	Referred By H.M. Inspector	Prosecutions
Want of Cleanliness (S.1)	10	9	None	None	None
Overcrowding (S.2)	None	None	None	None	None
Unreasonable temperature (S.3)	None	None	None	None	None
Inadequate ventilation (S.4)	None	None	None	None	None
Ineffective drainage of floors (S.6)	1	1	None	None	None

(2) CASES IN WHICH DEFECTS WERE FOUND (continued):-

Particulars	Found	Remedied	Referred To H.M. Inspector	Referred By H.M. Inspector	Prosecutions
Sanitary Conveniences (S.7)					
(a) Insufficient	4	7	None	None	None
(b) Unsuitable or defective	25	32	None	None	None
(c) Not separate for sexes	1	1	None	None	None
Other offences against the Act (not including offences relating to Outwork)	8	7	None	None	None
	49	57	None	None	None

PREVENTION OF DAMAGE BY PESTS ACT, 1949

RATS AND MICE

Complaints of infestation by rats and/or mice were received in respect of 194 premises. As a result of independent survey 17 premises were found to be infested by rats and one by mice.

115 premises were treated for infestation by rats and 42 for infestation by mice.

SHOPS ACT, 1950

Set out below are details of the number of inspections made and notices served and complied with during the year:-

Number of inspections made	195
Notices served	3
Notices complied with	7

Analysis of Notices complied with in 1958:-

Abstracts	5
Sanitary accommodation defective ..	1
Sanitary accommodation insufficient	-
Inadequate temperature	2
Half-day or Sunday closing offences	-
Offences relating to intervals for meals, etc.	-
Inadequate washing facilities ..	2
No seats for female assistants ..	1
Inadequate ventilation	2

LEGAL PROCEEDINGS

Proceedings were instituted in respect of the provisions of Section 22 of the Food and Drugs Act, 1955 occasioned by the sale of greengrocery from a barrow which did not bear conspicuously the name and address of the trader. A fine of £1. 10s. 0d. was imposed.

Proceedings were instituted for a contravention of Section 2 of the Food and Drugs Act, 1955 occasioned by the sale of a jar of cheese spread which contained a fragment of glass. A fine of £10 was imposed.

Proceedings were instituted in respect of a contravention of Section 2 of the Food and Drugs Act, 1955 occasioned by the sale of a Swiss Roll which was found to be mouldy. A fine of Ten Guineas was imposed.

I am, Sir, Ladies and Gentlemen,

Your obedient Servant,

T.H. IDDISON,

Chief Public Health Inspector.