

Infantile Mortality

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Sampan

Infantile Mortality

The statement, that half the number of deaths occurring in a population, is among children under the age of five years, is a startling one; to the thinking mind it is a fertile source of reflection, to the sanitarian it reveals a wide field for improvement and progress, to the physician it suggests the question how? and by what means? does so large a mortality happen among those who have but just entered life, to whom disease should be unknown, and the future full of promise. It will be attempted in this paper

To consider the subject of Infantile Mortality; to trace its various sources, to compare it under different circumstances and, where it shall be deemed expedient, to make suggestions as to the possibility of removing its causes, and lessening its ravages. It is proposed to examine especially infantile mortality in Scotland, first of all to ascertain the mortality among children under five years of age throughout the land, and to find out the different classes of disease to which it is due. Then a comparison will be made between the mortality in the Town, and Mainland or Rural Districts of Scotland. The Relative mortality among Male and Female children will also be taken into consideration. In conclusion some remarks will be made upon the mortality among Illegitimate children, and also upon Parental Ignorance as influencing Infantile Mortality. The second Detailed Annual Report of the Registrar General for 1856, is the source from which nearly all the figures and tables in this paper have been derived. In tracing the causes of Infantile Mortality the Registrar General's classification of diseases will be adopted as the most convenient, notwithstanding that several assigned causes of death, as "Teething" are vague and unsatisfactory.

Infantile Mortality in Scotland

referred to its chief causes

In 1856 12,058 children died under the age of one year, and 23,372 children perished under 5 years of age. In the same year there were 101,821 Births and out of that number 12,058 or about 1 in 8 $\frac{1}{2}$ died before the first year.

Diseases	all ages	Both Sexes. ages under							Total
		Months			Years.				
		3	6	12	2	3	4	5	
All Causes.	58,329	6024	1869	4465	5283	2871	1771	1389	23372
Specified Causes.	54,755	4780	1491	3790	4926	2722	1692	1325	
Zymotic Class.	13,779	610	485	1540	2504	1603	1058	830	8,630
Tubercular Class	9,077	103	245	637	801	442	234	203	2,665
Brain & Nervous System	4501	372	112	187	180	93	68	55	1,067
Respiratory Organs	6,124	416	318	688	606	300	180	113	2,621
Organs of Digestion	4319	354	192	605	621	124	40	30	1,966
Premature Debility.	2744	2659	70	15	2744

Each of the above classes of disease will now be examined separately, with a view to ascertain which member of each class is most destructive to the infant community.

Of the various classes of disease the Contagious, or Zymotic, proves the most fatal in Scotland; nearly an exact fourth of all the deaths being ascribed to this one class. The Zymotic diseases

are especially fatal to the infant population. Thus of the 13,779 persons cut off by that class of diseases, 8630, or nearly 60 per cent, were under 5 years of age, the remaining 40 per cent being scattered over the ages above that period.

Upon an analysis of the deaths caused by the Zymotic Class of diseases, it is found that six diseases occupy prominent places, and chief by originate this large mortality

	under 1 year.	under 5 years.
Small Pox ..	395	982
Measles ..	270	909
Scarlatina ..	288	2007
Hoping Cough ..	813	2189
Croup ..	173	897
Diarrhoea ..	370	664

The indifference, and in many instances culpable neglect, which the lower orders manifest with regard to vaccination doubtless increases the mortality from, and encourages the propagation of, small pox, which holds so high a place among the contagious diseases. A compulsory vaccination act for Scotland could hardly fail to be beneficial.

Measles caused fewer deaths than Small-Pox but, as is well known, the sequelae of Mea-

sles are very troublesome, and it is reasonable to suppose that part of the large mortality, due to Bronchitis and Pneumonia, as will shortly be seen, may arise from exposure to cold and other exciting causes during an attack of, or recovery from Measles. Scarlatina was very prevalent during 1856 as the high mortality - 2007, testifies. Hooping Cough however was the most fatal disease to children under 5 years of age, the deaths from this cause amounting to 2189 and, strange to say, Hooping Cough was more fatal to females than to males which is contrary to the generally established opinion that females possess a lower rate of mortality than males. Thus in every hundred thousand of each sex the proportion cut off by Hooping Cough was 63 males and 77 females in 1855; and in 1856 the proportion was 79 males and 87 females. The Registrar General adds "So far as our limited experience goes, it would appear to be produced by the greater tendency which the female sex exhibits to have fits, or convulsions when attacked by paroxysms or fits of coughing in that disease."

Croup was fatal in 857 cases, it is chiefly in

influenced by locality. Damp, low-lying situations especially on the banks of streams are always observed to have an increased mortality from Croup. The mortality from the Lymphatic Class of diseases rises suddenly from the 9th to the 12th month, is generally greatest during the 2nd year, continues high during the third, and then gradually falls.

The Tubercular Class of Diseases is the next most fatal. The total number of deaths under 5-years of age being 2,665, which are distributed thus —

Scrophula	98
Tuberc. Mesenterica	394
Phthisis	631
Hydrocephalus	1542

Diseases of Brain and Nervous System —

Total number of deaths under 5-years of age is 1067, of which 671 happened during the 1st year. The deaths were distributed as below.

Cephalitis	153
Apoplexy	51
Convulsions	694
Brain Disease	127

Convulsions thus appear to have carried off by far the largest number, 326 children dying during the first 3 months.

Diseases of Respiratory Organs - are especially fatal to infants. The total number of deaths in Scotland during 1856 from this one class of inflammatory complaints was 6142, of these 2621 or nearly one half happened to children under 5 years of age, and of these 1422 were under one year. The following are the chief causes.

Laryngitis	under 1 year	69
Bronchitis	75-8	1323
Pneumonia	5-80	1101

Diseases of the Respiratory organs are among the most common that come under the Physicians notice, they attack people of all ages and the aggregate mortality from them is very high. Subject to disease at all ages, the Lungs are doubly liable to it in infancy, and especially during the period from birth to the end of the first dentition. In Infancy the Respiratory Mucous Membrane is extremely delicate, and at the same time that it sympathises acutely with morbid processes going on within, it can but feebly resist the influence of noxious impressions from without. It is stated that during the first month or two of life, this extreme susceptibility does not

exist to the same extent as afterwards, but that after this period, in proportion to the age of the child, there is an increased tendency to catarrh, and that this tendency is at its maximum during the period of dentition. The causes of these inflammatory affections are doubtless similar in kind in all ages, but widely different in degree. Thus an exposure to a draught of air or cold wind, which an adult might bear with impunity, would to a child be highly injurious and productive of most serious results. It is commonly stated that these diseases attack males much more frequently than females and this is attributed to the fact of males being more exposed to changes in the weather whilst following their business; seeing however that half of the number of deaths happen ^{to those} under five years of age and that children under such age are equally exposed to the supposed exciting causes of these diseases, another conclusion must be sought "It most probably depends" says the Registrar General "on the peculiar physical conformation of the male, whereby he is more liable than the female to succumb under acute disease."

Organs of Digestion - Diseases of these organs were fatal to 1151 children under one year and to 1966 under five years of age.

Teething	deaths under one year.	under 5 years
- - -	486	1027
Enteritis	378	519.

Out of the whole number of deaths from these causes, 605 occurred between the ninth and twelfth month of life; and 627 happened in the interval between the first and second years. From the ninth to the twenty-fourth or thirtieth month being the normal period of dentition, most of these deaths are ascribed to Teething, but this is a very vague term. It should be borne in mind that the system generally at this period is undergoing great and important modifications, that the child no longer depends upon its mother for food, already elaborately prepared and fitted for easy assimilation, but that it must now receive into its stomach nourishment of a widely different nature, requiring for its conversion into the proper elements of the body a more active and complicated digestive apparatus than has hitherto been found in the infant. Can it be wondered that the mortality at this important period

Should be high? or that "Feeding", with the changes of food that it implies, the alterations in the digestive system necessary for its reception and assimilation, and the unusual susceptibility of the system to noxious external impressions, should be looked forward to with apprehension, and be regarded with satisfaction when safely accomplished?

The last assigned cause of Infant Mortality here to be examined is "Premature Debility"

The number of deaths from this cause was 2744, of which 2659 occurred among children under 3 months old. This class includes those infants which die from being prematurely born or which, from want of vitality, die shortly after birth. The proportion of males greatly exceeds that of females. During 1856 they were in the proportion of 129 males to every 100 females. The deaths under this head are in the proportion of 98 deaths in every hundred thousand of the population.

It is proposed in the next place to make a comparison between the mortality among Infants in the Town and Mainland or Rural Districts, and to remark upon the special differences that exist.

Infant Mortality in Town
and Mainland Districts

Mainland D

Town D

Diseases	Months			Years			Diseases	Months			Years			
	3	6	12	2	3	4		5	3	6	12	2	3	4
All Causes	2829	753	1626	2031	1156	733	605	2990	1038	2446	3141	1640	1016	761
Specified Causes	2173	589	1417	1840	1056	680	572	2434	880	2299	3010	1524	997	733
Lymotic Class	269	183	558	920	637	404	369	323	243	947	1535	934	638	450
Tubercular Class	54	44	239	294	161	97	84	44	148	383	489	268	136	116
Brain & Nervous System	156	48	72	66	37	32	19	268	64	114	104	54	36	74
Respiratory System	186	122	261	208	102	65	42	217	151	437	353	193	114	71
Organs of Digestion	167	74	242	240	52	19	15	183	111	351	378	70	21	15
Premature Debility	119	27	7					1368	40	8				

It is well known that all diseases, attacking persons of all ages, and of both sexes, are attended by a much higher rate of mortality in large towns than in small towns or in country districts; and accordingly we must anticipate higher Infantile mortality in the Town than in the Mainland District. Hence it is found that although the Births in the Mainland District amount to 56,706 against 40,796 in the Town District, yet in the former only $\frac{5248}{7279}$ children under one year died, whilst in the latter the deaths of infants of the same age amounted to 6474; in the same year 1856, 9773 children under 5 years died in the Mainland whilst 13032 perished in the Town District. Causes must exist for this wide difference in the death rates, and doubtless the dark, ill ventilated, badly drained houses of the lower orders in the large towns do contribute largely to the causes of this excess of mortality. The Registrar General writes however "Even were the houses in the most perfect state as to ventilation lighting, drainage, supply of pure water &c much of this extra mortality among infants would continue to go on seeing that the necessity for so many of the mothers labouring for their daily

Registrar General's First Report for England & Wales.

bread, forces them to neglect their infants, or leave them in charge of incompetent persons, so that they are too often improperly fed, and not infrequently drugged with some preparation of Opium." Every one who has been in the houses of the Cowgate, and similar localities in Edinburgh, must be convinced that the wretchedness, filth and squalor of the house, or room (for a single room often constitutes the whole home of its occupants) must tend to disease, they can scarcely fail to generate it, and the question may well be asked, not, why is the mortality so high? but, how do children manage to live at all and to grow up men and women.

Dr. Farr writes "The source of the higher mortality in cities is the insalubrity of the atmosphere, and it will be found, *ceteris paribus*, that the mortality increases as the density of the population increases, and when the density and the affluence are the same, that the rate of mortality depends upon the efficiency of ventilation and of the means which are employed for the removal of impurities." Doubtless the greater amount of dissipation which prevails in the towns, and the consequent lowering of the "physique"

Of the parents, exercises an influence upon the health of their offspring.

In consequence of the dense population, want of pure air, and other results of overcrowded districts, it is natural to suppose that the mortality from the Zymotic class of diseases should be in excess in the Towns, accordingly we find that in 1856 5,120 children under 5 years of age died in the Towns from diseases of this class, whilst in the Mainland the mortality under the same age amounted to 3,345. The following is an analysis of the deaths caused by the chief diseases grouped under the Zymotic Class.

	Mainland D.		Town D.
Small Pox	292	- -	687
Measles	405	- -	490
Scarlatina	897	- -	1,104
Whooping Cough	636	- -	1,488
Croup	428	- -	442.

From the above figures Small Pox, Scarlatina and Whooping Cough appear to be the greatest sources of mortality and these three diseases show a notable excess in the Town over the Mainland District, the conditions for their propagation being more favourable in the former.

In comparing the mortality in the Mainland and Town districts it must be borne in mind that the population of the former considerably exceeds that of the latter, the respective populations in 1856 being estimated as follows

Mainland 1,739,195. Town 1,072,307

In the Mainland district there were 1033 deaths from Tubercular Diseases among children under 5 years, in the Town district there were 1484, distributed thus.

	Mainland D.	Town D.
Tuber Mesenterica	178	211
Phthisis	209	406
Hydrocephalus	608	815

The Men deaths required to make up the number were put down into Scrophula. The chief difference in the rates consists in the greater number of deaths from Phthisis, which may be accounted for by the unfavorable conditions to which infants in large towns are exposed. The difference in the Infanile Mortality in the two districts from Tubercular Disease is not so striking as it is in the returns for the whole population.

"Thus in the Island districts these diseases proved fatal only in the proportion of 180 deaths in every hundred thousand persons living. In the

Mainland and Rural Districts which include all the smaller Towns and Villages, the proportion was 260 deaths in the same number of inhabitants, while in the Town District the proportion rose to 453 deaths from the Tubercular class of diseases in every hundred thousand of the population". One reason for this difference not being so great in the Infante Mortality may perhaps be — that the period allowed for the operation of the noxious influences is not long enough; that during the first five years of life, the germs of disease are sown, as it were, into the system; that in many instances actual disease manifests itself, but that in the majority of cases, infants under these circumstances struggle through a miserable childhood only to perish during Puberty or Early adolescence.

Deaths arising from Disease of Brain & Nervous System
in the Mainland were 430 in the Towns 619.

Cephalitis	64	84
Apoplexy	19	31
Convolutions	275	404
Brain Disease	53	74

It is interesting to note the early age at which children are carried off by convulsions, in the

Mainland 186 and in the Town 185 - deaths occurred from this cause during the first three months of life, and within the first year there were respectively 209 and 295 fatal cases.

There is a most striking difference in the mortality of the two districts from diseases of the Respiratory System

	Mainland 566 deaths.		Town D. 1616.	
	under 2 years	under 5 yrs.	under 1 yr	under 5 years
Bronchitis	293	493	455	815
Pneumonia	218	392	358	703

This difference is too remarkable to be passed over un-noticed. The exciting causes of such diseases are perhaps more abundant in Towns. It has been often noticed in large Hospitals that after the floor of a ward has been washed some of the patients have had an attack of Pneumonia or Bronchitis, and it is not improbable that the custom of washing and drying clothes in the common apartment, prevalent in lower parts of large towns, may thus originate many attacks of such disease, although of course it cannot account for the great increase in mortality. Again it may be urged that the sickly infant of the Town, reared in an impure atmosphere and surrounded by unfavourable circumstances, cannot withstand an attack of so severe a disease

as Pneumonia so well as the more fortunate infant in the country, who has, or easily might have, pure air to breathe although he may be generally exposed to the many dangers arising from the mismanagement of an ignorant mother or nurse.

Diseases of Organs of Digestion cause the following deaths.

Mainland 814 Town 8. 1125.

Teething	358	638
Enteritis	243	272.

The great difference observable between the deaths from Teething in the two districts may perhaps be explained by the fact that children in Town are more apt to be neglected at this important period, the mothers are often engaged at some factory or other and the children are left to careless or incompetent persons, improper food is often given and the children are frequently drugged in order to quiet their restlessness and fretfulness.

Debility - Premature Birth

Mainland 8. 1225 Town 8. 1416.

One would naturally look for a considerable increase in the mortality of the Towns from this source. Some of the causes perhaps are - liability to deformity among the lower order of women in large towns

2.4.2.4.1 sur l'homme et le développement de
ses facultés page 163.

at any rate it is well known that labours are more frequently tedious and instrumental, in town, than in the country - illegitimate conceptions, Dissipation of both parents - and the unfavourable circumstances to which a pregnant woman is subjected in the densely inhabited quarters of large towns.

Relative Mortality of the Sexes.

The influence of sex upon mortality is well marked even from the earliest infancy to extreme old age. Nay its influence is before birth for the number of still born males is to that of females as 3 to 2 so Quetelet observes. "In west Flanders during the 4 years from 1827 - 30 there were 2557 still-born children, of whom 1517 were males, and 1080 females, giving a proportion of about 3 to 2" Further on the same author writes "It appears then without doubt that there exists a particular cause of mortality which attacks in preference male infants, before, and immediately after their birth. The effects are such that the proportion of deaths is, before birth, as 3 to 2, during the first two months which follow it about 4 to 3, during the 3rd, 4th, and 5th month as 5 to 4 and after the sixth or the tenth month the difference is little or nothing."

Edinburgh Medical and Surgical Journal 1844

Total number and relative proportion of male and female deaths during 1841 in England & Wales within the first five years of life.

ages	Males	Females	Proportion of Males to Females	Ratio of Excess of Male Mortality
0 to 1 month	13,351	9,741	137 to 100	37
1 to 2 "	4,858	3,703	131 to 100	31
2 to 3 "	3,313	2,676	124 to 100	24
3 to 6 "	8,008	6,451	122 to 100	22
6 to 9 "	6,341	5,182	110 to 100	10
9 to 12 "	5,573	5,013	105 to 100	5
1 to 2 years	13,987	13,281	100 to 100	0
2 to 5 years	16,164	15,941	101 to 100	1

The influence of sex upon the mortality attending parturition, as well as during the first months of infancy, has been ably illustrated by Prof Simpson, and from his interesting paper on the subject the following remarks are chiefly derived.

"Of the children that die during the actual progress of parturition the number of males is much greater than the number of females"

Stillborn Children not-Palaid	No. of Males	No. of Females	Proportion of Males to Females as
554	357	237	151 to 100

"More male than female children die in the earliest periods of infancy, and the disproportion between the mortality of the two sexes gradually diminishes from birth onwards till sometime subsequently to it." This proportion is in accordance with the remarks of Quetelet above quoted.

12,508 children died in their first year in Scotland during 1856, the proportion of males to females will be seen from the following small Table.

Ages under	Males	Females
3 months	3,418	2,606
6 months	1,058	811
12 months	2,203	1,962.

Prof Simpson has very clearly proved that this
 excess of mortality among male children is oc-
 casioned by a slightly increased size of the male head,
 he writes "For the very marked differences exist-
 ing between the difficulties and perils of male
 as compared with female births, there is no other
 traceable cause in the mechanism of parturition
 than the larger size of the head of the male child"
 This increase in size amounts to about one
 eighth of an inch in the transverse diameter of
 the male head. Owing to the larger size of the male
 infant's head, male births are longer and con-
 sequently more fatal to mother and child than
 female births. Also the increased duration of
~~female~~ male births exerts an injurious influence
 upon the health of male children during the
 first months of their lives, and from the amount
 of pressure to which the head is subjected
 diseases of the nervous system are more com-
 mon among male than among female in-
 fants. Dr. Farr observes: "The diseases of the ner-
 vous system are twenty three per cent more
 fatal to males than to females the chief dif-
 ference arising from the diseases which
 affect children". The number of male

Infants who died from diseases of the nervous system during their first year in 1856 was 380, whilst 291 females perished from the same causes, of this number 289 males and 221 females died from convulsions. In the same year 821 male children died of Hydrocephalus and 721 females from the same cause, of these respectively 353 and 291 were under one year of age. The great disproportion which exists in the number of children of different ^{districts} sexes who died from Pneumonia and Bronchitis under 5 years of age has already been noticed. 1344 males The disproportion in the children of different sexes is equally marked. 1344 males died of these two diseases and only 880 females; there is no evident reason for this wide difference, for both sexes at that early age are brought up under like conditions, nor are the males exposed to exciting causes of such diseases more than the females, which in after life might be supposed to account for the difference. It has been before remarked that Hooping Cough is more fatal to female than to male children, or excepting to the general rule, The deaths of 1548 male children are ascribed to Premature Debility, the number of females put down to that source is 1196, i.e. in the proportion of 129 males to every 100 females.

Transactions of the National Association for the Pro-
motion of Social Science - 1860 - Page 653.

These figures bear upon some of the remarks above made relative to the greater mortality of male births and many of these deaths may with reason be set down to the injurious effects of parturition upon male children.

Mortality among Illegitimate Children

In Scotland during 1856 8,695 illegitimate children were born, but from the Registrar General's Report it cannot be ascertained what was the rate of mortality among them. Nevertheless a few general remarks upon the subject may not be out of place, and where accurate facts are wanting it may be permitted to make some few conjectures.

Dr Fraser in a Paper on Infantine Mortality in Town writes "I have no means of correctly estimating the number of illegitimate children who die early in cities, but, judging from a somewhat lengthened experience as one of the medical officers in connexion with the largest public dispensary in this city, (Glasgow) I am of opinion that few of them survive their first year. This being the case, and the high percentage of illegitimacy in the principal towns in this part of the country being admitted, it becomes apparent that no small

" Item in the sum of Infant Mortality is contributed from this source and is attributable, according to my observation, to neglect, and deficient Nutrition". There can be no doubt that the general health and well-being of the mother during utero-gestation exercises the most important influence upon the present development and future condition of the infant. It would be difficult to enumerate the peculiar and distressing circumstances which surround a woman pregnant illegitimately. She is frequently a mere child herself, her own body not nearly fully developed, and hindered perhaps from being so by previous ill nourishment, and defective clothing and bad lodging. Her condition is often concealed until it is no longer possible to hide it, and for this purpose women frequently conceal it as soon as the uterine tumour begins to appear in the abdomen. It is needless to say that this must exert an injurious effect upon the fetus in utero and in addition must derange the general health of the woman herself. During this time she has to work for her livelihood, with often of a character ill suited to her state. Add to this the state of mental anxiety and distress consequent upon the desertion of her seducer.

Sur l'homme v. c. page 135.

an act which is the rule rather than the exception
 Many mothers of illegitimate children are often
 sunk low in dissipation, addicted to intemperance
 often syphilitic. Under these conditions can it be
 otherwise than that the children should be puny, ill-
 developed, often actually diseased? and is it
 to be wondered at that they waste and die in early
 infancy when one considers the hardships and privi-
 vations both to the mother and child born to induce?

Quetelet states that Dr. Currier found at Götting
 En among 100 births 3 cases of still birth among
 the legitimate and 15 among the illegitimate.
 At Berlin the number of still born children a-
 mong a hundred illegitimate births was, during
 last 50 years, three times more numerous than
 the number of still-born children among one hundred
 legitimate births. The same author writes "At Ham-
 burg during 1820 in a house where there were scarcely
 by any but prostitutes affected with the venereal dis-
 ease, out of 18 illegitimate births there were 6 still-born,
 and in another house of the same town also partly in-
 habited by prostitutes out of 93 births there were found 11
 still-born". In Scotland during 1856 there were
 2764 deaths from Premature and we may reasonably
 suspect that a large proportion of them were among illegitimates.

Parental Ignorance.

A very great deal of Infantile Mortality must be set down to this cause. It is a humbling fact, but nevertheless true, that a large proportion of the deaths of infants is due to the ignorance or prejudice of those who gave them birth, or to whose care they were entrusted. This ignorance is not confined to the lower orders but is widely spread throughout society, and children of the middle and upper classes, although removed from the grosser forms of evil which their poorer fellows suffer are excluded, perish in great numbers from the mismanagement to which they are subjected. It is strange that man should take such pains, in and arrive at such success in the rearing of domestic animals, and yet that the art of bringing up his own offspring should be so miserably neglected and attended by such a sacrifice of life. It certainly was not intended that one fourth of all children born should die within 5 first years, and educated parents have proved the contrary. Books such as that by Combe on the management of Infants &c. have done good work in lessening the amount of ignorance and in diffusing true principles of science among the people; still there was room for improvement, and I claim, common-

sensible remarks, judiciously and kindly made by Me-
 dical men would go far in effecting further good.
 It is not in the province of this paper to enter into the
 topics of Food, Dress & Circulation &c applied to In-
 fancy, but it will at once be acknowledged that long
 continued error in one or all of these departments
 cannot fail to exercise most important influence
 upon the diseases, and if upon the diseases, then as-
 suredly upon the mortality of Infancy also. Mothers
 too often neglect medical advice, the child ails and
 gets a dose of Physic the mother not looking for a
 inquiry after the cause of its ailment. Perhaps more-
 ly some error in diet, which being removed, the infant
 speedily recovers. The doctrine of "Lardening" infants
 is now exploded, at least in theory; but do not the
 Exposed worms and clots of little children appeal
 to Sympathy? and are they not too often the channels
 by which fatal attacks of Bronchitis or Pneumonia
 are admitted? Many mothers are over busy with
 their sick children, a poor child with severe Pneu-
 monia is expected to go through the same amount
 of washing and dressing as a strong healthy one
 but it is curious at what risk and disadvantage this
 is done. These things never enter into parents heads,
 they never think of them. The ignorance and pre-

judice of many mothers with regard to vaccination cannot in many instances be combated, and the result is that small-pox still prevails and forms a large item in the gross mortality.

Parents get into the habit of regarding several of the greatest scourges of Infancy as Measles, Scarlatina, Hooping Cough as necessary and inevitable evils, and they take no pains to guard their children from infection, in this way no doubt the epidemics of such diseases are favoured and from the ignorance and carelessness of a few many infants perish who might otherwise have escaped. Much might be said about mothers in large towns taking their children out in unseasonable weather, and at improper hours; such indiscriminate and reckless exposure must tend to injure and destroy its victims.

There can be no doubt, that in large towns, where the mothers, in order that they may not absent themselves from employment, are in the habit of entrusting their children to the care of indifferent people, numbers of children perish through neglect, through ill-nourishment, or from food being given at too long and improper intervals; or from the very common and

beneficial habit of drugging them with some narcotic preparation given in order to quiet their hunger and to silence their cries.

Having thus imperfectly endeavoured to fulfil the objects stated in my introduction, I subscribe my name

Edward Clapham

March 1862.