SOME OBSERVATIONS ON AN INQUIRY INTO STILL-BIRTHS OCCURRING IN MANCHESTER SINCE 1905.*

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THE life of a child begins nine months before its extra-uterine existence is entered on. During this time the foetus is a parasite. It is essential, therefore, that any attempt to grapple with the problem of infantile mortality should include an investigation into the influences which affect foetal life.

Comparatively little work has been done in this field. Ballantyne has led the way in research, and much of the knowledge available is due to his efforts.

The loss of foetal life in a district should at least be approximately known, and special investigation should be made as to its cause. If causes were known, remedies could be applied. A saving of foetal life would be thus effected, and the health of many survivors favourably influenced. Just as the infantile mortality rate only partially represents the results of disease during the first 12 months of extra-uterine life, so foetal deaths probably only partially represent the results of disease during intra-uterine life. There is in all likelihood in addition to the large harvest of foetal deaths, an aftermath of deaths during the first three months after birth, and an unknown number of maimed survivors.

Knowledge of the loss of foetal life in a community can be obtained through still-birth returns, where these are available, and through investigation of individual life histories of mothers.

The number of children who die under three months, as shewn in death returns, represents those born alive, but in the main, born unfit to stand the strain of extra-uterine life.

The still-birth returns available in Manchester have been used for the purpose of arriving at some knowledge of the loss of foetal life in the city, of considering the causes of this loss, and of suggesting practical remedial measures.

The results of a special investigation into some still-births occurring in the practice of midwives, and of a special investigation made

by the medical officer of health into the fate of live-born children in the district of Ancoats, have also been used.

A complete return of the number of still-births occurring yearly in Manchester is not yet available. Considerable progress has been made, however, during the last three years towards obtaining such a return.

Until 1905 the only records of still-births were the records of burial kept by the registrars of cemeteries. These are very incomplete.

The Midwives Act of 1902 requires that midwives shall notify to the local supervising authority all still-births occurring in their practice, where no doctor was in attendance.

Returns from midwives have, therefore, been received since 1905. For the first half of that year they are not complete, as the midwives were then ignorant of their obligations; but for the last two and a half years it may be taken that the number of still-births so notified is reliable.

Through the courtesy of the Parks and Cemeteries Committee, and most of the Registrars of Cemeteries in Manchester, not under their management, the Midwives Supervising Committee receives a list of all still-births registered.

Still-birth Returns for 1906.—In 1906, for the first time, an approximate return of the number of still-births occurring in the city was available. These returns represent for the year a loss of foetal life from the fifth month of pregnancy onwards.

The total number of still-births, of which there is any return, was 789. This includes 449 still-births which occurred in the practice of doctors, and 340 which occurred in the practice of midwives. Through the cemeteries returns, 658 still-births were notified—209 of these were midwives' cases. In addition to these 209 cases, 131 still-births attended by them were notified to the local supervising authority. This shews that the cemeteries' return is not a complete one, and that burials must take place in cemeteries for which there is no return.

It is probable that the actual number of still-births occurring annually in Manchester is at least 1,000, as, in addition to incomplete returns from cemeteries, there are many still-births never buried. The still-births are classified below, those occurring in the practice of doctors and midwives being shewn in separate

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columns. This classification shews the percentage of live and still-born children and the still-birth rate. The still-birth rate is calculated on the returns from midwives, as these returns are very complete. It will be seen that the percentage of still-born children is in Manchester 3·5, and the still-birth rate in midwives practice is 0·53 per 1,000 of the population taken as a whole.

The percentage of still-births is highest in the township of Manchester, which includes the districts of Ancoats, Central, and St. George's; when, however, individual districts are taken in order of highest still-birth rate, they are as follows:—Bradford, Hulme, Beswick, Ancoats, St. George's, Central. Bradford and Beswick, though in North Manchester, adjoin, and have much the same characteristics as regards industrial and social conditions as Ancoats and St. George's.

In the first four districts the birth-rate is also the highest in Manchester, and in all the districts there is a high infantile mortality rate.

mortality at full term is higher among males than among females. The returns for each year shew a similar distribution. The higher mortality is, in all probability, due to intra-natal deaths, owing to the larger size of the male fœtus. The number of full-term still-born infants is slightly higher than those born prematurely.

It is, therefore, probable that 500 full-term infants die annually in Manchester, either just previous to or during birth.

Eleven thousand one hundred and twenty-nine births were attended by midwives during 1906. The percentage of still-births in their practice was 3·06. Of these, slightly more than half were full-term infants. Among the untrained women the percentage of full-term still-born infants was somewhat higher than among the trained. This was probably due to lack of skill in conducting the difficult cases.

Four midwives, who each conducted during the year less than 50 cases, had from 9 per cent. to 16 per cent. of still-births in their practice.

STILL-BIRTHS OCCURRING IN MANCHESTER DURING 1906.

Statistical division.	Live births registered.	Still-births classified from cemetery returns		Proportion per cent.			Total still-births notified by midwives.	Still-birth rate per 1,000 of the population.
		Doctors' cases.	Midwives' cases.	Born living.	Still-born to total ascertained labours.			
					Doctors' cases.	Midwives' cases.		
City of Manchester ...	18,397	449	209	96·5	2·4	1·1	340	0·53
Manchester Township	4,122	112	65	95·9	2·6	1·5	89	0·70
North Manchester ...	5,357	132	46	96·8	2·4	0·8	92	0·49
South Manchester ...	8,918	205	98	96·7	2·2	1·1	159	0·49

Still-births Occurring in the Practice of Midwives.—Eight hundred and sixty-five still-births were notified by midwives from the beginning of 1905 to the end of October, 1907.

Table compiled from these returns, giving the sex distribution and the month of pregnancy at which the fœtus was born:—

	Month of pregnancy.						
	4th.	5th.	6th.	7th.	8th.	9th.	Not stated.
Males ...	—	11	37	80	79	248	—
Females ...	3	19	55	62	77	190	—
Total ...	3	30	92	142	156	438	4

It will be seen from the above table that the

The midwives' returns for 1905 and 1906, and the cemeteries' returns, shew a marked increase in the number of still-born children, both full term and premature, in the second and third quarters of the year. In order, if possible, to throw some light on this, an investigation into the seasonal occurrence of deaths of premature children during the last thirteen years was carried out. The distribution, however, is not similar. The largest number of deaths occurs during the first quarter of the year. The colder weather of that time sufficiently explains this.

Average seasonal distribution of deaths of premature children in Manchester, 1891-1905:—First quarter, 87; second quarter, 82; third quarter, 81; fourth quarter, 81.

Still-births in St. Mary's Hospitals during 1905 to 1906.—St. Mary's Hospitals are the principal maternity hospital for the city. During these two years there were 1,092 intern cases of labour, and there were 157 still-births. This is a very high proportion, but it must be remembered that these cases are selected difficult ones, and that in many there was great delay before the women were sent into hospital, thus endangering the life of both mother and child.

Forceps were used in 15 cases, and craniotomy was performed in 11. There was abnormal presentations in 31 cases—15 of these being breech and 14 transverse.

There was a history of hæmorrhage in 30 cases, and of eclampsia in 15. These cases are not included in the returns obtained through cemeteries or through midwives.

Special Investigation into Still-births occurring in the practice of Midwives during the last half of 1905 and the first quarter of 1906.—During this period all still-births were investigated by myself. In many cases the children were actually seen; this, however, was sometimes impossible. In all cases, with one or two exceptions, the inquiry was carried out in the house of the patient, and the information was obtained from the patient herself, and, where necessary, from the midwife.

The accompanying table gives the sex of the child, and a classification according to whether death was ante-natal or intra-natal:—

	No. of cases.	Sex of child.		Period of death.				Doubtful.	
		M.	F.	Ante-natal.		Intra-natal.		Full term.	Preme- ture.
				Full term.	Preme- ture.	Full term.	Preme- ture.		
1905	91	48	43	16	27	24	2	14	8
1906	70	42	28	10	27	11	—	13	9
	161	90	71	26	54	35	2	27	17

In the cases which are classified under deaths during the ante-natal period, there was a distinct history of decomposition of the foetus. All doubtful cases have been classified in a separate group.

A further classification of thirty-four of the cases of "deaths during the intra-natal period" in the above table brings out how such still-births might be prevented.

VERTEX PRESENTATION—13.

Tedious labour.	Cord round the neck.	Cord presenting.	Hydrocephalus.	Hæmorrhage antepartum.	Twin.
2	6	1	1	2	1

BREECH PRESENTATION—20.

Uncomplicated breech.	Cord round body and neck.	Delayed after coming head.	Footling.
2	1	13	4

TRANSVERSE—I.

The large proportion of deaths occurring in breech cases is noteworthy, and especially those cases where death was due to delay of the after-coming head. In some of these latter cases the midwife was not called in time to give assistance; in others, medical assistance was not sent for soon enough, or did not arrive in time to save the life of the child. In view of the above high proportion of deaths of breech cases, it is to be regretted that the Central Midwives' Board have ceased to make it compulsory for a midwife to call in medical assistance in breech cases in primiparæ. It is chiefly among breech cases that healthy foetal lives can be saved.

Deformity of the child was present in eight cases investigated; these all occurred during 1905. Hydrocephalus was present in four cases, and in one case was accompanied by spina bifida. In this case one of the living children, aged ten, had hydrocephalus.

Anencephalus was present in three cases—

- A twin; the other twin was well developed and born alive.
- With spina bifida; hydradamnios was present.
- With spina bifida; the mother was mentally deficient.

Exomphalos with spina bifida was present in one case. In this case there was no abdominal wall, there was a spina bifida in the dorsal, lumbar and sacral regions, and the lower limbs were badly developed.

Dropsy of the foetus was present in one case.

The following returns show facts relative to the occupation of mothers, to the total and average number of live children born to them,

and to the number of still-births and miscarriages also born to them :—

TABLE I.—In cases of still-births occurring in the practice of midwives in Manchester during last half of 1905 and beginning of 1906 :—

Classes of occupation.	Total women.			Children born alive to women in column 1.		Still-births born to women in Column 1, including child under inquiry.	Miscarriages.	Percentage of still-births and miscarriages to total live births
	Primipare.	Multi-pare.	Total.	Average number				
a. Factories and workshops.	11	6	5	13	1.2	11	3	107.7
b. Other local industries.	25	5	20	99	3.9	39	6	45.5
c. Outwork at home and shopkeepers	8	—	8	31	3.9	9	1	32.2
d. Housework	117	14	103	507	4.3	187	51	46.9
Total	161	25	136	650	4.0	246	61	47.2

TABLE II.—In cases of live-born children in the district of Ancoats during the first half of 1906 :—

a. Factories and workshops.	47	15	32	121	2.57	2	3	4.1
b. Other local industries.	39	5	34	169	4.33	2	19	12.4
c. Outwork at home and shopkeepers	46	2	44	275	5.98	9	20	10.5
d. Housework.	232	25	207	1092	4.70	35	80	10.5
Total	364	47	317	1657	4.54	48	122	10.3

Although the figures in these tables are too small to permit of drawing any conclusion from them, the very high still-birth and miscarriage rate in Table I., and in the groups B, C and D of women in both tables, deserve notice. I will refer to this later. It is certain that the number of miscarriages given in these tables includes few abortions occurring before the second month. The real miscarriage rate is, therefore, even higher than that given.

These rates are considerably higher than those quoted in Edgar's book on Obstetrics, p. 391. The percentage of interrupted pregnancies under four and a half months to total full term children is 3.7; over four and a half months it is 3.2. These percentages are founded on 10,000 cases of labour treated in a dispensary or outdoor service in New York City.

Alcoholism of the Parents.—The figures obtained as regards alcoholism are of little

value. The parents themselves gave the information, so that these returns probably under-state the case considerably :—

Both parents had beer or spirits daily in	...	...	...	28 cases
Either parent had beer or spirits daily in	...	...	...	29 "
Both parents had beer or spirits occasionally in	...	...	...	40 "
Either parent had beer or spirits occasionally in	...	...	...	25 "
Both parents were abstainers in	...	...	...	33 "
No history obtainable in	...	...	...	6 "
				161 "

Occupation of the Mother during Pregnancy.

—The occupation of the mother in the special still-birth and Ancoats live-birth investigation, is given in four groups.

GROUP A explains itself; the majority of the women in this group were primiparæ and were young.

GROUP B includes women employed at various small local industries, e.g., umbrella making. The majority, however, were charwomen, hawkers and rag sorters. They were multiparæ, and much older women; they were also in many cases very poor.

GROUP C includes women who did sewing in their homes, or looked after a shop attached to the house, the women here were also multiparæ. They were not quite so poor as those in Group B.

GROUP D.—The majority in this group were multiparæ. In many cases their life was a fairly arduous one.

Married women who work in Manchester, do so to avoid starvation. They go out because the wages of the husband are too small to provide food and clothing for the family, or because he is out of work. They do not, except in very rare instances, work at outdoor employment because they enjoy doing so. Repeatedly the answer to a question suggesting such a possibility has been that they have enough to do in their own homes without other work, if it can be avoided.

The overcrowding in the still-birth cases investigated was not marked. There was, however, much poverty.

Total Loss of Fœtal Life in Manchester.—

It is impossible to estimate this with any degree of accuracy. We have stated that the

number of still-births is about 1,000. Ballantyne states that one pregnancy in five ends, in city populations at least, in abortion.

If this is true in Manchester, and I should think it is, there would be between 4,000 and 5,000 abortions.

In the Ancoats inquiry, the number of abortions is two and a half times as great as the number of still-births.

This would give a return of between 2,000—3,000 abortions; this is certainly too low.

Death of Infants under Three Months.—These are undoubtedly in many cases, as Ballantyne observes, delayed foetal deaths. The child is born unfit for extra-uterine life.

In Manchester there is a high death-rate under three months. The causes are chiefly those of the wasting diseases, group:—Deaths from prematurity, congenital defects and atrophy. By the end of the first month many children have died, and by the end of the third nearly all, who die from prematurity and congenital defects, and two-thirds of those who die from atrophy. Last year medical aid was called in by midwives in 224 cases (one-fifth of the total records) for the child. Half of these cases were premature or congenitally defective children.

There has been a marked increase in the deaths from prematurity and congenital defects in Manchester in the last few years.

Table shewing the number of deaths of children under 12 months in Manchester from certain specified causes for the years 1895–1904, and in 1903 and 1906. Also the corresponding figures under three months:—

Period.	All causes.	Seven zymotic diseases.	Diar-rhoea.	Pre-mature births.	Con-vulsions.	Lung diseases.	Atrophy.	Congenital defects.
Deaths under 12 months—								
1895-'04	3253	216	594	350	167	581	555	83
1905	2780	139	559	390	144	456	436	111
1906	3111	202	733	406	144	425	483	125
Deaths under 3 months—								
1895-'04	1445	18	145	342	104	141	350	?
1905	1367	11	142	384	93	113	290	90
1906	1447	19	161	403	80	99	332	112

Development of the Fœtus.—During the first few days after conception, the fertilised ovum is nourished in the uterus like an ordinary bacterium. As early as the seventh day, a specialised vascular supply has been noted. Development and specialisation of the ovum

and membranes proceed with amazing rapidity. The stages of development are divided into embryonic and foetal.

The embryonic state of foetal life is a most important period of the child's existence. It ends with the formation of the placenta about the beginning of the third month.

Scientific knowledge regarding the human ovum during this period is scanty. It is held, however, that influences which later on would result in disease of the foetus, will, acting during the embryonic stage, lead to the formation of monsters or deformities.

Definite pathological changes have been noted in the chorionic blood vessels in syphilis and fatty changes have also been recorded in certain diseases; these changes have resulted in death of the embryo.

The placenta is the most important foetal organ. Through it the mother nourishes her unborn child, and the health of the foetus depends on its vitality. Little is known concerning the pathology of the placenta, but syphilis, alcoholism, and maternal diseases cause pathological processes, and these influence adversely the health of the child.

Causes of the Loss of Foetal Life.—These may be divided into ante-natal and intra-natal. The common immediate cause of the loss of ante-natal life is a hæmorrhage separating the embryo or foetus from the uterus.

It is more difficult to arrive at the real cause. Edgar gives the following list beginning with the most common cause of abortion:

- (1) Diseased endometrium.
- (2) Retro-displacement of the uterus.
- (3) Syphilis.
- (4) Kidney insufficiency; toxæmia.
- (5) Criminal interference.
- (6) Low insertion of the placenta.

It is generally believed that endometritis is the most frequent cause of abortion, but I have been unable to obtain any collection of facts on which such a conclusion is based. It is reasonable to think, however, that a diseased endometrium will not perform adequately the very specialised function required during pregnancy.

Causes of Endometritis.—One of the most frequent causes of endometritis is sepsis, especially sepsis of a mild type. The infection takes place at a full term or premature labour, and in most cases is never recognised as such. This is due to the fact that the meaning of the

symptoms, which are slight and transient, is not understood. Such illnesses are passed over as trifling, the cause being put down to bowel or breast disturbances or after pains.

It is impossible to give the puerperal morbidity rate for Manchester, which rate would represent the proportion of such mild infections.

It is certainly high at present, and was even higher in the past.

It is interesting in this connection to notice in the report for 1906 of St. Mary's Hospitals (the principal maternity hospital of the City) that the percentage of morbidity, taking as the standard that laid down as a basis for notification of puerperal fever in Manchester, at the end of 1905, was 4.5, while it was 9.2 when the standard of the British Medical Association was adopted.

The Manchester definition is:—"For the purpose of the Notification Acts, 1889 and 1899, the term 'puerperal fever' shall include all cases in which, within seven days after the birth of a child, alive or still-born, the mother shall have a rise of temperature exceeding 100.4° F. with quick pulse, maintained for a period exceeding 24 hours, without any ascertainable cause other than the puerperal state. It shall also include all cases in which, within seven days after the birth of a child, there has been the occurrence of rigor (with attendant illness) without any ascertainable cause other than the puerperal state."

The British Medical Association standard is much more strict. According to it, if a patient's temperature rise to 100° F. twice within 24 hours, excluding the first 24 hours and irrespective of the pulse rate, she is considered as a case of morbidity.

It is held that, as a rule, the morbidity rate is higher without than within a well-conducted hospital, so we may reasonably conclude that in addition to notified cases of puerperal fever there are many septic cases. Many of these are recognised as such, many are not, and it is these mild cases which are the cause of much endometritis. The number of puerperal fever cases of which there is any return, for 1905 and 1906, were 82 and 103 respectively, a number in excess of previous years.

Among poor women, all the conditions which diminish the vitality and power of resistance to infection are present.

They are generally badly nourished during pregnancy, due to lack of proper food, clothing,

fresh air and suitable exercise. Their unhygienic surroundings also help to produce the same condition.

Ignorance and laziness prevent proper personal and domestic hygienic preparations being made for the labour. Unskilled attendance is often secured for the confinement, with the result that there is greater danger of septic organisms being introduced, and through careless midwifery a greater risk of complications.

The same adverse conditions continue to influence the health of these women during the puerperium. They cannot obtain the requisite food, and they are quite inadequately provided with clean clothing.

The diseased endometrium which results from such septic infection will, at least in many cases, not permit of the maturing of a fertilised ovum. Chorionic hæmorrhages result and abortion takes place, or the ovum is badly nourished, and the child ill-developed and unfit for post-natal existence.

Gonorrhæal infection is also a cause of endometritis. The infection of the uterus generally takes place just after the labour, probably from germs in the vagina which have lain latent for some time.

Use of preventive measures is also held to be a cause of endometritis. Use of such measures is certainly on the increase.

In retro-displacements it is probable that the endometritis, which generally co-exists, plays an important part.

Syphilis may assert itself during the foetal period, or may not do so until after the birth of the child. The time it usually shews itself in intra-uterine life is the second month. It is a frequent cause of ante-natal dystrophy, and many malformations are found in syphilitic fetuses.

In three cases investigated in the still-birth inquiry the woman had been married twice. The children in each instance born to the first husband were full time living children; the children born to the second husband were all premature and still-born. The history of the father in each case pointed to syphilis.

Alcohol.—Ballantyne states in his paper, read before the Congress on Infantile Mortality, that alcohol has an evil influence upon ante-natal life, and consequently upon the life after birth also; this effect is due to changes in the maternal kidneys and in the placenta, rather than to any direct influence which the

drug has upon the foetal tissues themselves. He quotes the statistics of Dr. Sullivan, who specially investigated the reproductive history of chronic drunkards (women) in Liverpool prison. Sullivan found that of 120 female inebriates, there were born 600 children, of whom 335 (55·8 per cent.) died under two years or were dead-born, while the remaining 265 (44·2 per cent.) lived over two years. In the case of sober mothers related to the above-mentioned women, the number of dead births and early infantile deaths were only 23·9 per cent.

Criminal Interference.—Undoubtedly there is much wilful production of loss of ante-natal life on the part of mothers. This is done by drug taking and by allowing criminal interference. Drastic aperients, pennyroyal, etc., are taken. The use of diachylon as an abortifacient is on the increase. There is as yet no means of knowing how many such abortions take place, as these cases are only reported in rare instances when they go septic.

When abortifacients are taken, death of the foetus does not necessarily result. The nutrition of the child may be impaired, however, by the illness of the mother resulting from such drug taking, and it may die later on in foetal life or in post-natal life.

Successive Pregnancies.—The tendency to increased loss of ante-natal life, which occurs with an increasing number of successive pregnancies, is well brought out in Table II., Ancoats Inquiry.

Abortions and still-births tend to recur. This is well seen in Table I., which shows the very high still-birth and miscarriage rate among the women who had a still-born child.

A very interesting history is that of a woman, aged thirty-four, who had been married fifteen years. During that time she had fifteen pregnancies. The first was a six-month still-born foetus. The second was a full-term still-born child; death was probably intra-natal. The third was born alive; it died under a year. The fourth was a miscarriage, the fifth was born alive and was alive at the time of inquiry. The sixth was a three-months abortion; the seventh was born alive and living; the eighth, ninth, tenth and eleventh were all three-months abortions; the twelfth was a still-birth at eight and a half months; the thirteenth, still-born, six and a half months; the fourteenth was born alive and living; and the fifteenth was a still-born,

eight-months foetus. There is a history in this case of rheumatic fever just before marriage and another attack four years afterwards. At number twelve the perineum was torn through to the rectum, and the woman had subsequently no control of the bowels.

In another case, the woman, aged thirty-three; had had 11 children born alive and 2 still-births. Only 4 of the children were alive at the time of the inquiry.

Another case worth quoting is No. 245:—Mother, aged thirty-seven, 10 children born alive, 4 still-births, and 1 miscarriage; 6 children died in infancy and childhood due to premature birth, diarrhoea, whooping cough and scarlet fever. This woman had mitral disease at the time of inquiry. She had had pneumonia six years before her present confinement. She had a miscarriage at the time of her illness. Since that time she had had three still-born children, then twins born alive at the eighth month, then the still-born child under inquiry. This child was large and dropsical, the placenta was small, the cord thick and gelatinous. Hydramnios was present with each of these labours.

Intra-natal Loss of Life.—Deaths during birth are directly due to maternal or foetal causes; on the part of the mother, pelvic contraction or uterine disease leading to displacement; on the part of the child malformations or feebleness.

The skill of the accoucheur here plays a great part in saving the child's life.

The remedies which are at present available to arrest loss of foetal life, and ensure the better well being of the child in utero.

1. Provision of skilled attendance for women during confinement. The Midwives Act, 1902, is a valuable means of ensuring that in future poor women will secure better attendance than in the past.

2. The use of maternity hospitals for poor patients to secure for them rest and food, and hygienic conditions during the lying-in period.

These means will prevent many cases of endometritis and displacements, which are the cause of so many subsequent still-births and miscarriages.

3. The enforcement of the provisions in the Factory Act preventing women returning to work within a month after labour.

4. Education of mothers in the general hygiene of their home and person, especially during pregnancy and lactarium. This can

be done through the midwives and health visitors.

Remedies which are Required.—1. Provision of nourishment for poor women during the last month of pregnancy and first month after confinement. This to be met either by the State or by means of charities.

2. The organization on sound lines of a Thrift Fund for pregnant women, so that they will have money to meet the expenses of their confinement.

3. Education of mothers regarding the dangers of abortions, and provision for them of skilled attendance then.

4. Education as to the sacredness of human life before birth.

5. Registration of all maternity and nursing homes.

6. Prohibition of the sale of abortifacients and of the publication of advertisements and literature relating thereto.

Further knowledge of the total loss of antenatal life is urgently required. For this purpose, registration of still-births should be made compulsory. Meanwhile, returns obtained through midwives, through registrars of cemeteries, and, after this year, through the Notifications of Births Acts are, or will be, available.

Knowledge of the loss of life through abortions is just as important. As yet there is no means of knowing accurately what this loss is, and registration is not within the sphere of practical politics.

It is true, returns from the registers now kept by midwives should give valuable information where these are well kept, but more will be learnt through individual life history investigation. Most valuable information should be obtained from the proposed investigation during 1908 into live and still-births, which is to be carried out at the request of the Home Office.

Systematic investigation of cases of abortion, still-birth and deaths of new-born children, combined with scientific research work is necessary to elucidate the causes of foetal death and disease. When causes are known, remedies can be applied.

"In our arrogance," says Dr. Scurfield, Sheffield Medical Officer of Health, "we have established a society for converting the Jews. It would be more to the point if we induced the Jews to establish missions for the teaching of good motherhood in our big towns."

THE TRAINED MIDWIFE AND HER EFFECT ON INFANTILE MORTALITY.

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MIDWIVES ACT (1902).

PROBABLY no Act of Parliament, with the exception possibly of the Education Act, has in recent times been so adversely criticised and discussed as this one. I believe, when properly administered, it will in future years have a most beneficial and far-reaching effect in checking the alarming infantile mortality in our large towns. Surely, with the birth rate in this country yearly diminishing, every birth is of the utmost importance to the State. The whole of the Act will be in operation by the year 1910, and some provision for the supply of qualified midwives must be made before that time, otherwise there will be few competent persons to practice the ancient art.

Up to this year there has only been one trained, certificated midwife in Rotherham. It is impossible for a properly trained midwife commencing practice to make a living during the first year or two at midwifery alone, and, unfortunately, for some reason or other, following any other occupation is not permitted in the borough.

The present generation of midwives is getting older—though they never admit being over 45—and it is very evident to me that in the near future there will be a good opening for properly trained women to take the places of the present ones, and in the course of time to make as good, if not better, incomes. If women do not recognise this they must be blind to their own interests, and there is nothing, so far as I can see, to prevent them when getting past their work, from transferring the goodwill of their practices, on a profitable basis, to themselves, in the same way that medical men buy and sell partnerships and practices.

The trained midwife possesses an educational influence that can hardly be over-estimated, and in these days when public-spirited associations are rising up on all hands to combat infant mortality, her office will be recognised as one of great importance to the State.

It will probably surprise most people that