The welfare of the expectant mother / by Mary Scharlieb.

THE WELFARE OF THE EXPECTANT MOTHER

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MARY SCHARLIEB, C.B.E., M.D., M.S.

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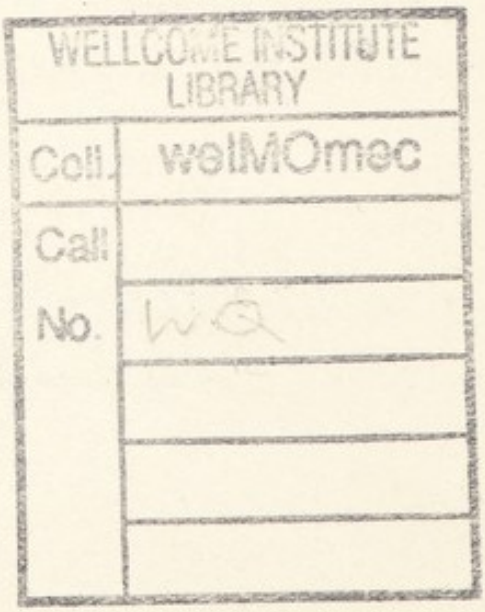

PREFACE

THIS little book is an attempt to demonstrate the national necessity for safeguarding motherhood. It is especially addressed to members of Local Authorities, Midwives, District and other Nurses, School Teachers, and the large body of Health Visitors and other helpers in Public Health work, both voluntary and paid. But I hope that it may not only serve as a guide to those who are already interested in the subject, but may lead many others to see how largely the weal of the nation is dependent upon the welfare of the expectant mother.

In compiling the book I have derived much help from the writings of Sir Arthur Newsholme, Dr. Janet Campbell, Dr. Routh, Dr. Shadick Higgins, Miss Rosalind Paget, and others. I should also like to offer my grateful thanks to the Publishers for invaluable help in passing the book through the press.

MARY SCHARLIEB.

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THE WELFARE OF THE EXPECTANT MOTHER

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PREGNANCY: ITS HYGIENE AND PATHOLOGY

CHAPTER I

Signs, Symptoms, and Duration

THE well-being and prosperity of the nation, and of the families which compose the nation, are largely dependent on the health and welfare of its pregnant women. A nation is healthy, efficient, and prosperous in proportion as its individual members possess those qualities. There are two great factors in the destiny of every human being—*heredity,* by which he is endowed with the qualities not only of his father and mother, but also of his more remote ancestors; *environment,* the circumstances of his life whereby the inherited qualities are modified or developed. It is not possible to alter the inheritance that the child receives from ancestors, nor is it possible entirely to reverse the

physical, mental, and moral constitution of those who are to be his parents; but it is always possible to mould the environment of the father and mother into the happiest development of which they are capable. The father's share in the endowment of his child must not be minimised nor overlooked; but probably the most hopeful field for both individual and national endeavour is the care and cultivation of the expectant mother.

It is an amazing fact that only now at this late stage of the world's history are we awakening to a realisation of the national value of pregnant women, of their needs, and of the righteous claim that they have, not only on the consideration of family and friends, but also on the intelligent beneficence of the State. While there are tens of women whose welfare is amply secured by the financial condition and loving care of husband and family, there are thousands whose circumstances are such that they cannot secure the comforts, or even the necessities, proper to their condition, unless the great householder, the State, steps in to make good what is lacking. The days may come when every member of the Commonwealth will have the necessities, the comforts, and the pleasures of life in abundance; in those happy days the duty of the State to exercise vigilant care over its pregnant women may be less urgent; but, although the horizon is rosy with the dawn, the sun of national

righteousness does not yet enlighten or warm the dwellers in our cottages and our slums. Hence the necessity of arousing the national conscience and of guiding the national endeavours to help those important members of the community on whose self-sacrifice and production of future citizens the welfare of the realm depends.

Fertility and age.—The age of greatest fertility in women is from 20 to 25 years. From this time onward it declines, slowly at first, but afterwards with increasing rapidity, and although a woman may become pregnant so long as menstruation continues (this function may appear up to 50 years of age), child-bearing is comparatively rare for some years before its cessation. This should be a strong argument in favour of early marriage, for at the present time, with our huge Empire, sparsely populated except in the mother country, we need, even more than gold, a full supply of healthy and efficient citizens.

Before it is possible to estimate the best method of caring for our pregnant women it is necessary to take into account the manner and degree in which their health and necessities differ from those of other women. A brief *résumé* of the signs and symptoms of pregnancy is therefore at this point desirable.

Signs and symptoms.—When a woman of child-bearing age who is usually regular in

menstruation *misses a period,* but remains in her usual health, the probability is that she is pregnant. But the missing of a period is no *proof* of pregnancy. It may occur in consequence of anæmia, commencing phthisis, incipient insanity, or under other abnormal conditions of mind and body. The probability of pregnancy is strengthened if two, and still more if three, periods are omitted. It is to be remembered that occasionally menstruation continues during the first three months of pregnancy. It is the more necessary to remember this because in such cases a full-term child may be born at what is supposed to be three months before term.

The second symptom of pregnancy in order of time is usually *morning sickness.* This symptom generally appears six weeks after conception, and continues until the end of the third month. Morning sickness is, however, very variable alike in commencement, duration, and amount. In the case of some women it begins earlier than usual, while with others it is delayed; it may continue long beyond the usual time, even up to full term; while as to amount it varies from a mere uneasiness and passing discomfort in the morning to much frequency of vomiting and an abiding sense of nausea all day long.

Mammary development (alteration in the breasts) usually begins about the same time as the morning

sickness. This is both a sign and a symptom. It is a *sign* because doctor, midwife, and nurse can see for themselves that the breasts are enlarging, that the veins are more developed, that the nipples stand out more readily, and that the areolæ (or coloured part round the nipples) are taking on a deeper hue, a more vivid pink in the blonde, and a constantly deepening shade of brown in the brunette. Within these areolæ the little glands in the skin known as Montgomery's follicles develop. The combination of phenomena known as "mammary changes" is also a *symptom,* because the woman herself may not only see these visible changes, but also has a sense of fullness and heaviness of the breast. She frequently experiences more or less well-marked darting, stabbing pains, which are not, however, very severe. After the third month a certain amount of secretion occurs in the mammary glands, so that careful pressure from the circumference towards the centre of the breast may result in the appearance of some droplets of fluid which, as pregnancy advances, become increasingly like ordinary milk.

Increase in the size of the abdomen is scarcely perceived by the woman before the end of the third month, and even then it is slight and easily overlooked by her. Although this increase of size is slow at first, it is steady and continuous. At the end of the fourth month any careful observer can

perceive the rounded upper border of the womb well above the upper margin of the pubic bone. At the end of the fifth month it is midway between this bone and the umbilicus or navel; it reaches the lower margin of this depression at the sixth month, and is halfway between the umbilicus and the ribs a month later. Some four weeks or thereabouts before delivery the greatest height is attained, and the fundus uteri (upper margin of the womb) lies immediately below the margin of the ribs, having usually a slight inclination towards the right. The size of the uterine "tumour" naturally varies with the size of the child it contains. Apparently in all women it extends up to the ribs, but its volume and consequent prominence are not always the same, because full-term children vary from 5 lb. or less to 12 lb. or more. A short time before full term (earlier and more perceptible in the case of a first pregnancy), there is a subsidence of the lower end of the womb into the pelvis, and consequently a considerable relief from pressure on the heart and lungs, with a coincident increase of pressure on the pelvic organs. This downward pressure frequently shows itself in a tendency to constipation and by a diminished capacity for retaining the urine.

Quickening occurs between the sixteenth and twentieth weeks of pregnancy. It is, of course, due to the movements of the growing child. It is not

to be supposed that the fœtus does not move until quickening occurs; it moves from a very early stage of its development, but the movements are then too feeble to be perceived by the mother. As the child grows and its muscular powers increase, the movements become more and more vigorous, and more likely to be noticed by the mother. The movements are also better perceived when the anterior wall of the womb comes into contact with the wall of the abdomen, which is probably better fitted to appreciate them. Quickening is said by many women to resemble the fluttering of a bird, while others compare it to the movements of wind in the bowel. After a little time all such comparisons become futile, because the woman clearly recognises the nature of the kicking and thrusting.

Alterations in the umbilicus.—In the early days of pregnancy the ordinary depth of the navel may appear to be increased, but gradually the hollow fills up until, somewhere about the sixth month, it is level with the skin, and still later in pregnancy it become prominent, the natural fold being turned inside out.

The *certain signs of pregnancy* are (1) ballottement, (2) the sounds of the child's heart, (3) the movements of the child as felt by the practitioner, (4) the alternate contraction and relaxation of the uterus, and in the case of a first pregnancy (5) the secretion of milk.

Ballottement is a sign and not a symptom; i.e. it is perceptible to the practitioner only and not to the mother. It depends on the flotation of the fœtus in the water contained in the bag of membranes. It is, therefore, only available when there is sufficient fluid to float the child, and when the fœtus is neither too light nor too heavy. From about the end of the third month until the seventh these conditions exist, and if a finger be introduced into the vagina and a smart tap be made on the lowest portion of the uterine globe, a sensation is procured suggesting that a weight has been removed from the finger and is slowly settling on to it again. This is a certain sign. It cannot be imitated by any tumour within the uterus, nor by any other condition so far as we know.

The *sounds of the child's heart* become audible somewhere between the sixteenth and twentieth weeks, although, of course, the heart beats from a very early stage of pregnancy. The sound is usually best heard along a line drawn between the anterior superior spine of the ilium (the most prominent bony point towards the front of the pelvis) and the umbilicus. The smaller the child the lower will the heart be heard, and inasmuch as the sounds are best conducted through its head and its spine they will be heard below the umbilicus in cases of natural presentation with the head downwards, and above the umbilicus in cases of breech presentation.

The sounds of the fœtal heart have been aptly compared to those of a watch ticking under a pillow; they can be readily counted, and vary with the weight of the child, from 160 while it is small and weak to 140 in the vigorous fœtus at full term. It is evident that this, too, must be a certain sign, for pregnancy with a live child is the one and only condition in which such a well-defined and rhythmical sound can possibly be obtained.

The *movements of the child,* as felt by the practitioner, are also a certain sign. The inexperienced mother may be misled by the movements in her bowels due to flatulence, but the doctor or mid-wife cannot make a similar mistake.

The remaining certain sign, the *alternate contraction and relaxation of the uterine walls,* needs a certain amount of care in observation. The muscular contractions on which the phenomenon depends are slow and sluggish during pregnancy, not brisk and easily noticeable as they are during labour. When contraction is present the observer notices an egg-shaped or spherical "tumour," fairly hard and approximately uniform in outline. During relaxation this definite "tumour" disappears, and the head, back, and limbs of the fœtus become appreciable. Contraction and relaxation may not both be present during any one visit; but if an observer finds a smooth, hard, uniform "tumour" at one time, and a medley of small rounded knobs

with intervening softness at another, it points with absolute certainty to the existence of pregnancy.

The existence of *secretion* gradually assuming the character of milk in the breasts constitutes a very strong presumptive evidence of pregnancy, absolute in a primipara; but when a woman has already had a child it is possible for milk to exist although she be not pregnant, and therefore this cannot be classed among the certain signs.

Duration of pregnancy.—The duration of pregnancy probably varies within certain limits. It is supposed that the woman carries her young for nine months, or 280 days; it is to be observed that no nine months in the year will give us that number of days, so that this reckoning is approximate only. A better calculation is based on the completion of ten four-week months of 28 days each, which corresponds with the normal rhythm of menstruation. As a matter of fact, ten times 28 gives us the 280 days of popular acceptance. If this were all, the calculation of the duration of pregnancy would be easy. Ascertain the date of the commencement of the last monthly period and reckon 40 weeks to the expected day of delivery; but inasmuch as the human female is usually fertilised not during menstruation but during the seven days after its completion, it is well to add one week to the calculation. Further sources of error must be noted. If a woman has one, two, or three monthly periods

after conception the calculation is vitiated, and it may be out to a very considerable and annoying extent. Again, although most conceptions occur within seven days from the cessation of a period, it is not unusual for fertilisation to take place immediately before a period, and if this be the case the calculation will be out by any number of days up to fourteen. Old nurses had a saying that "girl babies were lazy"; this appears to have been founded on a popular observation that when a baby arrived to time it was most frequently a boy, and when it was late in keeping its appointment it was generally a girl. Upon this supposed fact a theory has been founded that whereas the child conceived when the mother's state of nutrition was at its minimum—immediately after menstruation—would be male, the infant conceived when the mother's nutritional value was at the highest—immediately before menstruation—would develop into the more highly specialised female. This rule, if rule it be, has a correlative in the lower animal kingdom, for whereas the male bees and wasps are hatched in early summer when warmth and food are somewhat deficient, female bees and wasps appear later in the year, when both food and warmth are abundant. It has also been observed that during the hardships and privations of a war, boy babies are the more numerous.

Practically, it is near enough for all ordinary

purposes to take the first day of the last period and add to it seven days, then reckon nine calendar months forward or three backward. This should give the approximate date of confinement; but as Matthews Duncan, that canny Scot, remarked: "It is better for the reputation of a doctor if this day be held to be the middle day of a week, or even of a fortnight, within which delivery is to be expected."

Careful examination and observation of the mother from time to time will serve to confirm or to correct the above calculation: the time of quickening, the height of the uterine globe, the apparent size of the child, and finally the subsidence or "falling," as it is popularly called, of the womb, shortly before childbirth, will help in the calculation.

For the sake of completeness, it may be mentioned here that there is a reasonable hope that the scientific diagnosis of pregnancy may be assisted by the examination of the woman's abdomen with the Röntgen or X-rays. Undoubtedly the bones of the fœtus, containing as they do mineral matter, could be seen on the fluorescent screen and could be photographed. Practically this method of diagnosis would scarcely be available before the time at which ballottement, the fœtal heart sounds, the movements of the child, and the contractions of the uterus, are able, of themselves, to give us

a fully satisfactory diagnosis. It would, however, be of considerable use in determining whether or not twin pregnancy existed.

A more hopeful aid to diagnosis in difficult cases would appear to be founded on a careful examination of the mother's blood. Recent research has led to the belief that even in normal pregnancy, and comparatively early in its course, there are changes in the blood that may be recognised.

CHAPTER II

Hygiene of Pregnancy

THE course of pregnancy is at once a test and a demonstration of the efficiency and healthiness of a woman's organs and functions. It is undoubtedly a physiological and normal condition. This is seen to perfection in the course and results of pregnancy in the case of women who are living natural and healthy lives. The tank-digger and road-maker women of India, the healthy, vigorous girls of African and other uncivilised tribes, with their magnificent physique and their harmonious functions, show the natural relation of pregnancy to the life of the human female. They pass undisturbed through all its phases, and the nine months of gestation are usually brought to a triumphant result in a safe and almost painless delivery.

That this happy condition is not the result of climate, diet, or race, is proved by the fact that whereas the poorer women of India, living strenuous but healthy lives, are practically immune from the many inconveniences and diseases of pregnancy

and child-bearing, their richer sisters, bred in luxury and unaccustomed to muscular exertion, are as apt as are other civilised women to suffer during pregnancy, and to prove inadequate to comfortable and safe child-bearing.

Although it is certain that Nature, when she endowed woman with the gift of motherhood, endowed her also with the power necessary to secure comfort and normality, we, with our imperfect and blundering civilisation, have done much to invalidate the gift and to spoil the endowment. Luxury and sloth on the one hand, overwork and insufficiency of food on the other, are potent influences for evil.

In the one case the muscles are weakened and enervated by disuse, and the secretions are disordered by excess; while on the other hand overgreat fatigue and strain, endured under slum conditions, produce exhaustion, and insufficient or unsuitable diet disorders the secretions, and tends to cause toxæmia—poison in the blood (not sepsis). In consequence of these conditions, pregnancy in such a community as ours ceases to be a really normal function; hence arises an increased necessity for care on the part of the State, for medical watchfulness, and for personal prudence. We have become so accustomed to the belief that a woman's natural functions are abnormal that we view from a wrong point the phenomena of menstruation

and gestation. The nation needs badly to learn that all the normal functions of the body ought to be performed comfortably, and that, given fair play, there is nothing to be dreaded in the fulfilment of the natural destiny of the human race. It is the right, the duty, the glory of women to be fruitful and to multiply. It is at our peril, and to our exceeding sorrow, that we make a misery and a curse out of what ought to be an unmixed blessing.

During pregnancy every tissue, organ and function of the woman is on trial. She has to provide for two individuals, not for one alone; the child within her is constantly making demands for warmth, for food, and for vitality. He is asking much, but he is contributing his quota to the common stock. The woman is not only furnishing her offspring with all that he needs, eating more, and elaborating the products of her digestion into the wonderful fluid whereby her child is built up, but she is also responding, in a way of which we have thought little and understand less, to his stimulation.

But we are beginning, although dimly, to perceive that the rapidly growing, wonderfully maturing embryo influences his mother and gives her something that stimulates her vitality and makes her other and better than she was before he came into being. The mother's response to

this influence cannot be adequate, nor even normal, unless she herself is an efficient and normal human being, well born eugenically, and therefore of good heredity, and well circumstanced, that is, blessed with a proper environment. If things be so, then all will be well; but if the woman has inherited evil from her parents so that she was born with a diseased or feeble nature, if the conditions of her life have been unpropitious, if her food be scanty, her labour excessive, and her rest inadequate, then the response to the fermentation of maternity will be acrid and poisonous, something far different from the wine of life. All this is not imagination; it is merely an attempt to interpret the different responses made to maternity by the healthy woman who has led, and is leading, a normal life, and the miserable product of suffering whose whole nature has been stunted and warped so that she is incapable of bearing good fruit.

In every book on Pregnancy, whether intended for the public, for doctors, midwives, or nurses, there is a melancholy chapter on the diseases of pregnancy. This chapter would not have to be written if the State, the medical profession, and the public clearly understood and righteously observed the laws of hygiene. The excessive vomiting, the digestive errors, the convulsions of pregnancy, and the whole tribe of toxæmias which spoil the livers and kidneys and lead to much illness and even to

death, are the result not of pregnancy in itself, but of the abnormal response inevitably made by the mother's faulty organism to the demands of what ought to be a perfectly normal process.

Diet.—There ought to be no necessity for any special medical supervision of the diet of the pregnant woman, but like all the rest of us, she needs a proper proportion of the several fundamental classes of food. She wants meat, fish, poultry, cheese and eggs, the more nitrogenous articles of diet, as flesh formers; she needs sugar, rice, sago, cornflour, and similar foods, the great carbohydrate group; thirdly, she needs the fats, such as butter, margarine, the fats of meat, especially of bacon, and the various oils. In addition, she requires the mineral salts contained mostly in our food, but also supplied in the shape of ordinary table salt; and among the important articles of diet we must remember milk, with its 95 per cent. of water and 5 per cent. of the foods above enumerated in their physiological proportion. The pregnant woman might well take a hint from this percentage and remember the great importance of drinking-water, which, after all, is more essential to animal life than is any one of the solid foods.

In arranging dietaries, public officials and householders are too apt to forget the great value, nay, indeed, the necessity, of the fats and the sugars. Any nation or people deprived of adequate

supplies of fats and sugars fails to maintain weight, health and efficiency. No other articles of diet can take their place; but owing to their cost, more especially the cost of butter and meat fats, there is always a danger lest too small a proportion of these essential foods should be provided.

Alcohol is in no way either necessary or desirable for the pregnant woman. In the form of spirits it is an unmixed evil; in that of wine it is, as a rule, a superfluity, and sometimes a danger; while in the form of ale and stout it is unnecessary for the rich and a cause of useless expense for the poor. It serves no really useful object in a woman's economy; the money spent on it would be better spent on the essential articles of diet. Unfortunately, in many instances it is taken to excess, and then becomes a direct cause of disorder to the mother and ruin to the fœtus. The action of spirits on the digestive organs of the human body is fairly well recognised; everyone knows that inflammation of the stomach, with accompanying bad digestion and malnutrition, is a direct result of spirit drinking. People do not seem to be so well aware that many grave disorders of the liver, the kidneys, the brain and nervous system are directly attributable to the same cause. In the case of the pregnant woman, it is not only she herself who suffers from such indiscretion, but her child is always injured

and sometimes destroyed in consequence. The use of alcohol is harmful to her and her child, both directly and indirectly—*directly* on account of the injury inflicted by it on structure and function, and *indirectly* because the money needed for food is spent on it, and the strength which should be devoted to work, or to the care of children and home, is by it undermined.

Clothing.—The clothing of the pregnant woman should be warm, comfortable, and therefore loose. The Latin word *incincta* and the French *enceinte* literally mean *without a girdle,* and are reminiscent of the days when the matrons left off all girdles and waistbands to give full liberty to their growing wombs. The modern woman will probably cling to her corsets; but while the rich will wear elaborate garments made with several arrangements of lacings to secure comfort, the same object can be adequately obtained by the less wealthy if their stays are of adequate size and are laced with narrow silk elastic instead of the ordinary stay-lace. Especial care should be taken that no pressure is made by busk or bone, nor even by the material itself, on the rapidly developing abdomen and breasts. Inconvenience and even injury may result from undue pressure, and it is exceedingly desirable that the nipples should not be pressed on or injured in any way at a time when they are very sensitive and are daily developing. In our cold

and variable climate it is most desirable that the clothing should be largely woollen, and it is a good thing that the custom of wearing wool next to the skin has become a national ideal. But woollen materials are very expensive, and consequently the market is flooded with relatively cheap cotton goods which possess a somewhat open texture and a flannel finish. This method of manufacture adds greatly to the warmth of the cotton garment, but at the same time seriously enhances its inflammability. Many accidents occur in consequence of the wide adoption of the class of goods of which flannelette is a representative. The evil is not beyond remedy, because certain varieties of these manufactures are practically as non-inflammable as any woollen ones. The point to be aimed at is such a cheapening of the process as shall make it possible to provide safe and suitable materials at prices within the reach of all.

The footgear of pregnant women ought to receive more attention than it does at present. High heels, pointed toes, and narrow treads are sources both of discomfort and of danger during pregnancy; they interfere with freedom of gait, with balance of the body, and with security. There are, in consequence, many falls, which are not only liable to injure the mother, but may also break some of the delicate connections of the embryo to the womb and so cause miscarriage. With regard to the

poor, boots and shoes are only too liable to be old and worn, so that they afford a very imperfect protection against cold and wet feet.

Exercise and rest.—The well-to-do woman is more likely to be injured by want of adequate exercise than by its excess, although occasionally, during the earlier part of pregnancy, some young women may be tempted to indulge in too much dancing, skating, and hunting. Still, the rule should be for them to take the exercise to which they are accustomed, only stopping short of fatigue. It is a great mistake to teach girls to look on pregnancy as an illness or a delicacy; it is far better for them to live an ordinary, natural life.

With regard to the poorer expectant mothers, the difficulty is not to induce them to take sufficient exercise, but to provide them with the opportunity for adequate rest. When a woman has the care of her house, the cooking of the food, and the management of her children, it is evident that her work never begins and never ends. She must be up early in the morning to get her husband's food and send him off to work; she has to prepare her own breakfast and the children's and send them to school; after this she must attend to house cleaning and preparation for the midday meal, the return of the children and possibly the husband, with all the work that is thereby entailed. After dinner the

household round seems to begin again, and all necessary repairs and other sewing are perforce left until after supper, and so the day's work is accomplished. But where is the time for recreation, self-culture, or even a glance at the daily paper? As a matter of truth, the working woman leads the life of a slave, a willing and loving slave no doubt in most instances, but still her life is without variety, numbing and depressing in its hard monotony. By the time that a working woman has had four or five children and is expecting another, she is apt to find that time, strength, and cheerfulness are hers in insufficient amount. Who can wonder that, although each baby may be loved when it comes, there is no joy in the anticipation of its birth, and that some poor mothers are led by the difficulties of their lot to drunkenness, to the prevention of conception, and may sometimes feel a temptation to procure criminal abortion?

This pressing question of the working woman's daily life is among the many problems coming up for solution in connection with national reconstruction. So long as a woman is young, with health and courage unbroken, her service to husband and to nation may be, and often is, a labour of love. But joy and even patience may vanish with increasing years and failing strength, aggravated as they are in many instances by definite disabilities,

such as prolapse of the pelvic organs, varicose veins of the leg, and general depreciation of health. Something ought to be done to relieve the burdens of these mothers of the land. There are many difficulties in the way, but it cannot be impossible to find a solution.

In order that pregnancy may be a physiological condition, the expectant mother should be taught how to adapt herself to the alteration in her physical condition. The two chief duties in this matter are the regulation and maintenance of her digestive organs. Sufficient food must be taken, and care should be exercised that in each instance the diet is such as suits the individual. Any overloading of the stomach, or the consumption of unsuitable food, is likely to cause indigestion; so, too, is the taking of food at a time when the vital powers are at a low ebb owing to over-fatigue. It sounds Utopian to advise the pregnant woman of the working classes to rest before her meals; but she should be very careful not to be deluded by exhaustion or dyspepsia into the belief that the temporary benefit procurable by alcohol is really an advantage to her. Many women commence a pernicious custom of "nipping" because it gives them momentary relief. Unfortunately, not only are depression and disability permanently increased by this practice, but also, by causing congestion and catarrh of the stomach and bowels, it sets up a vicious circle from

which escape is difficult. Great care should be exercised by the pregnant woman to obtain a daily, regular, and adequate relief of her bowels. So far as is possible, this should be accomplished by regularity of habits, by drinking a considerable quantity of water or watery fluids, and by increasing the quantity of vegetables, fats, and sugars in the diet.

CHAPTER III

Pathological Pregnancy

ALTHOUGH normal pregnancy is a natural and physiological condition, an element in the harmonious whole of human life, pregnancy is always a time of strain and stress. During this period of a woman's life the balance between the normal and the abnormal is delicately poised, and that which is in design physiological may easily be converted into that which is pathological or unhealthy. Nature seems to have reckoned on the assistance of unspoiled and righteous human nature in the carrying out of her beneficent design for the increase of the human race, but very unfortunately the human race has been deaf to her call and admonition. Human beings have "sought out many inventions." and have summoned disease and death to usurp the position natural to vitality and life.

A young woman with sound organs and unspoiled functions, pregnant with a healthy fœtus, may go from beginning to end of her term not only without danger but without any real discomfort. Such a condition of things is, however, only

too rare, and is seldom to be found in women who are town dwellers, and especially in women of the industrial classes. The conditions of their lives are apt to raise the strain and to lower the resistance until the machine breaks down and ruin ensues. When the pregnant woman's health is injured she does not suffer alone, for her ailments and her imperfect functions have a distinct and disastrous effect on her child. If, therefore, we would have healthy and vigorous citizens, pregnancy must be the care not only of the parents but also of the State.

Women stricken with sudden illness, and their friends, frequently express surprise that so serious a condition could arise without warning. As a matter of fact, there is generally warning enough, but danger signals are often overlooked or misunderstood. Among the disasters of pregnancy are the results of toxæmia. This is a blood poisoning, not septic in its nature, but the result of vitiated secretions, of the retention of effete products, and the perversion of nervous energy. The manifestations of toxæmia include one known as *pernicious vomiting of pregnancy*. There are two or more varieties of undue vomiting during pregnancy. One depends chiefly on an unhealthy condition of the blood and perverted secretions. The vomiting is frequent and distressing, and the resulting malnutrition advances rapidly. The

woman is practically starved, for she retains little of the food taken, and that which is retained does not profit her. She loses flesh rapidly, and presents all the familiar appearance of practical starvation—the dry, sore lips, caked and parched tongue, the intolerant stomach, the dry, wrinkled, harsh skin, the sunken eyes, the general air of misery. In addition to this the woman is poisoned, as is shown by the yellowish-grey colour of her skin. Her condition is often aggravated by feverishness and by nervous irritation, the result of the circulation through the brain of the poisoned blood. In such a case hesitation and tentative treatment are not only inadvisable but criminal; the only hope for the woman is the speediest possible evacuation of her uterus, together with such other measures as may tend to eliminate the poison and to bring about a healthier state of the organs and their secretions.

The other variety of pernicious vomiting is more usually the result of overwork, overstrain, nervous shock, or financial difficulties. In some cases, if a woman loses husband, child, or relations, or if she suffers other misfortunes, she appears to lose her nervous balance; her powers of sleep fail and so does digestion, and the vomiting natural to pregnancy increases in amount and duration. She becomes thin and looks white and haggard, but there is no evidence of overwhelming toxæmia.

In such a case comfort, warmth, perfect rest, and sedative drugs will often restore the balance and obviate any necessity for ending the pregnancy.

In another form of toxæmia the stress falls mainly on the structure and functions of the liver, and when continued to its natural ending results in **acute yellow atrophy of the liver.** In this case also the onset of disaster may appear to be sudden, but if the patient or her friends were observant it might have been noticed that there had been a steady antecedent depreciation of health. When the diseased condition is established there is sudden and rapidly increasing jaundice accompanied by vomiting, hæmorrhages from mucous surfaces, and a rapidly decreasing size of the liver. This last condition is indicated by a steady diminution of the liver dullness; its area is encroached on by the intestinal resonance, so that the liver border no longer corresponds to the margin of the ribs. All deviations from health in the pregnant woman, especially those announced by digestive and nervous disturbances, should be carefully observed and promptly treated, for when toxæmia is fully developed and has resulted in pernicious vomiting or in atrophy of the liver, the time for treatment has wellnigh expired.

A third form of toxæmia is chiefly expressed by interference with the functions of the kidneys, and is caused by injury to the substance of those

organs—**nephritis of pregnancy.** The danger signals are usually headache, nausea, and more or less swelling and dropsy, commencing in the feet and legs, and subsequently involving every part of the body. In the worst cases the swelling may be enormous. At the same time fluid collects in the body cavities, the lungs are pressed upon, breathing becomes difficult, the abdomen fills, and a woman who is perhaps five or six months pregnant looks as if she were at full term. The urine is frequently scanty, and sometimes all but suppressed. When such urine is boiled it shows a very heavy percentage of albumin, the whole column of the test-tube being practically filled with the semi-solid mass. The kidneys being thus thrown out of working order and their substance inflamed, every part of the body becomes poisoned, all the functions are perverted; nausea, vomiting, constipation, and general illness supervene; but probably the most alarming and dramatic development of the nephritis of pregnancy is to be found in the supervening convulsions, termed *eclampsia*. These convulsions of pregnancy greatly resemble infantile convulsions, and are distinguished from epilepsy by the absence of a cry, absence of aura, i.e., warning sensations, and absence of the impulsive actions which frequently succeed an epileptic attack. In treating such a case it is to be remembered that the dropsy, the

fits and the vomiting are only symptoms, and that it is useless to try to cause their disappearance by ordinary treatment; they have their root deep in the poisoned condition of the patient's blood, and that again depends partly on the fact of pregnancy and partly on the abnormal response made to it by the mother's constitution. If sufficient watchfulness were exercised, and if the woman's physique were healthy to start with, such cases would be extremely rare. An endeavour to prevent their development ought to be made not only by the supervision of the pregnant woman's diet and digestive functions generally, but also by frequent examination of her urine for the detection of albumin. The appearance of albumin in a pregnant woman's urine should be the signal for rest, milk diet, and the establishment of a sufficient evacuation of her bowels daily.

Another trouble affecting the kidneys of a pregnant woman is **pyelitis** (inflammation of the fibrous part of the kidneys). It is caused by infection of the kidneys by certain micro-organisms. In some instances the infection spreads upwards from the bladder, and in others it seems to be due to infection through the blood stream. The symptoms are frequently misunderstood, and give rise to the suspicion that the woman is suffering from typhoid fever or some other of the diseases which more or less resemble it. This mistake

ought not to occur; it is true that there is much and long-continued fever, but its rise and fall are erratic, and have no real resemblance to the gradual rise, the two or three weeks of fluctuation, and the slow, gradual return to normal, which are so characteristic of enteric. The pain, too, is not so low down in the abdomen, but some inches higher, and chiefly referred to the back. The urine in pyelitis is of abnormal appearance, more or less discoloured, cloudy, or even thick; it contains abundant albumin, and when sent to the laboratory for microscopic examination it is found to be rich in bacteria. The treatment of this condition belongs entirely to the doctor; but it is of importance that the midwife and nurse should know of its existence, and so be able to recognise and report on it.

Mental symptoms.— In rare cases the whole stress of the toxæmia of pregnancy appears to fall on the brain and nervous system. Occasionally pregnant women become more and more peculiar and abnormal in their mental and moral attitude. When this is the case the woman ought to be relieved from household cares and worries, and she should be placed in a fresh environment. It is not always either possible or desirable to place her under special supervision; she may not at the time be insane in the ordinary sense of the word, and the distress and annoyance caused by removal

from home to an asylum might only make bad worse; but some change of companionship and scene should be devised, for there is little hope of amendment while she remains in her ordinary surroundings.

Among the mechanical difficulties of pregnancy may be mentioned those which arise from **displacements of the pelvic organs.** The womb may be bent backwards, or may tilt on its long axis, so that its upper part rests against the rectum while its neck and mouth point forwards. This condition can scarcely continue without alteration after the womb and its contents have increased to such a size as to fill the pelvic cavity. As a rule, spontaneous rectification occurs, and the womb, or a great part of it, with its contents, rises into the abdominal cavity and continues its normal development. In a small number of cases no such replacement occurs, and the elastic pressure of the womb on the rectum leads to constipation, and, still worse, its pressure on the bladder may cause retention of urine. This may continue and eventually cause such injury to the bladder as to lead to inflammation and necrosis, i.e. sloughing, and so to a fatal issue. In the event of any pregnant woman not being able to pass urine comfortably and at the natural intervals, she should seek advice. The urine should be drawn off, and other necessary treatment must be undertaken.

Where there is simple displacement of the organs downwards, causing the familiar sensation known as "bearing down," and interference with the functions of the bladder, a soft, well-fitting ring pessary will give relief, and about the fifth month, when the uterus and its contents rise into the abdomen and are supported by the bony ring of the pelvis, the trouble will probably cease, at any rate for the time.

The pressure of the constantly growing womb, and the increased supply of blood to the pelvic organs, not infrequently lead to piles, internal or external. This trouble is of no great importance in itself, but it leads to a constant sense of worry and discomfort that greatly increases the general fatigue that so frequently accompanies pregnancy. If the piles are allowed to become ulcerated, the consequent discharge, hæmorrhage and soreness may possibly necessitate an operation. Operations may be performed, although they are not desirable, during pregnancy. Treatment by rest, ointments, suppositories, and fomentations may suffice for relief, and should be tried in the first instance.

Ante-natal death.—Abortion, miscarriage, and premature confinement are evils all too frequently connected with pregnancy. Taken altogether, it is estimated that of the 800,000 children conceived in any nine months, about 100,000 fail to come to

live birth. The great majority of these accidents occur during the first three months of intra-uterine life, and are chiefly due to mechanical causes. The connection between the embryo and the mother is fragile during this period, and quite slight violence, and indeed over-fatigue, may suffice to cause the rupture of one or more of the little blood-vessels running between the fœtal and the maternal structures. Blood is poured out and tends to separate them. In addition to this, the hæmorrhage is likely to kill the embryo, which then becomes a "foreign body," and therefore excites expulsive efforts on the part of the uterus. This is why the coexistence of hæmorrhage and rhythmical pains nearly always means abortion. A certain number of early abortions are also due to diseased conditions of the lining membrane of the uterus, or of the membranes which envelop the fœtus, or of the fœtus itself. Besides these causes, it may be that occasionally the regular sequence of developmental changes fails, and induces such want of harmony in the rapidly developing structure that further development is stopped, and the pregnancy is brought to an end.

We speak of abortions as being accidents, but the great majority of them are accidents that are avoidable, and that should be avoided. How else can we classify those which are the result of blows, kicks, falls, and over-exertion? Accidents they

may be, but accidents that are criminal, or, at any rate, careless in their origin.

Any pregnant woman who notices that she is suffering from hæmorrhage, no matter how slight, or from regularly intermitting pain in her back, with extension towards the abdomen and down the thighs, should seek immediate advice. In the cases which are purely dependent on premature action of the uterus, or on a strictly limited hæmorrhage, the process of abortion may be arrested; but in those which depend on disease or malformation, such an arrest is neither practicable nor desirable, and treatment should be directed to securing the safety of the mother.

Premature evacuation of the uterus during the first three months is usually termed an *abortion;* it takes place by the unaided efforts of nature, and in ordinary circumstances is devoid of danger. The evacuation that occurs during the fourth, fifth, and sixth months of pregnancy is usually known as a *miscarriage,* and is accompanied by much greater pain, an increased liability to serious hæmorrhage, and greater danger from sepsis than in the earlier months. In abortion the ovum, being soft and compressible, containing relatively little solid material, and being but delicately attached to the wall of the womb, is frequently separated and cast off entire. It is far otherwise in miscarriage; the ovum then consists of a more or less formed

fœtus contained in a bag of membranes and floating in a considerable quantity of fluid (*liquor amnii*), which renders it more liable to be discharged piecemeal. The membranes rupture, the fluid escapes, and the fœtus follows; but the *placenta* or *afterbirth* is by this time formed, its fœtal and maternal portions are most intricately and densely interlocked, and no ripening changes or fatty degeneration have occurred to make its detachment natural and easy as it is at full time. In consequence, the placenta, or some portion of it, and sometimes a rag of membrane, are apt to be retained, and this inevitably leads to the risk of hæmorrhage after abortion, perhaps to sepsis, or to both these misfortunes combined. Even in cases where no interference has been made, sepsis may occur from the inevitable admission of air to the vagina and the womb, while in cases where well-meaning but inefficient assistance has been given the danger of sepsis is very great.

The term *premature confinement* is reserved for cases of evacuation of the contents of the womb before full term but after the time that the child is *viable,* i.e. capable of maintaining an independent existence. The earlier such evacuation occurs the more it resembles miscarriage, and the later it occurs the more nearly it conforms to the conditions of ordinary labour at term.

Whereas abortions and early miscarriages are

more generally the result of accident, the later miscarriages, and still more the premature births and stillbirths, are likely to be the result of alcoholism or of syphilis (*see* pp. 91, 99).

The mention of premature birth leads to the consideration of the various forms of **ante-partum hæmorrhage.** These are described under two chief headings: (1) Those which are due to the separation of the placenta during labour owing to its being faultily placed in the lower zone of the uterus, that part which must inevitably dilate in order to give exit to the fœtus; (2) those which are due to the separation of the normally seated placenta. The latter have been termed accidental hæmorrhages.

The first variety, *placenta prævia,* used to be well called *unavoidable hæmorrhage.* It is likely to occur as soon as the slow, imperceptible contractions of the uterus which have long been present acquire sufficient vigour and magnitude to detach some portion of the placenta, and so to rupture the thin-walled vessels concerned in its formation. Painful labour may, or may not, be excited; but the process of detachment, once begun, is likely to continue until whatever portion of the afterbirth is attached to the lower zone has been separated. In the cases where this portion is large, both the mother and child are in danger. The hæmorrhage may be copious and more or less

continuous; it can only definitely cease with the detachment of the misplaced portion of the placenta. This hæmorrhage may be sufficient to kill both mother and child, and the latter runs an especial risk because it is being cut off from its sources both of oxygen and of nourishment.

In the case of *accidental hæmorrhage* the placenta may be attached to any part of the womb above the zone which must inevitably dilate; the causes of its detachment are therefore different. It may be the result of some abnormal condition of the placenta itself, or it may be truly accidental, due to violence from without. If it chances that the marginal part of the placenta separates, the blood will find its way between the membranes and the wall of the womb, through the mouth of the womb into the vagina, and so, escaping externally, would attract attention. Treatment would follow, and safety, for the mother at any rate, may usually be secured. When a portion of the placenta remote from the circumference separates, the symptoms are very different; the blood does not escape, but collects between the placenta and the uterine wall, stretching the latter, and so adding to the exhaustion and distress caused by the hæmorrhage itself. These cases need great vigilance and promptitude in treatment. If a pregnant woman is suddenly taken ill with pallor of the face,

blanching of the lips, nervous restlessness, and a fixed abdominal pain, it is certain that some catastrophe has happened, it may be rupture of the womb, but in the absence of active labour pains it is more likely to be either placenta prævia or accidental hæmorrhage.

The question of treatment is a difficult one. All authorities agree that delivery with the least possible delay is indicated. In the case of placenta prævia this is most usually sought at the expense of the child; it is advised that it should be brought into the world foot first, its position being previously altered if necessary. This means a very considerable strain on the child's delicate and immature body; it further means delay in the extraction of the after-coming head through an only partially dilated, and it may be inelastic, mouth of the womb. In the case of accidental hæmorrhage there is a sharp difference of opinion; the Dublin school advocates plugging of the vagina and the leaving of the subsequent progress of the labour to nature; other authorities advise rupture of the membranes, artificial dilatation of the cervix, and extraction of the child by the speediest method available. It is quite possible that both schools may eventually agree that in cases of serious and formidable accidental hæmorrhage, Cæsarean section (extraction of the child through an abdominal incision) may offer the best hope

for the mother, and in some cases a chance for the child.

After all, the great and important condition of the mother's safety depends on care in observation, promptitude of recognition, and wisdom in treatment.

Criminal abortion is only too frequent among a certain section of our population, and possibly this crime is relatively more common among those who do not improperly prevent conception. Recommendations have been made by the Birth-Rate Commission and the Pharmaceutical Society with a view to rendering this crime less easy of accomplishment, and therefore less common, and they have been embodied in recent legislation (*see* p. 132).

Among the less recognised dangers of pregnancy is one known to doctors as **acidosis.** It is a peculiar condition of the blood somewhat allied to that which occasionally causes death within a few hours or days of an operation, and which has usually been called delayed chloroform poisoning. This condition is always dangerous, and, unless promptly and skilfully treated, may lead to a fatal result. Its existence should be suspected in the case of a pregnant woman who shows an unnatural desire for alkalis. For instance, a woman who longs to take carbonate of soda, to eat lime, chalk, or mortar, has probably some abnormal condition

of the blood. This apparent vagary has been known for many years, and used to be referred to as one of the abnormal longings of pregnancy. In another class of toxæmia the condition of the blood appears to be different, and the patients have a constant craving for vinegar, lemon juice, and other acids. There is great need for additional research work in this and in many other abnormal conditions of pregnancy.

CHAPTER IV

The Doctor, Midwife, Maternity Nurse, and Health Visitor

THE rôle of **the doctor** in relation to the motherhood of the country is one of very great importance, because, although some 75 per cent. of the deliveries in England and Wales fall to the share of the midwife, the doctor stands behind her, the ultimate court of appeal in dangerous and abnormal cases. This being so, it is much to be desired that all qualified medical men and women should be trained to look upon themselves as being, for indeed they are, responsible for the health and welfare of both the mother and her child from the day that they are first consulted with reference to a pregnancy. We have recently awakened, at any rate to some extent, to the importance of infant life, and to a realisation of what the health of pregnant and parturient women means to the country. It is, however, scarcely possible that either the public or the profession realises that one woman dies in childbirth for every 250 children born alive. In addition to this, we have to re-

member that the same accidents and diseases which kill the mothers and the babies inevitably cause a still heavier percentage of crippling and invaliding. Medical men and women who practise largely in the diseases and disabilities of women are well aware that most of the conditions found have had their origin either in the diseases of pregnancy and parturition, or in unskilled attendance. Syphilis, gonorrhœa, alcoholism, and tubercle on the one hand, and the results of sepsis, so-called puerperal fever, and the effects of too long delayed, too precipitate and unskilful delivery on the other hand, are among the most potent causes of suffering and disability of childbearing women. That great improvement is not only possible but practicable is shown by the death-rate in childbed in London. This death-rate is about 70 per cent. lower than that of England and Wales as a whole, and it is painful, and yet hopeful, to observe that if the general rate for the country for the quinquennium 1911-1914 had been as low as that of London, 4,000 mothers would have been saved to the community.

It is evident that the better record held by London is not due to any superiority in climatic conditions; rather it appears to be referable to the fact that medical aid is more readily obtainable in the metropolis. And yet there is another factor in the problem, for whereas Hastings has a

maternal death-rate from child-bearing of 2.15 per thousand births, a large industrial centre such as Dewsbury has a rate of 8.54 per thousand. Nor is it only the mothers that are lost, for the infant death-rate under the age of one week, the period during which the accidents of childbirth are most likely to affect the offspring, rises or falls with the maternal death-rate. Thus in Dewsbury the infant death-rate under one week is 41.4 per thousand, while that of Hastings is less than one-half, viz. 19.8.

The welfare of the woman and her child at the time of parturition depends so largely on pre-natal circumstances, and these circumstances are so much within the control of the various authorities, of the doctors, midwives, nurses, and of the mothers themselves, that it follows that the first step towards a diminution of mortality and an increase in the healthiness of mothers and children depends on the dissemination of knowledge. We must all learn to recognise the dangers, the sources whence they spring, and the remedies that ought to be provided.

Inasmuch as doctors are responsible directly for the welfare of one quarter, and indirectly for the welfare of the whole of the parturient population, very special efforts should be made to secure adequate education for medical students in obstetrics and gynæcology, and to impress the minds

of medical practitioners with the national importance of their work for women and their offspring during pregnancy, parturition, and lactation. Undoubtedly a great stimulus will be given to this part of medical education when we are able to realise the plan of constituting clinical units in our large hospitals. The plan, put very briefly and roughly, proposes that in every teaching hospital there shall be three units, each under the care of a full-time Medical Officer; these units shall respectively be devoted to the study of medicine, surgery, and midwifery (including the diseases of women). The principal Medical Officer of each unit shall have no other professional duties than those involved in the care of the sick and the instruction of the students in the unit. This officer must devote his or her whole time to the hospital. There is to be no consultant work, no ordinary practice, nor indeed anything that could make demands on his time, wisdom, and vigour, which should be dedicated to the sacred task. Under each such Director there are to be three or more Assistants who would be part-time officers only. These men and women, while assisting the Director and perfecting their own knowledge and experience, will be available to act as consultants outside the hospital, and so to secure the welfare of other patients. In fact, while the Director would act more or less as a reservoir of wisdom and experi-

ence, the Assistants would be the conduit pipes whereby these blessings can be carried to individuals both in the hospital and outside its walls.

The ideal teaching hospital would not only be provided with necessary personnel; it would also be equipped with research laboratories, X-ray rooms, special departments for the care of the eye, ear, throat, and skin, and a venereal department to which patients could be transferred from any of the three great divisions for special treatment. In working out this idea great care will be necessary not to destroy the personal touch between students and patients that has been the best characteristic of the British Schools of Medicine. In our Schools the directions of physician, surgeon, and obstetrician have always been carried out by groups of students under the supervision of the Junior Medical Staff. Our students, therefore, have been brought up not only to have a quick and ready sympathy with human suffering, but also to bear from the very earliest days of student life a certain amount of the responsibility that is necessary to make them self-reliant and capable practitioners. The defect in our hospital system up to the present time has been that the members of the Senior Staff (whether physicians, surgeons, or obstetricians), being honorary, have always had to look to outside work for their livelihood.

In spite of their well-known devotion to their

hospital work, the interests of the hospital were inevitably brought into keen competition with the outside work that was necessary to secure a livelihood, and there was little time for research. Under the proposed new régime the Directors of the Clinics are to receive a sufficient honorarium to enable them to devote their whole energy to their patients, their students, and research. The interests of patients and students have always been paramount with the staffs of our hospitals, but the duty that has been most difficult to fulfil, and the importance of which has never been realised, is that of scientific research. Governments have never properly recognised that this is essential to national welfare. Many Hospital Boards and Committees have simply ignored the subject, and the Medical Staffs, overwhelmed with hospital duties and the necessary prosecution of private work, have had no opportunity for the service of so jealous a mistress. Now, albeit late in the day, all this must be altered.

The midwife.—Training of midwives was practically non-existent up to comparatively recent years. Charles Dickens realised this, and performed a real national service in drawing the portrait of Sairey Gamp. Since his days progress has been made, slow at first, but much quickened by the passing of the Midwives Act, 1902. By this Act regular training was secured

for midwives; a Board was appointed which fixed their curriculum, provided for their examination and qualification, and also exercised disciplinary powers. Much was achieved by means of this Act, but its promoters, and those who subsequently worked it, would be the first to say that in some respects it was inadequate. The training demanded by it was too short, and consequently the standard of knowledge was too low. The remuneration of the midwives and their social status were altogether inadequate; there was no possibility of a woman employed as district midwife being able to live comfortably and make anything like a sufficient provision for old age or sickness. Especially is this true of midwives working in rural districts. Their patients are usually few in number and widely scattered, making it extremely difficult for them to attend a sufficient number of cases; the life is a very hard one, involving long hours, much walking or cycling, exposure to all weathers, and, most important of all, it entails a heavy load of responsibility. Under the original Act there were certain provisions which did a real injustice to midwives; they were required to provide a bag and suitable contents for the performance of their duties, and in the event of requiring a doctor's assistance they were responsible for the fee. The provision of the bag and its contents was a heavy tax on a slender income, and must have been a

constant temptation to a stinting of the antiseptics necessary for the safety of their patients and to a reluctance to replace clinical thermometers and other fragile implements. As to the doctor's fee, one can well believe that the midwife often had a divided mind; a sense of duty and a dread of consequences would impel her to seek a consultation, while professional pride and the doubt of being able to recover the fee would act as deterrents. It is a matter of thankfulness that the Act passed in 1918 does away with many of the defects of the earlier Act (*see* p. 135).

There are at present no central institutions for the training of midwives; they are trained, as heretofore, in lying-in-hospitals, infirmaries, and under private tuition; but the qualifying examination is uniform, and aims at securing a certain reasonable minimum of knowledge. Two main objects are sought. First, that the midwife shall possess the knowledge and experience that are necessary to enable her to attend normal cases of labour with safety to the mother and child; and secondly, to secure that she has sufficient knowledge and experience to enable her to recognise deviations from the normal, and therefore to know when she ought to refer the case to a doctor. There are certain instructions given by the Central Midwives Board to enable her to judge what constitutes abnormality. Under the rules she is bound to take the

pulse and temperature at every visit to her patient; to give no drug other than a simple aperient without recording it. Further, she must inform the Local Supervising Authority if medical help is called in, if mother or child dies, if the child is stillborn, or if she lays out a dead body. No midwife can begin to practise in an area without informing the Local Supervising Authority, and she must also notify annually to this Authority her intention to continue her practice. The Local Supervising Authorities are: County Councils, including the London County Council, and County Borough Councils. These Authorities are responsible for the general supervision of midwives practising in their area, and the investigation of charges against them, and if a *prima facie* case be established it is their duty to report it to the C.M.B. Further, these Authorities have power to suspend midwives if this is necessary to prevent the spread of infection occurring in their practice.

Under the Acts the midwife must book the engagement to attend in labour any woman who applies for her services. Unfortunately, she is not bound to make any special examination with a view of ascertaining whether or not the woman's calculation appears to be correct, and whether there is a reasonable expectation that the labour will be normal. For the convenience of the midwife, and for the safety of the mother and child, it is

very desirable that the probable date of confinement should be carefully ascertained; but far more important than this is such an examination and consideration of the case as would furnish the midwife with the means of knowing the probable course of the expected labour. It is therefore desirable that a careful examination should be made as soon as possible after the booking of the case, special care being taken to notice and record the height and general conformation of the patient, whether she is apparently well built, and whether or not she is lame—remembering that lameness frequently indicates an inequality of development in the two sides of the pelvis. At the same visit, inquiry should be made as to the patient's general health, whether she is eating well and digesting her food, whether the action of the bowels is regular and sufficient, and whether micturition is normal, and the quantity of urine passed neither too great nor too scanty. An early opportunity should be taken of examining the urine with special reference to its specific gravity, and whether or not albumin is present. The presence of albumin may indicate some grave disturbance of the kidneys or bladder, or on the other hand it may simply depend on leucorrhœa (a white discharge). If, therefore, albumin should be found, the midwife should explain to the patient that it is necessary to make a special investigation, and should obtain her

consent to the drawing off of the urine by a catheter. Few patients would refuse to permit this if they understood the importance of the proposed investigation to themselves and to their children. It is unnecessary to say that the most scrupulous care must be taken to avoid any infection of the bladder. The catheter should be boiled and the vulva cleansed; the midwife should pass the instrument by the aid of sight and not by touch only. It is far better to uncover the patient, to see the meatus (opening of the water-passage), and to introduce the catheter easily and safely, rather than to pass it in dependence on the sense of touch. Such folly is only too likely to lead to blundering, which annoys the patient, and fouls the end of the catheter, so that when it is introduced it probably carries infection into the bladder and thus may lead to the development of cystitis (inflammation of the bladder).

From the end of the seventh month the midwife should see her patient once a fortnight, and should make an abdominal examination in order to compare the size of the growing child with that of the pelvis. As the size of the fœtus at full term may vary between 5 lb. and 12 lb., the ease and rapidity of delivery will probably vary in like manner. So long as the size of the child corresponds with that of the mother's pelvis, and so long as its head can be pushed into the brim, all

is well; but if the child is big and apparently too large to enter the bony ring readily, the midwife ought to seek the advice of a doctor as to whether induction of labour is necessary. This, when properly performed, is a safe and easy operation, and may be expected, in suitable cases, to save the mother much suffering, to secure the child's life, and greatly to lessen the midwife's anxiety and responsibility.

Every well-trained midwife knows that the summons to a labour case must be answered at once. Even in the case of a first child the labour may proceed with unexpected rapidity, and in all cases there is a possibility of some abnormality existing which could be set right if detected in time. Occasionally the early contractions of the uterus, although practically painless and little heeded by the mother, may suffice to accomplish the dilatation of the lower part of the uterus, and then a few painful contractions occurring in quick succession may complete the first stage and lead to a situation in which the midwife's help is very urgently needed. There are few practitioners of large experience who have not many times had to be thankful that they answered a woman's summons quickly, for no matter what the previous estimate of possible duration of labour may have been, the unexpected not infrequently happens, and, even having used all diligence, the practitioner may

arrive to find that the child has been born, or that some complication has arisen, such as prolapse of the cord, prolapse of a limb, or displacement of the head from the brim. All these and many other accidents will present themselves to the remembrance of every experienced practitioner.

Within the last few years an additional duty has fallen on the midwife. Public attention has been persistently directed to the subject of the venereal diseases, and it is well known that a certain number of pregnant women show unmistakable signs of infection with syphilis or gonorrhœa. In the case of the former disease the midwife may find that when the mother books her case for attendance she is suffering from rashes, mucous tubercles, ulcerated throat, swollen glands, or falling of the hair. It is then the duty of the midwife to point out to her patient that all is not well; that she is suffering from a form of blood poisoning which, if untreated, will lead to persistent ill-health for herself, and will probably entail miscarriage, premature birth or stillbirth, or the advent of a sickly baby. If the midwife has been trained to a prompt recognition and a right interpretation of the symptoms of secondary syphilis, and if she possesses common sense and sympathy with her patient's misfortune, she will probably have no difficulty in inducing the expectant mother to consult a doctor or to visit the

hospital. It is impossible not to recognise the great importance of this part of a midwife's work; the welfare of two lives, if not actually their salvation, depends on her knowledge and *savoir faire*. No woman who recognises the danger and who knows the wonderfully successful and satisfactory results of modern ante-natal treatment, will shrink from the performance of so imperative a duty.

In case of infection with gonorrhœa, the midwife's attention will be drawn to the existence of more or less irritation and discharge from the vagina. This would become evident to her in making her first examination at the time the patient books her services. If any suspicion is aroused a specimen of the discharge should be collected on cotton-wool and the pledget of cotton-wool should be put into a recently boiled test-tube securely corked, or plugged with cotton-wool. This specimen must be forwarded to the woman's doctor or to the hospital at which she is advised to attend. The nearer the time of delivery the more imperative it is that a gonorrhœal infection should be overcome. Twenty-four per cent. of all the blindness in the country is caused by the infection of the eyes of infants with gonorrhœal discharge during the act of birth, or by their rubbing their eyes with their soiled fists soon after birth—ophthalmia neonatorum (ophthalmia of the newborn). It is true that washing the baby's eyes as soon as the head is born,

and washing its hands immediately after the birth of the body, may suffice to prevent infection; but "prevention is better than cure," and the little one should not be permitted to run any risk of infection during birth, nor, as is possible, from its mother's soiled fingers during the early days of life. For their own safety, and for the safety of their patients, midwives should be careful to wear gloves when attending patients suffering from venereal diseases.

Ophthalmia neonatorum is defined as a purulent infection of the eyes of a child at the time of birth or within twenty-one days of birth. This time limit recognises the possibility of infection by the gonococcus (the germ of gonorrhœa) subsequent to birth.

There are other matters that should be intelligently observed by the midwife. If the patient suffers from a persistent cough, or if she is feverish at night, or if she suffers from loss of flesh and strength, suspicions as to the existence of tuberculosis should be aroused and suitable action taken. The condition of the house with regard to structure, cleanliness, convenience, and space should be noted, and if the conditions are irremediably unsuitable for the safe conduct of the confinement the patient should be advised to make other arrangements. The delivery of a woman in insanitary surroundings is a great addition to the heavy burden of the midwife's responsibility.

The maternity nurse.—The maternity nurse is a person of great importance. In many instances it falls to her lot to follow the doctor or midwife in their ministrations, and to carry out the directions they give for the welfare of the mother and her child. It is not necessary, although it is desirable, that she should possess an adequate knowledge of midwifery. She must, however, be familiar with the general principles of nursing, and with those special branches of it which come into play in the lying-in-chamber. She should be as great a foe to dirt and as a great a lover of asepsis as is the surgical nurse; she has to bear in mind that the newly made mother is really a surgical patient; that she possesses a large raw area from which the afterbirth has been detached, and, further, that all lying-in women have more or less abrasion and soreness of the external genitals. She must know that these lesions are especially marked in women who have just borne their first child, and that these primiparæ are especially liable to lacerations, both of the lower part of the vagina and of the perineum (the tract of tissue lying between the vagina and the bowel). The laceration, which varies from a comparatively slight crack to a formidable rent, throwing the front and back passages into one, ought to have been attended to and repaired at the time of delivery. Sometimes this necessary duty has not been accomplished, and sometimes,

although repaired, the wound fails to heal; at the best there are stitches present which cause considerable suffering to the patient and are a constant worry to the nurse, because they complicate the necessary washing and cleansing of the parts concerned. If the doctor or midwife in charge of the case orders douches for the patient, it may fall to the share of the nurse to carry out the order. The douching of a puerperal patient needs considerable care. Unless the external parts are first cleansed, there is a risk of introducing sepsis from without on the nozzle of the douche apparatus. If the nozzle has a central terminal hole there is a risk of squirting the fluid used into the uterus, an accident which may cause considerable pain and disturbance, sometimes even danger.

The maternity nurse is responsible for the general cleanliness and comfort of the patient, for the making of her bed, and for the sufficient but economical use of clean linen. She should see that the pads applied to the vulva are sterilised, or at any rate freshly boiled, dried, and ironed. In the case of women who can afford the expense, the orthodox sanitary towel or gamgee tissue is the best pad. The nurse should endeavour to keep the lying-in-room in "nursing order," but in the homes of the poor her difficulties are great. The room is likely to be crowded with all sorts of objects, nearly all of which she would like to

banish; but the difficulty is to know where to put them; therefore, the efficiency of her service will depend quite as much on her resourcefulness and on her tact as on her knowledge and her sense of duty.

A good maternity nurse should have some knowledge of cookery, more especially of sick-room cookery, and of how to make the best of materials which are in themselves neither very suitable nor fully sufficient. In the matter of diet she should set her face resolutely against all suggestions that the patient would be the better for alcoholic stimulants. She must not pose as a Temperance advocate or she will encounter overwhelming opposition; but she must tactfully discourage the patient and her friends from thinking that spirits or wine would be likely to be useful in this special case, and if necessary she must appeal to the doctor or midwife for confirmation of her advice.

The maternity nurse in the homes of the poor will probably find that an important part of her duties is to see that the patient's mind is relieved from anxiety and worry as to how her husband and children are faring. The nurse may be expected to do much that in ordinary circumstances is the patient's duty, more especially to see that the children are washed, fed, and sent to school. This may be no part of her professional work, and

it adds greatly to her fatigue and her worries; but, after all, nurses exist for the welfare of their patients, and the law of charity demands, and nearly always obtains, a ready response to the manifold needs of the sick and afflicted.

The maternity nurse ought to be always hospital-trained and fully qualified, and if she has the certificate of the C.M.B., all the better for her and her patients. Such training would enable her to understand the danger of the various infections. Prominent among them are the ordinary infection with septic materials and the infections of syphilis and gonorrhœa. Sepsis must be avoided by scrupulous cleanliness, and venereal infection must be met by the wearing of india-rubber gloves, or, where they are not procurable, by most careful and immediate washing. A too lavish use of strong disinfectants is not desirable, for they make the skin rough and sore and, therefore, more liable to infection.

The health visitor.—Health visitors are a creation of these latter days. They are of two orders, the paid and the unpaid. Each of these classes has its own special merits. The unpaid health visitor is usually a lady of good will and loving heart, who is touched by the sufferings of the poor, and probably has some nursing knowledge, either regularly acquired or possibly learnt in the more bitter school of experience. She may

be efficient, punctual, and tactful, and may have a keen realisation of the difficulties and the duties of doctor and midwife, of patients and their friends. In the majority of cases, no doubt, she is so endowed; but the weak point of all voluntary help is that it is difficult to discipline, and that all criticism of it appears, and indeed is, ungracious. Probably the new spirit introduced into voluntary work during the War, and the necessary disciplining of the many thousands of women who so nobly responded to their country's need, will bear excellent fruit in the future. From 1914 to 1919 women were learning that enthusiasm and love are badly handicapped unless united to punctuality and efficiency. If this be the case the voluntary health visitor of to-day and to-morrow will be of the greatest possible service to the sick poor and to their professional attendants.

The health visitors who are paid are sometimes women of small income, and sometimes women whose education is not quite on the same level as that of their unpaid colleagues. They are trained by the National Health Society and similar institutions; they are examined as to the knowledge they have acquired, and obtain certificates which are to some extent, at any rate, guarantees of efficiency. Unfortunately, their numbers are at present quite inadequate to the amount of work that needs to be done. They are

a necessary link in the chain of workers; they visit the houses of the poor more in the guise of outside friends than do the doctor, midwife, or district nurse; they can establish thoroughly confidential relations with the patients; and in cases where the midwife is too busy, and no maternity nurse is in attendance, they do practically all that the nurse would do except the purely professional part of her duties. In addition to this the health visitor is supposed to have sufficient sanitary knowledge to perceive the more obvious defects in scullery and sink, in water-closet and gully. The health visitor is neither a sanitary inspector nor a nurse; but she is supposed to possess some share of the qualifications of both, and over and above this she needs to be endowed with an amount of shrewdness, sympathy, and tact such as falls to the lot of few mortals. One of her very important duties is to visit the mother and child within the first few days after the confinement. She will, of course, see the infant, and must notice whether it is clean, comfortably dressed, and whether its eyes and eyelids appear to be perfectly normal. If she is not satisfied on this point she must report on its condition, and this without arousing the professional resentment of the midwife in charge. She should inquire of the mother how the child is being fed, and should throw all the weight of her influence into the scale in favour of breast-

feeding. She should point out to the mother that the baby's chances of life and health are practically doubled if she feeds it herself. If this is really impossible she must insist on the fact that the best substitute for mother's milk is the milk of the cow or the ass, and not any patent food. She must notice the sort of bottle that is used, and the means that are taken to cleanse the bottle and its teat. She must be prepared to point out the impossibility of properly cleaning bottles that have long tubes, and also be prepared to wage a war of extermination against teething rings, dummies (comforters), and such-like inventions of the Evil One.

Various are the duties, abundant are the opportunities, and unlimited are the worries and responsibilities of the health visitor. She does not possess the official standing of the sanitary inspector, nor the professional status of doctor or of midwife. Like the mother herself, she must be prepared for much work, much misunderstanding, and very little official recognition and support. The good health visitor is, however, a most valuable member of the body politic, and has within her power a very large share of the comfort and well-being of our mothers and children.

It will have been gathered from the above that the health visitor, to do the maximum amount of good, must have not only knowledge but the highest moral qualities, and that her mission is

largely to supply unavoidable deficiencies in the ministry of others, and always to act as a loyal colleague to doctor and midwife. Her immediate superior is the Medical Officer of Health; from him she derives such authority as she possesses, and to him her reports are made. She has to know the laws, rules, and regulations affecting the welfare of pregnant and lying-in women; she must be familiar with the Children Act, and have more than a bowing acquaintance with the school nurse and tuberculosis officer.

In order that she may be in a position to give ready advice she must be well acquainted with the health organisation of the district in which she works, and should know all about the scope, the rules and regulations of its hospitals, whether lying-in or general. The health visitor must also know as much as possible of Convalescent Homes, Homes for unfortunate girls and illegitimate babies; she should be good friends with the Diocesan Rescue and Preventive Agencies; also with Rest Homes and all other institutions that may be of service to her poor friends. It is perfectly evident, therefore, that the really good health visitor must not only know all things, but, like Charity, she must be prepared to "bear all things," and indeed she cannot do better than take for the guide of her daily life St. Paul's admirable summary of the characteristics of Charity.

The Expectant Mother

Unless doctor, midwife, nurse, and health visitor are prepared to work harmoniously and unselfishly, unless all the members of the group bear in mind the aim of their work, they had better find some other sphere of action; for they are very apt to get in each other's way, to encroach on each other's field of work, and to bring variance and unhappiness in their train.

The industrial woman is justly apt to resent so many visitors and such varying advice. The situation is one of difficulty and delicacy, and only real good feeling and an exquisite courtesy can make it tolerable for the workers or for their patients.

Part II

ADMINISTRATIVE CARE OF PREGNANCY

CHAPTER I

Maternity Centres and Maternity Homes

From the latter portion of the preceding chapter it has been made evident that a very large percentage of our population has been found to be unable to provide adequate assistance for its expectant and parturient mothers and their offspring. As we have seen, quite three-quarters of the mothers in England and Wales are delivered by midwives, and although a certain number of them are able to afford and pay the necessary fee, a large number of them are quite unable to discharge this obligation. The necessities of these women are borne in part by imperial funds, in part by the rates, and in part by the philanthropic efforts of their more wealthy fellow-citizens.

The Expectant Mother

The maternity benefit.—Under the National Insurance Act every woman who is herself insured or is the wife of an insured man is entitled after her confinement to a maternity benefit of thirty shillings, a sum which appears to have been intended to provide the midwife's fee and possibly some small comforts for the lying-in woman, or a small contribution towards baby clothes. It is, however, evident that this sum, which was never adequate, is now grossly insufficient. Midwives must live, and the enhanced price of all commodities is making this increasingly difficult. They can no longer be content to receive the minimum fee, and they find the maximum by no means too large. Then, again, the extra firing, extra milk, and possibly other articles necessary for the mother or child, have risen in price, and cannot be provided out of the small balance left of the maternity benefit on its present scale.

If the present rise of wages throughout the country were accompanied by a return of prices to something like the pre-war level, many thousands of households would cease to be on the border line; they would become comfortably self-supporting, and the mother's natural anxiety, in view of approaching confinement, would not be intensified by worries and uncertainties as to the provision of necessary money. The Government has done

much to relieve the strain, and it is believed that the new Ministry of Health intends to do more. It is certain that one of the great needs of the present time is to render maternity safe and comfortable. No doubt the central and local authorities, and the philanthropic public, will work together for this end; but much remains to be organised before this is secured.

Maternity or Ante-natal Centres.—Among the agencies for the benefit of pregnant women are the Maternity Centres. Unfortunately these Centres are at present comparatively few in number, and are not sufficient to serve the whole population. They are arranged by the Local Authorities or the Health Societies of the different areas, with the intention of getting into touch with pregnant women, so as to offer them advice, and such assistance as may be necessary. In furtherance of these objects it is necessary for the officers of these Centres to ascertain the condition of the houses and surroundings of the women they befriend; in addition there should be a tactful supervision of their personal health, with a view to the discovery and cure of disease and the improvement of their general physique, and in all ways to securing the safe delivery of the woman and the welfare of her child.

An important part of the work of a Maternity Centre is its Ante-natal Clinic. This is intended

to help and direct pregnant women of the district. Unfortunately these valuable institutions are, up to the present, much too few to serve the bulk of the population. Up to the end of 1917 there were rather more than 120 Ante-natal Clinics. They were attended by between ten and eleven thousand expectant mothers, a number which represents only about 1.5 per cent. of the whole number of pregnant women in the country. About 31 of these clinics were in London, 10 in Liverpool, 5 in Newport, Mon.; Birmingham, Derby, Leeds, and Worcester each maintained three; in many towns there were two, but in many more towns there was none, and the rural districts were badly neglected.

Medical Work.—The work at Maternity or Ante-natal Centres may be divided into medical and educational. The officers of the medical side must include a doctor, preferably a woman doctor; there should also be a midwife or a midwifery nurse in attendance, and as many health visitors, professional or amateur, as the size of the Centre may demand. It is not well that the Centre should serve too large an area, for pregnant women find considerable difficulty in attending if they have to walk long distances. The selection of the Centre, therefore, needs considerable thought and attention. In arranging for the days on which it shall be open it is well to remember in country districts

that farmers and other people driving into market may be able to give a lift to the patients coming or going, if not both ways. Much of the success of a Maternity Centre depends on the lady who is charged with the duty of receiving the patients; she should be a woman of tact and discretion, and should know as much as possible of the district and its inhabitants. This may be a difficult task in crowded city areas where there are many patients.

The receiving officer should be quick to notice the condition of her guests; she should see that the tired ones rest, and that those who are hungry, or exhausted, are provided with suitable refreshment. It is sometimes possible to provide a cup of tea and a biscuit gratis, but sometimes this expense is borne by a tea-club to which the women subscribe, or it may be held to be covered by the penny fee payable on each visit. The patients are passed on from the receiving room to the consultation room, where the doctor, the midwife, or someone acting for them, fills up the register of their names, ages, addresses, number of children, duration of pregnancy, and the results of examination, etc. If practicable, a careful examination of the patient should be made at the time of her first visit (*see* p. 51). From this time onward the doctor or midwife must remember that while the size of the pelvic passage is a fixed quantity, that

of the passenger is constantly increasing, and that the latter may increase out of proportion to the passage.

Besides the physical condition of the abdomen, pelvis, and external genitalia, there are many co-existing conditions that may need investigation. Some of these are very serious, such, for instance, as the existence of heart disease, tuberculosis, venereal disease, and alcoholism; but whereas these occur only occasionally, it is practically certain that every woman will present certain minor defects that ought to be remedied for fear they may increase, or may give rise to trouble in the future. It is quite certain that we have not yet grasped the many causes, latent and unsuspected, of puerperal sepsis, and yet the individual experience of careful doctors and midwives is gradually showing us that carious teeth, and pyorrhœa (a germ-laden discharge from the sockets of the teeth) are potent factors in blood poisoning. So, too, are septic tonsils, discharging adenoids, and festered fingers. Many women during pregnancy suffer from cough, which may be due to chronic disease of the bronchial tubes and lungs, to temporary catarrh, to stomach condition, or may be simply a nervous manifestation. Heartburn and waterbrash are frequently attributed by the mothers to the baby's hair tickling their insides! It is well that such a superstition should be exposed, and the phe-

nomena attributed to the acidity or other form of dyspepsia which is its real cause. Sleeplessness, especially towards the end of pregnancy, may cause considerable distress, and the practitioner should be ready with various suggestions for its relief, remembering always that the administration of drugs is likely to establish an evil habit, which is a high price to pay for a good night's rest. The condition of the nipples calls for attention; they should always be inspected and carefully prepared for service. If they are depressed owing to the pressure of clothes, means must be taken to promote their natural development; but too much interference at any one time is inadvisable, because it might lead to sympathetic action on the part of the uterus and so cause premature evacuation.

Among the possible causes of distress, dyspepsia and sleeplessness, hydramnios should not be forgotten. In this condition there is too great a secretion of the liquor amnii (the fluid in which the child floats). In severe cases the woman may look as if she were approaching full time, although she is only six or seven months pregnant, and before the time for delivery arrives her size may be enormous and her distress very great. All such cases should be referred to the doctor, who may think it wise to interfere in the interests of both mother and child.

Premature labour. — If premature labour should occur by accident or by induction, the mother should be warned that the welfare of the premature infant depends very largely on the intelligent care that she is able to bestow upon it. She should be taught how to make a special nest for her fledgling. A box, such as is used for containing a dozen shirts, or a one-dozen wooden case, can be lined with clean old blanket, between the folds of which much cotton wool or shavings should be evenly distributed. Next to the inner fold of the blanket there should be a layer of waterproof to prevent wetting and soiling of the packing material. In this nest the child, well wrapped in woollen material, can be laid, and additional warmth may be obtained by hot-water bottles or hot bricks. The bottles or bricks must be well protected; many serious burns have been occasioned from the omission of this precaution.

Educational work. — As to the educational work of a Maternity Centre, provision must be made for short, simple, interesting lectures and "talks" dealing chiefly with the many questions concerning the woman's own health and that of her child during pregnancy, childbed, and suckling. It not infrequently happens that the women attending the Centre bring with them one or more toddlers; these little people can generally be kept quiet for the brief time during which their mothers

are able to take an intelligent interest in the subject discussed. Some of these lectures or "talks" must necessarily be given by doctor or midwife; but many of them can be undertaken by health visitors and voluntary assistants. Probably, in such matters as domestic management, cooking, cutting out and making of clothes, these latter officers will be more experienced and practical than the doctor. On the other hand, instruction as to the signs and symptoms of disease, and advice as to the best methods of obtaining treatment, would naturally fall to the share of the medical practitioner. Medical instruction demands accuracy, tact, and sympathy on the part of those who give it; but granting the existence of these qualities, it is quite easy to enlighten and interest the women concerning venereal disease, tuberculosis, and alcoholism, as well as the more common ailments.

Among the most important of the lectures and talks are those concerned with infant feeding. It should always be impressed on the mothers that Nature's provision for the baby is the best, and that the cases of real inability to suckle are very rare. They must be taught that lactation is good for the mother; that within the natural limits of nine or ten months it increases her appetite, promotes her digestion, and makes her stronger in all respects. Besides this, the mother who suckles her child avoids all the extra work and

the anxiety entailed by having to prepare and administer artificial food. It is not well, perhaps, to say too much about the greater economy, because the milk that would be needed for the nourishment of the infant ought still to be given to it, not directly, but through the medium of its mother.

Lectures and talks addressed to the audience of mothers must be supplemented and explained by individual and friendly conversation. Women are, generally speaking, too shy to ask questions before each other; but when the lecturer has finished she should go among the women and sit down first beside one and then another so as to be able to explain, to supplement, and to correct what she has said, or what the women think she has said—a totally different matter.

The walls of the receiving room, which is also to be used as lecture and conversation room, should be adorned with the admirable, convincing, and often artistic posters that may be obtained from several sources, especially from the National Health Society, and the National League for Health, Maternity, and Child Welfare. These posters should be changed from time to time, not only to refresh the eyes of the women, but also to suggest to them new subjects for inquiry and thought.

In some Centres it has been found possible to

make provision for meals to be given, or sold at cost price, to necessitous women. In such cases it may be found practicable to utilise the cooking for the instruction of mothers in this much-neglected art. Some women are apt to be offended that it should be thought possible they are not good cooks. There used to be a popular delusion that every woman was born a nurse! We have got past that notion, and nursing is now recognised to be an "art, trade, profession, or calling"; but we have still to realise that all women are not cooks. As a matter of fact, it would be a miracle if they were. The girl who is brought up at home picks up a certain amount of rough and ready knowledge in helping her mother, but she is far from being able to make the most of the materials at her command. The industrial girl who from the age of fourteen until she marries is entirely absorbed in factory or other such work, has no chance of acquiring even an illusory and unsatisfactory smattering of what must thereafter be a principal part of her life's work. In this respect our nation is far behind our gallant Allies, the French; their meat is inferior to ours, but by their methods of preparing it for the table it is rendered more palatable, more digestible, and therefore more nutritious than that which we usually find on our tables. During the war we have had experience of Communal Kitchens, and some Authorities have

been able to make them a conspicuous success. Undoubtedly they might fill a very useful position in our national domestic economy, because it is unreasonable to suppose that all women can be good cooks, and it is equally certain that a given quantity of material will relatively go much further when cooked in bulk. That this is true is proved by the fact of the enormous profits made by those who provide for the public in restaurants, tea shops, etc. To take only one instance, and that not one which presents the greatest scope for economy and ingenuity, a ninepenny loaf can be cut into twenty-four slices which are sold at 2d. each. Something in this direction may be achieved where meals are provided at Maternity Centres, and the women would not only derive comfort and nourishment from the food provided, but by helping in the cooking they would learn how to make the best of their materials, and how much good flavour and economy can be secured by better methods of cooking.

Another important department of a Maternity Centre is the Dental Clinic. It is of little use for the doctor to point out that a woman's teeth are decayed, that the discharge she is constantly swallowing is spoiling her digestion, poisoning her blood, and perhaps putting her in danger of puerperal fever, unless she can be immediately referred to the dentist for treatment. There is an

old superstition that for every pregnancy a woman is bound to suffer the loss by decay of one tooth, and there is another superstition, still more false, which teaches that it is dangerous to have any dentistry done during pregnancy. That this is altogether untrue is well known to doctors, midwives, and nurses, and no doubt will soon be known to the general public. No harm, but much good, will result from the removal of tartar, the treatment of pyorrhœa, and, when necessary, the filling of certain teeth and the extraction of others. A clean mouth, and when necessary, good artificial teeth, naturally result in greatly improved general health, and in a diminution of puerperal sepsis. This clinic will very likely be held at the same place as the School Dental Clinic; in such cases the same dentist could preside, and extra expense on dental chairs, instruments, and other appliances would be avoided. The same installation would, of course, be available for the mothers who bring their sucklings and little children to Child-Welfare Centres.

The Sanitary Institution of the future.—Probably, in the near future, every district, urban or rural, will have its Health Ministry House, or Sanitary Institution; a house well arranged for the reception of pregnant and suckling mothers, for the clients of Child-welfare Centres, Schools of Mothercraft, etc. There, under the one roof,

would be found lecture halls, consulting and dressing rooms, kitchens, and a dental establishment, and perhaps another portion of the same building could be devoted to the service of the tuberculosis officer and of the doctor in charge of the treatment of venereal diseases among women and children.

The Local Government Board* has been particularly fortunate in its recent Presidents, and in its devoted Medical Officer, Sir Arthur Newsholme, whose retirement is much regretted. They have taken the greatest interest in Ante-natal Clinics, Maternity and Child-welfare Centres; they have assisted them by liberal grants-in-aid, by wise and practical sympathy, and by making arrangements for the admission of suitable patients to the hospitals for lying-in or for pre-maternity work.

Accommodation for the confinement. — In the homes of the rich, and even of the well-to-do, the arrangements for the mother's confinement present no difficulty. The best room in the house is at her disposal, or should be. All sanitary arrangements are presumed to be in good order, for of late years increasing attention has been given to this important matter. There is no difficulty in providing an abundance of boiling water and, what is equally important, water that has been boiled. Sheets and blankets are new or freshly

* Now merged in the Ministry of Health.

cleaned, and the provision of accouchement sheets, sanitary towels, and sterilised wool is ample. In addition to all this wealth of material, the household staff is adequate, and the mother approaching her hour of trial need have no anxiety as to the welfare of her husband and children, nor as to the proper and orderly management of her house while she is laid up. Unfortunately, more than three-quarters of our parturient women lack not only the comforts but many of the necessities of life, and all that has been said in the affirmative with regard to the well-to-do may be read in the negative in the case of the poor. In consequence of the deficiency of material it is practically impossible to conduct a labour on really aseptic lines in many homes, and in the crowded city tenement and the dilapidated cottage everything is against the probability of asepsis. The question then arises, what is the best arrangement that can be made for the welfare of the expectant mother and her baby? Many people interested in this important problem have stated the case as one of institutions versus homes. But, as was pointed out by Sir Arthur Newsholme and Lady Barrett at the Baby Week Conference, 1918, this statement of the case is scarcely fair. Other things being equal, virtually every woman would prefer to be delivered in her own home, and if it were practicable to give effect to her wishes the common sense as well as the

sentiment of the nation would ratify her choice. Unluckily, there is a considerable number of women who have practically no home. For instance, the unmarried mothers, the deserted wives, and wives of men absent on duty, such as soldiers and sailors. Another class of women have homes, it is true, but homes that are utterly unsuitable as places of delivery. Such, for instance, are the women who, with their families, eat and wash, live and die, in one or two rooms, in circumstances that entirely preclude privacy, decency, and cleanliness; also the women whose homes are in incommodious country cottages. Patients of these two classes ought not to be confined in their homes; the difficulties and the dangers of the task are too great. In addition to them there is a class of women who need the refuge of Lying-in Hospitals or Maternity Homes. Such, for instance, are many primiparæ—women suffering from the toxæmias or other diseases of pregnancy, women who are the subjects of the graver accidents that may occur during pregnancy or parturition (those who suffer from various hæmorrhages, rupture of the womb, or malpresentation of the child), and lastly, those women in whom there is such flattening of the pelvis or other deformity as is likely to cause obstructed labour. All these women and their children would be much safer in the sanitary surroundings of a well-appointed hospital under

the care of obstetric experts aided by skilled nurses.

In addition to all the material advantages of the Lying-in Hospital there must be also reckoned the absolute rest of mind and body that the patients might there enjoy. It is true that the majority of poor women delivered in hospital greatly appreciate this opportunity of rest and of freedom from domestic cares; but, under the best of circumstances, this enjoyment is qualified, and sometimes entirely spoiled, by anxiety as to what is happening at home. The husband's comfort, if not his conduct, may occasion worry, and even when the man is trustworthy and more or less able to look after himself, the children and the home may continue to weigh on the mother's mind. Recently Mothers' Helps, or Home Helps, have in some instances been provided, and fill a very real need; at the same time, most women would prefer to be at home and to supervise the Help, and nearly all of them feel a reluctance to delegate their authority as well as their cares. It is not so much a question of money, for the Local Government Board is willing to pay half the wages of Home Helps employed during pregnancy and the lying-in period, but there is a natural unwillingness on the part of the patient to know that her position and authority have passed, even for a time, to another woman.

As a nation we have always been proud of our

Lying-in Hospitals, and although before the era of sanitary science they were liable to terrible epidemics of puerperal sepsis, they are now practically free from any such reproach. Unluckily, they are not numerically sufficient in the country generally, although central London is comparatively well provided in this respect.

Maternity Homes have recently been arranged to supplement this inadequacy of Lying-in Hospitals. They are much simpler in arrangement, and may be run at a smaller expense per bed. A Maternity Home can very easily be started and maintained in a small town or village which could not bear the expense of an ordinary Lying-in Hospital; such Maternity Homes are already in existence, and when properly constituted and approved they are eligible for a grant-in-aid of one-half of their expenses from the Local Government Board. The necessity for multiplying accommodation for certain classes of lying-in women receives a terrible emphasis from the fact that at the last census one family in every seven in England and Wales was living in one, or at most two rooms, and therefore in circumstances of overcrowding, insanitation, and inconvenience that are absolutely incompatible with health even in ordinary circumstances, and which are apt to turn the joyous drama of motherhood into tragedy.

A still more economical and home-like arrange-

ment has been proposed. The suggestion is that in very small towns and in country districts a well-drained and comfortable house should be taken by the Local Authority for the accommodation of the district midwife and from two to four patients. Such an arrangement would provide cleanliness, comfort, and careful supervision for lying-in women, and also, by concentrating some portion of her work, it would economise the strength and time of the midwife. It would, of course, be necessary to have a maternity nurse to work under her and to take charge of the patients in her absence.

Another possible way of helping lying-in women is for the Local Authority or the Hospital to provide a certain amount of equipment which should remain their property and be lent to the patients; such articles, for instance, as waterproof sheets, pillows, pillow cases, sheets, blankets, bed-pans; while sealed cases of antiseptic dressings should be given outright. Possibly, in some districts, philanthropy would supplement the action of the Local Authority.

The necessity for well-considered and careful dealing with the subject of parturition is brought into strong relief by a study of the statistics brought forward by Sir Arthur Newsholme. In his address to the National Baby Week Conference in 1918 he quoted some significant figures. Thus, in

the ten years from 1897 to 1906 one mother died for every 228 births. In the next decennium, 1906 to 1915, the proportion was slightly better, only one mother being lost in every 243 births. A large proportion of these deaths was due to puerperal sepsis. In the five years 1902-1906 it caused 185 maternal deaths per 100,000 live births, and in the three years 1912-1914, 148 deaths to the same number of live births. This last figure shows a reduction of 25 per cent. of maternal deaths due to sepsis, an alteration which was truly said to be "better, but not good."

Turning to the other causes of death, from the diseases and accidents of pregnancy and childbed, we find that the figures vary from 228 to 239 annually, and are practically stationary. Sir Arthur Newsholme pointed out that whereas in nearly every big division of the country the average number of maternal deaths from sepsis was about equal, the deaths from non-septic causes were lowest in London and the large towns. This, he held, indicated the necessity for a more careful and prolonged training both of medical students and of midwives, and also for the provision of a larger supply of hospital beds to deal with abnormal cases. In illustration of this, there is the fact that about 22 per cent. of maternal deaths from non-septic causes are due to albuminuria and other kidney diseases. Many of these women could have

been saved if treatment had been prompt and appropriate. London may be taken as a type of the big towns, and whereas the deaths of mothers from non-septic causes are about 3 per 1,000 in London, those occurring in the northern manufacturing towns and Wales are from 6 to 8 per 1,000.

CHAPTER II

Ante-Natal Dangers

THE causes of ante-natal sickness and death are very variously estimated, and no accurate information can be expected in this matter until hospital reform has been carried out. In the Report of the Royal Commission on Venereal Diseases, presented early in 1916, it was urged that in every case of miscarriage, premature birth and stillbirth, the products of conception should be carefully examined at a pathological laboratory; it was recommended that such laboratories should exist in connection with all Universities and Hospitals, and that, where necessary, additional laboratories should be inaugurated. This proposed provision for laboratory research receives much support from the fact that whereas some authorities estimate that syphilis is the cause of 20 per cent. of ante-natal deaths, other observers place it as high as 50 per cent. Such a discrepancy could not exist if for a term of years every hospital, private doctor, and midwife submitted the dead products of conception to expert investigation. The public must be

educated into the belief that such investigations are called for not only to increase the accuracy of our vital statistics, but also to show us the nature and extent of our national dangers, and so to assist us in the effort to avoid and to combat them.

It is obvious that the three great racial poisons, syphilis, alcohol, and tuberculosis, play a considerable part in the maiming and killing of our infant population; but up to the present time there is no accurate information as to the share for which each is responsible. Dr. Amand Routh, speaking at the National Baby Week Conference, 1918, made an attempt at interpreting such statistics as we possess. He gave the following figures:

Approximate Percentage Causation of Ante-Natal, Natal, and Neo-Natal Infantile Deaths

	Per cent.
Syphilis	20
Toxæmia	10
Prematurity	10
Prolonged, difficult or complicated labour, including ante-partum hæmorrhage ...	25
Other known causes	10
"Unknown"	25
	100

Dr. Routh does not affirm that these percentages are accurate; he offers them as provisional and approximate only, and would, of course, point out

that, whereas he assigns 20 per cent. of para-natal * deaths to syphilis and 10 to prematurity, the majority of cases of prematurity are really cases of children dead from intra-uterine syphilis. It is regrettable that the statistics of the Registrar-General and other officials fail to explain that the prematurity, atrophy, and malnutrition noted by them would, under close investigation, disappear and go to swell the numbers of syphilis, toxæmia and the other real causes of para-natal mortality.

With regard to actual figures, Dr. Routh quoted those of Sir Arthur Newsholme to the effect that in 40 weeks of ante-natal life, 150 conceptions out of every 1,000 perish. Of the 150, some 30 are stillborn after becoming capable of independent existence, and 120 are lost during the earlier months of pregnancy. This accounts for a loss of more than 138,000 ante-natal lives per annum. After birth, about 100 in every 1,000 babies die before their first birthday, and by adding these losses during the nine months and the twelve months together, it follows that 250 children out of every thousand conceptions die before the age of one year. This appalling loss justifies the assertion that at the height of a war it is safer to be a soldier in the thick of a fight than to be an infant at home!

* Under the term para-natal deaths I include ante-natal, natal, and neo-natal infantile mortality.

In the worst of battles the deaths do not equal one in four.

Beyond this appalling rate of infantile mortality, taking the term in its extended sense, the nation is depleted by the very serious reduction in the birth-rate. Altogether, somewhere about 700,000 possible citizens are lost to us annually.

Syphilis.—As I have said, we have no means of knowing the exact contribution of syphilis to the para-natal death-rate. It is believed, on apparently good grounds, that early miscarriages are more frequently due to accident than are those in the later months (*see* p. 35). This appears to be reasonable, because syphilis, like other diseases, must run its course, and therefore, even if infection is coeval with conception, its fatal termination is not very likely to occur within the first three or four months of pregnancy. There is, however, a doubt whether we are as yet in a position to judge of the rapidity or slowness with which so formidable an infection may advance. It is certain that a larger percentage of infants die from the results of intra-uterine syphilis than do adults from acquired syphilis. The Registrar-General's Reports furnish us with but small numbers of men and women who die from acquired primary syphilis. The deaths recorded are more numerous in the later stages of the disease, and are attributable chiefly to such manifestations as

aneurysm of the aorta and other diseases of the blood-vessels, to general paralysis of the insane and other syphilitic diseases of the nervous system. Men and women do not die of the malnutrition, feverishness, rashes, and other manifestations of the secondary stage, and nowadays the appalling complications of the primary sore which contributed to the mortality of early syphilis in bygone years have ceased to exist. On the other hand, not only do many children die of infantile syphilis before they are born, but a still larger number die in the first few weeks of life. In the case of these diseased infants, Nature does not appear to be able to bear the change of circumstances involved by birth in addition to the constitutional disease against which it has been contending *in utero*. The babies suffering from marasmus (wasting), atrophy, and malnutrition, most frequently caused by syphilis, die in a large percentage of cases, and those which survive the first year of life are usually much more badly crippled and much more profoundly injured by their disease than are the men and women who suffer from acquired syphilis.

These facts tend greatly to strengthen the demand for improved education and training of doctors and midwives, for the increased provision of hospital accommodation for women before as well as during childbirth, for the cultivation of the scientific spirit, and the provision and adequate

endowment of laboratories. The prosperity of the future and the health and happiness of our race depend very largely on the response that will be made by the Government and the public to these demands. Considering the extent of the Empire and the sparseness of the population in the "Britains overseas," we cannot afford to lose some 700,000 infants a year, still less can we afford to have so many of the survivors crippled in both mind and body. The fact is repeated, even to nausea, that not only are many of these deaths attributable to syphilis, but also that 30 per cent. of the blindness, 30 per cent. of the deafness of young people, a sixth of all the insanity, and nearly all the idiocy, imbecility, and feeble-mindedness in the land are due to the same cause. We have gone on blindly snubbing our scientists, underpaying the doctors so that they had no time for research, and housing our people worse than we dare to lodge race-horses and pedigree cattle. For the moment we seem to have escaped the great national danger that threatened us in war, but we have not yet conquered the still greater danger entailed by our bad sanitary and social conditions. Indeed, we are as yet only dimly conscious of their existence. We have not yet made up our minds to spend money freely on those reforms which are necessary to our existence as a nation.

The Expectant Mother

The ravages of syphilis are, of course, not confined to our own nation. Dr. Ballantyne, in his "Expectant Motherhood," quotes the great French authority, Fournier, who says: "Syphilis is essentially fatal for youth; it is responsible for veritable hecatombs of children; it kills them before birth, at the time of birth, after birth, and in the first weeks or during the first years of life. But what there is chiefly to fear is syphilitic abortion and excessive infantile mortality." Dr. Ballantyne's comment on this is: "The literature of the subject fully bears out Fournier's strong statement; again and again we read of cases in which syphilis has so affected the results of marriages as to give from 50 to 100 per cent. of dead-born or quickly perishing infants . . . even average results in private and hospital practice amount to 46 per cent. of infected pregnancies ending in disaster."

As has been pointed out by Ballantyne, Routh, Newsholme, Hope of Liverpool, Bond of Leicester, and many other authorities, there are three methods of combating this disastrous state of things. First, we want education of the public, accompanied by enhanced self-respect and love of righteousness. Secondly, we want research and information that will make this enlightenment possible. Thirdly, we need to make a practical application of our knowledge. It is necessary that doctors and midwives shall be trained in the in-

vestigation and detection of ante-natal infection. I say "doctors and midwives" because it is not enough to secure the better training of the midwife, and to stimulate her into the recognition of her duty towards individual patients and the nation. Doctors also must do their part. Many of them, both men and women, those holding hospital appointments, and also general practitioners, have already begun to take their share in the work and have much success to their credit. Many of them are telling their patients quite plainly the nature of their trouble, they are distributing to them leaflets instructing them as to the gravity of their condition, and as to the best means of obtaining cure and preventing infection. Further than this, they are active in investigating the state of health of all pregnant women who seek their help, and are eager in seeking the co-operation of midwives, nurses, hospital almoners, and health visitors. Thanks to their enthusiasm many mothers and infants have been saved already.

In many instances much tact and practical sympathy are necessary in dealing with syphilitic expectant mothers, some of whom are extraordinarily wayward and densely ignorant. Many of them are young girls who have been brought up to prefer pleasure to duty, and to look to present enjoyment rather than to the future and inevitable results. These young people have little

moral character to which to appeal, and it is hard indeed to convince them that a rash on the skin, swollen glands, and a sore throat are the signals of a disease as loathsome as smallpox and more formidable than tuberculosis to themselves and to their unborn child. The modern treatment of syphilis demands an injection of salvarsan, or one of its substitutes, into the vein or into the depths of the muscles at frequent and regular intervals. It also demands the daily rubbing into the skin of a certain quantity of mercurial ointment. Neither part of the treatment is likely to cause pain or invalidism, and it very seldom interferes with the routine of daily life, but it is an obligation and a recurring tax on time to go to the hospital, dispensary, or treatment centre once a week, and to devote some little time each day to rubbing in the ointment, and unless the doctor be both persuasive and persistent a large percentage of the patients will fail to understand the necessity for steady treatment, and for putting aside any employment or pleasure that is incompatible with it. A certain number of those who begin well cease to be regular in attendance as soon as the noticeable signs and symptoms abate or disappear, and yet a few months' treatment is usually well rewarded. Pregnant women appear to be very responsive both to salvarsan and to mercury, and in a large percentage of such cases as are properly and perseveringly

treated the child is born apparently healthy, and the mother's health is re-established. It is, however, obvious that unless the medical attendant is sufficiently impressed by the greatness of the danger, the reliability of the treatment, and the magnitude of the reward, it will be difficult indeed to sustain the resolution and courage of the patient.

Gonorrhœa.—It is quite possible that a doctor or midwife may be consulted as to the nature and proper treatment of gonorrhœa in the pregnant woman. Unfortunately, women so frequently suffer from a larger or smaller quantity of a white or whitish-yellow discharge, that the later stages and chronic form of gonorrhœa are likely to exist without exciting any suspicion of its true nature. Even in those cases in which the woman may possibly suspect that she has been infected, she is likely to take the view widely prevalent among the public, that gonorrhœa is a matter of little importance, something analogous to a cold in the head, and she is prepared to treat it as the Irish medical student said that he was—"with contempt." How little contemptible gonorrhœa is, especially in the pregnant woman, is evident when we remember that the infection of the child's eyes with the gonococcus during birth is responsible for one-quarter of all the blindness in the country. As pointed out at p. 56, the infection of the eyes of the newly born child with gonorrhœa is a first-

class disaster. It is true that it does not kill the infant, but it nearly always produces some defect of vision, and frequently results in total blindness.

Although in the unmarried woman the infection of gonorrhœa may remain more or less localised, in the married, and more especially in the child-bearing woman, it is likely to extend to the internal generative organs. In all women the usual commencement of gonorrhœa a few days after the risk has been incurred is announced by heat, swelling, redness, tingling and pain of the parts involved. These symptoms are accompanied, or rapidly followed by, an abundant greenish-yellow discharge. In the non-childbearing woman these symptoms subside after a time, although there may be a recrudescence after indiscretions in diet, the taking of alcohol, or after sexual intercourse. In the childbearing woman, especially when the generative organs undergo their natural development and congestion during pregnancy, still more when the whole birth canal is rendered patent by the birth of the child, and when the neck of the womb and its lining membrane are left in a very sensitive and vulnerable condition, the gonococcal infection not infrequently becomes generalised. It penetrates into the womb, gains access to the Fallopian tubes, to the ovaries and to the surrounding parts, and thus may initiate inflammatory processes that lead immediately to puerperal sepsis

or later on to localised lesions, such as inflammation and abscess in the parts concerned. In the evidence before the Royal Commission on Venereal Diseases, Lady Barrett, Sir Thomas Barlow, Dr. Routh, and others stated in evidence that gonorrhœa was responsible for somewhere about 50 per cent. of the sterility of men and women, for a very heavy percentage of women's diseases, and for at least one-quarter of all the serious operations on the internal generative organs of women which are necessitated by inflammation and its sequelæ.

Until these facts, and similar facts, are not only known and appreciated by practitioners but also by the public, it is hopeless to expect a satisfactory diminution in the blindness of infants, in the mortality of their mothers, or in the enormous amount of invaliding and crippling of women. It was to the effect of gonorrhœa upon child-bearing women that the late Matthews Duncan alluded in his famous phrase "one-child fertility." The woman suffering from gonorrhœa when her first child is born is liable to such an extension of the disease as to make subsequent conception unlikely.

Alcoholism.—Chronic alcoholism in women frequently results in abortions, premature births and stillbirths; it is also one of the commoner causes of sterility. The evil influence of alcohol on the expectant mother and her offspring has

been pointed out by many observers, for instance by Matthews Duncan, Sullivan, Féré, and Nicloux. In more recent times investigations into the injurious effects of alcohol on pregnant women and on the unborn child have been carried out by the late Sir Victor Horsley and many others, including Colonel J. G. Adami, the eminent pathologist. In a paper on Alcoholism during Pregnancy, contributed to the Baby Week Conference, the latter observer dwelt on what he called the four causes of ante-natal and neo-natal mortality, classifying them under four headings: Those acting (1) after birth, (2) during birth, (3) during fœtal life, and (4) earlier still in the generative cycle, these last having a destructive influence on the sperm and germ cells before fertilisation and conception. This means that the essential reproductive elements of man and woman may be damaged by alcohol even before matrimony, and damaged in such a way as to interfere more or less gravely with the power to procreate and to conceive children. Colonel Adami supported his contention that such evil ante-matrimonial conditions have a deleterious influence on offspring by quoting experiments made by various scientists; for instance, Barden's experiments with frog spawn. Some portion of the spawn was exposed to the influence of X-rays. On subsequent fertilisation, spawn that had not been exposed to this influence produced, as usual,

normal tadpoles that developed into healthy young frogs, but in the case of the spawn that had been subjected to X-rays it was found that although development commenced, it did not advance to completion and all the embryos perished. Barden's experiments were repeated by Hertwig, who showed that the effects on the spawn varied with the degree of exposure from the production of deformities and monstrosities up to complete sterilisation. Careful investigation of what may be termed Nature's experiments leads us to the conclusion that similar interference with healthy reproduction in human beings follows when the father or mother, or both, are exposed to the influences of poisons such as alcohol, syphilis, lead and mercury.

Colonel Adami also quoted Dr. Stockard's experiments on guinea-pigs. The latter subjected a number of these little animals to the vapour of alcohol until they were manifestly inebriated. The dose was repeated daily for six days; he then mated alcoholic bucks with alcoholic does, normal bucks with alcoholic does, and alcoholic bucks with normal does. As the result of twenty-four matings, which under normal circumstances would have produced about one hundred healthy young, he found that fourteen impregnations ended in abortion, three resulted in the birth of eight stillborn young, but five couples had living litters

amounting to twelve young. Out of these twelve infant guinea-pigs seven died of convulsions soon after birth, and five only survived. That is, these five were in place of the hundred that ought to have resulted from twenty-four healthy matings. At the age of two months even these five offspring were found to be far from normal; they were dull, stunted in growth, and only half their natural weight. Stockard found that the results of alcoholism in guinea-pigs extended to the third generation, the offspring in which showed marked deformities and defects, e.g. of seven grandchildren four died soon after birth and three had no eyes. It is fair to state that it is not every observer who obtains such definite results as these.

The evil effects of alcohol on ante-natal and neo-natal life are not limited to its power to produce death and malformation. In the human being, at any rate, we have to reckon with the diminished ability of the alcoholic mother to take care of herself and her child. They are more liable to frequent accidents than are the healthy mother and her infant, and from the economic point of view the woman who is a chronic alcoholic is less able to earn money, and less able to manage her household wisely, than is the healthy woman. Lastly, it has been observed that alcoholism in a man may not only diminish his own successful procreation

of children, but is also likely to result in a lessened fertility in his daughter, and in her inability to suckle her children. Considering the great handicap laid on infants by artificial feeding, this result of alcoholism in the grandfather must be reckoned among the causes of para-natal mortality.

Tuberculosis.—The third great racial poison is inimical to the unborn child, chiefly on account of the danger to which it exposes the mother's health. It has long been disputed whether or not members of tuberculous families should marry. On the one hand, it has been observed that tuberculosis is apt to affect several, it may be many, members of a family, and that the children of a phthisical father or mother appear to be apt to develop one or more of the forms of tuberculosis common to young life, such as tuberculous disease of the glands, the bones, and the membranes of the brain. Against this supposed evidence of the hereditary nature of tuberculosis it has been pointed out that, whether hereditary or not, tuberculosis is certainly a communicable disease, and that people living together under similar conditions are liable to contract the disease whether they are members of the same family or not. It is also to be observed that children are very seldom born suffering from tuberculosis, and that the worst ravages of this disease occur between the ages of six months and two years. These facts agree well with the sup-

position that tuberculosis is more likely to be acquired by infection from fellow-creatures or from tuberculous milk than to be inherited from a tuberculous parent. It is a matter of common experience that a tuberculous woman frequently appears to improve in health during pregnancy, but that the disease makes rapid progress after delivery. So much is this the case that if a woman dies in a condition of malnutrition shortly after childbirth, the cause of death is presumed to be tuberculosis unless there is evidence of some other cause of the wasting. The question therefore appears to be rather what is the influence of tuberculosis on the prospects of married couples, and through them on their offspring? A doctor consulted by a young man or a young woman who intends to marry, and who is in doubt as to the wisdom of that step in consequence of a tuberculous history, must be satisfied on the following points: Has either of the parties to the proposed marriage shown symptoms of tuberculosis? Are they members of the same family? What is their physique, and under what circumstances are they likely to set up house? In all probability the great majority of adults in this country have suffered some invasion of tuberculosis during childhood or adolescence. A careful search into medical history, and a careful physical examination, will frequently elicit a story of some half-forgotten and probably

tuberculous illness affecting the glands of the neck, the tonsils, the mesentery, possibly a bone or the membranes of the brain. The attack may have been brief or even abortive; it left behind no evident injury or delicacy, and it would be absurd, in such cases, to advise against matrimony. On the other hand, one or other of the parties may, at the time of consultation, be suffering from tuberculous invasion, and even if the manifestations of this condition be slight, it would be unwise to counsel marriage until the trouble subsides and the extent of the damage can be estimated. An important question in such cases is as to where the couple propose to live, and under what circumstances. Individuals who may have some slight infection, or whose physique leads to the suspicion that their powers of resistance are not great, will be less likely to develop tuberculosis if their home is to be in a sunny part of the country, on well-drained soil, in a good house, and if they can command a sufficient supply of nourishing food. Sunshine, pure air, and a good state of nutrition are the enemies of tuberculosis; its allies are to be found in dirt, dust, and darkness.

A different question may be referred to the doctor in a case where a young woman has married and become pregnant and after the beginning of pregnancy has developed active signs of consumption or some other tuberculous disease. The doctor

may then be asked whether it is wise to permit the continuance of the pregnancy, and the suggestion may be made that therapeutic abortion should be induced. The question is a very difficult one. Abortion certainly kills the child, and may fail to benefit the mother. If it were clear that the condition of pregnancy had awakened a latent infection into life, and if the signs and symptoms were such as to give reasonable ground for hope that the elimination of the pregnancy would save the mother and re-establish her health, something might be said for it. It is, however, necessary to remember that in the therapeutic abortion a great moral question is involved. It is the only condition in which it can be legal or right to destroy human life, and it can never be undertaken without very serious searchings of heart and conscience. Before it is undertaken the doctor requires the consent in writing of husband and wife, the consent of one or more consultants, and last, but most important of all, the consent of conscience.

As in all similar cases, it is not only the physical condition of the woman that must be borne in mind, but, whether the trouble be alcoholism or tuberculosis, our estimate of the danger accruing to the unborn child must be measured partly in terms of the woman's ability to secure for herself and for it economic safety. On the whole, therefore, the advice to be given to a tuberculous woman con-

templating marriage is that she should abstain; and similarly the advice to be given to a tuberculous wife is that she should avoid pregnancy. Abstention from normal married life is wrong in ordinary circumstances, and contrary to national welfare; but, if tuberculosis has developed after marriage, abstention from pregnancy and child-bearing is indicated in the interests alike of the individuals and of the nation.

Mental affections.—Insanity, idiocy, feeble-mindedness, epilepsy, and deaf-mutism should be regarded as bars to marriage, and still more to procreation. No more grievous wrong can be done to the body politic than the reckless mating of persons of unsound mind, either with persons similarly affected or with normal members of the community. Unfortunately, the insane and the feeble-minded often have strong passions; their desires are vehement and uncontrolled. It is a national misfortune that in many of these cases, more especially in the case of the feeble-minded, public control over their action ceases at the age of eighteen. The mentally unsound are incapable of earning a satisfactory livelihood for themselves and their children. Women thus afflicted are not able to deal wisely with themselves during pregnancy, and in many instances they do not understand the results of their actions. A large number of the women who enter the workhouse infirmaries

at frequent intervals for the purpose of lying-in are non-moral in consequence of their mental defects, not immoral.

In the matter of insanity and feeble-mindedness, the educated classes are nearly as careless as the uneducated, and they are more blameworthy. They cannot but know the injustice to the other family and to the State involved in marriage of the intermittently insane and the chronically feeble-minded or epileptic. Yet, parents who ought to do all in their power to prevent the marriage of mentally defective young people frequently conceal the skeleton in their cupboard, and not only permit, but further, the matrimony of children who are only too likely to give birth to defective offspring.

Industrial dangers.— It has long been known that the manufacture of preparations of lead, mercury, and phosphorus is dangerous to pregnant women and their offspring. The dangers inherent in the employment of pregnant women in tobacco factories have not been much noticed in the British Isles; but such work has long been restricted by foreign Governments, and now calls for investigation and regulation by the Home Government and by Colonial legislators. An interesting question has arisen during the War as to the injury that may be inflicted on pregnant women and their offspring by the handling of trinitrotoluene

and similar ingredients in high explosives. It does not appear that the doctors and welfare workers attached to the munition factories reported that the handling of these chemicals had any special tendency to produce miscarriages and stillbirths. It is, however, evident that the general ill-health induced by too prolonged exposure to the effects of T.N.T. would, in some cases, result in the injury or destruction of the products of conception. The evil influence of lead on the sperm and germ cells has long been recognised, and stringent regulations have been made for the protection of both male and female workers in white lead. There is always a difficulty in persuading people to carry out health regulations, and unless supervision is adequate and persistent workers are apt to neglect the necessary but somewhat tiresome regulations as to changing their clothes, washing their faces and hands, and drinking a certain amount of sulphuric acid lemonade.

The desire of women to continue their earnings, and therefore their work, as long as possible during pregnancy, tends to lead to concealment of their condition, a matter on which Welfare Supervisors should keep a keen and sympathetic eye. In all industries in which white-lead is used, as for example in the glazing of earthenware, there is danger to the general health and risk of the premature evacuation of the womb. In this connection

it is to be remembered that leadless glazing is sometimes provided.

Among the industrial conditions prejudicial to the pregnant woman and her offspring must be reckoned over-severe mechanical exertion, more especially the lifting of unduly heavy weights, and the failure to provide sufficient and comfortable ventilation in workshops, factories, and work-rooms. Formerly much injury was inflicted by over-long hours of industrial work and by the failure to provide for a brief interval in the middle of each shift for rest and refreshment. The exigencies of the war, and the increased sympathy between class and class, have been of service in this direction. The Government and other employers have realised that the best work cannot be obtained from men and women who are suffering from hunger, fatigue, and exhaustion, and moreover the national conscience has been awakened to the iniquity of thus overdriving the brothers and sisters of the men who were protecting our national existence in the face of the greatest difficulty and danger. Thus self-interest and altruism combined to lead to the institution of shorter hours of work, with sufficient intervals for rest and food, the supplying of food at reasonable rates, and the provision of rest and recreation rooms.

A large number of the educated women who

volunteered their services to the nation were employed as welfare supervisors: they did their work well, and were both an asset to the employer and a protection to the workers. Part of their duty was to inform themselves of the physical condition of the women under their care, and to advise those who were pregnant as to the work that was compatible with their welfare and the welfare of the unborn child. The war is over, and many of the welfare workers will return to their former modes of life; but it is not possible that the interest they felt in their fellow-workers should cease, and there is no doubt that a certain number of them will continue to act as guides, philosophers, and friends to working women.

The industrial employment of married women, and more especially of child-bearing women, is open to grave objections. It would be an infringement of the rights of women, and contrary to public policy, to shut them out from work; but no married woman, and still more no child-bearing woman, ought to be forced by economic circumstances into work outside her home. The woman who has a house, a husband, and children has already as much work and responsibility as any human being ought to bear, and although the wages of the pregnant woman may ease the family finances, it is money earned at the expense of the real welfare both of her household and of the State. It is true

that many married women, and many child-bearing women, like to go out to work. Even when their earnings are not necessary for the maintenance of the family, young women who have been self-supporting before marriage find that the renunciation of work away from home tends to dullness and discontent. They miss the companionship of their fellow-workers, and the excitement and interest of their work; home work is in comparison dreary and distasteful, especially to girls who have gone straight from school to industrial occupation, who know little or nothing of housework, and who have no knowledge of the rearing of children beyond that which is inadequately supplied by natural affection. To this ignorance and want of ability for domestic duties must be attributed a large percentage of abortions, miscarriages, stillbirths, and deaths of children in early infancy. Mothers in the leisured classes may be just as ignorant of mothercraft, and are quite as prone to seek amusement and excitement, if not remuneration, away from home; but the consequences to their children of their neglect of motherly duties is less disastrous than in the case of the industrial mothers because they are able to pay servants, nurses, and governesses to do some of their duties in their stead.

It is to be hoped that in the near future the

wages of working men may be adequate to the needs of their families, and that the improved education and increased leisure that will be theirs may gradually induce in them, as it has among the classes immediately above them in the social scale, a habit of providing first for the needs of their families, and of taking the balance only of their income for the satisfaction of their personal desires.

CHAPTER III

The Problem of Illegitimacy

THE problem of illegitimacy is one that calls for the very serious attention of the Government and of the public. In its effects on infantile life, and on the moral and social status of women, it has always been extremely important; but with the growth of the nation, and the increasing complexity of social conditions, the numerical aspect of the problem has increased in importance. All wars are apt to bring good and evil in their train—good, inasmuch as our consciences are quickened as to the nature and extent of our mutual obligations; good also in softening of the sharp lines of social castes and distinctions; but evil because of the spirit of license and recklessness which is apt to be evoked by long-continued danger and by the natural reaction from gloom, anxiety, and restriction of food and pleasures. We cannot wonder that illegitimacy has increased during the last four years. Probably we ought to be rather pleased that in our population of approximately 45 millions, the illegitimate births only number

between 35 and 40 per 1,000 births. It is true that this is bad enough; but from the national point of view illegitimacy is not so disastrous as is the high death-rate and the still higher disease- and crippling-rate which are associated with it.

The illegitimate infant death-rate.—The death-rate among the illegitimate is more than twice that of infants in general—205 as against 102 in the thousand. This terrible infantile mortality occurs chiefly during the first week, and especially on the first day after birth. If we arbitrarily take one hundred as the ordinary risk of an infant on the first day after birth, the risk of the illegitimate child on the same day is represented by 235. During the first three months this risk may be estimated at 281, and there is an average loss of 211 in the first twelve months. This nearly agrees with the ascertained death-rate of 205 among illegitimate children during their first year.

Lack of maternal care.—Illegitimate children suffer from all the ordinary causes of infantile mortality, and in addition from certain special causes. They are unable, in the majority of cases, to enjoy maternal care. All classes of mothers are ashamed of illegitimate offspring, and they are all driven to make more or less unsatisfactory arrangements for their babies. The well-to-do girl wishes to hide her shame, and neither she nor her family are likely to take as much care in arranging for the

unwanted child as would be taken in cases where the baby was deprived of its mother's care by her death or by her inevitable absence from the country. In the case of the poorer mother the illegitimate child is not only a sorrow and a disgrace, but a direct handicap on her power of earning her living. Many unmarried mothers are domestic servants, and many are employed in offices and in factories. Some provision is made by exceptional employers for the welfare of the legitimate infants of their employees; but the illegitimate infant is not provided for. So far as the State, the private employer, and even its mother are concerned, it is unrecognised and not wanted.

The foster - mother. — Formerly a certain number of women were willing to act as foster-mothers, and in return for the payment of 5s. or upwards weekly they were supposed to supply the place of the natural mother. The arrangement was never a good one; the tax on the mother was frequently much out of proportion to her income and did not increase her affection for her unhappy child. The foster-mother, in the majority of instances, took the baby only for the sake of the shillings it represented; it was to her interest to keep the child alive, but that was all. Unless she happened to be a woman of good conscience and tender heart, the less the baby cost the better for her. During the war women have found so many

better-paid employments that it has become increasingly difficult to find foster-mothers, and the unmarried mother, with this difficulty added to the increased price of all the necessaries of life, has found it almost impossible to provide at all adequately for the poor little child who is a millstone round her neck, a difficulty in the way of honourable marriage or satisfactory employment, and a constant reminder of her shame. There is no wonder that the illegitimate baby's chances of life are many times less than those of legitimate children. The Registrar-General tells us that syphilitic infection is ten times more frequent among unmarried than among married mothers, as judged by the rate of mortality from infantile syphilis in their offspring. The children are, therefore, launched on the world less able to meet its difficulties than they ought to be, and the circumstances of their early life are such as greatly to aggravate the defects of their start. They are more, not less, liable to the common causes of infantile mortality; and they are more, not less, liable to injury from a deficiency of food and warmth. In addition to all this, the greatest handicap to any child's welfare consists in the loss of "mothering." Even the child of well-to-do parents, whose mother is dead, absent, or neglectful, has a poor chance of survival. It is not only that such children are deprived of their mother's milk, but

they are also deprived of the incessant watchfulness and meticulous care that a good mother bestows on her infant.

All the same, not only is the welfare of illegitimate children a matter of Christian consideration, it is also an important problem from the point of view of the State. For very many years there has been an institution in Vienna which exists for the double purpose of supplying citizens to the State and wet-nurses for those wealthy women who are unwilling or unable to suckle their own children. It is a recognised trade among a certain class of young unmarried women in Southern Austria to become pregnant at regular intervals, to leave their children to the care of the State, and to earn a good income as wet-nurses. Fortunately, our national conscience will save us from imitating this arrangement; but the provision for the welfare of unmarried mothers and their children has become increasingly important, and it is well to consider what has been done in other countries.

Affiliation orders. — In some parts of the British Empire any relative of the expectant mother may institute affiliation proceedings on her behalf, and so the natural reticence of the mother does not stand in the way of the welfare of the child. In some cases, both in our Dominions and in the American States, the father of the child whose

paternity has been judicially determined is sent to prison if he refuses to pay the sum allotted to the mother, and the child is maintained out of the payment made by the State for his forced labour.

A Conference to consider the provision for unmarried mothers and their children was held at the Mansion House on February 14, 1918. From the Report of this Conference we learn that these facts as to affiliation were ascertained, and further, that in Norway an unmarried mother must make declaration of her pregnancy to a magistrate as soon as she knows of her condition. The State, in this way, acts upon the principle that the mother and her child must be protected. The Council appointed by the Mansion House Conference recommends that in cases of application for affiliation "the Court shall take proceedings on the part of the mother, and that the amount to be paid under an affiliation order shall be in accordance with the position of both parents, and that the father as well as the mother shall be made responsible for the child's welfare."

Adoption of children. — Another point considered by the Conference was that concerned in the adoption of children. At the present time there is no law for making adoption binding. Any person may take a child, legitimate or illegitimate, from its natural parents and make promise to maintain and to educate it; but should the person who thus

adopts a child become tired of it, or, from reasons of financial stress, wish to be relieved of the burden, there is no means of enforcing the implied obligation. On the other hand, a person may adopt a child and become much attached to it; but at any time the child's father or mother can claim restitution of the child, and this risk is no doubt sufficient to prevent many people from adopting children. One can quite understand that there are cases in which an evilly disposed father or mother might use the affection bestowed on an adopted child as an occasion for blackmail.

Ignorance a cause of illegitimacy.—The problem of illegitimacy demands immediate solution, and this solution must be found partly in the action of the State and partly in the influence of the public conscience and philanthropy. It is to be remembered that a large percentage of unmarried mothers are young girls whose ignorance of all sexual matters is the fault of their parents and of the absence of pressure of public opinion up to quite recent times. Girls and boys go out into the world with no knowledge of the dangers they are about to encounter, and with little knowledge of the probable consequences of their actions. When they do wrong, in the great majority of instances the blame ought to fall, not on them, but on the want of common sense and straightforward dealing of their parents and of the public.

Illegitimacy

The arrival of an illegitimate baby is one of the greatest disasters that can befall a young woman. The shame and misery that she suffers, and the great difficulty with which she can maintain her child and herself, combined with the unwillingness of respectable employers to have such a girl in their service, frequently drive her to lead an immoral life, trusting to her youth and powers of fascination to procure the means of livelihood denied to her by the respectable. The birth of the child ought, on the contrary, to become a potent agent for leading its mother back to paths of virtue. If she were helped in her struggle, and if the opportunity were taken to develop her motherly love and compassion for her innocent and helpless child, if good women would befriend and help her, enabling her to suckle the baby, and if arrangements were made to enable her to maintain herself and her child decently, those who had erred through ignorance, or even through folly, would probably become self-respecting citizens and good members of the body politic. It would be necessary to consider whether these arrangements should be limited to the cases of primiparæ only.

A National Council.—In furtherance of the ideals set forth at the Mansion House Conference, a Council was formed to care for the unmarried mother and her child. To quote the resolution: "This Conference requests the Child Welfare

Council of the Social Welfare Association to associate with itself representatives of Central and Local Authorities and of all Societies concerned throughout the country so as to form a National Council for securing better provision for and protection of the unmarried mother and her child on the general lines of the recommendations of the Council as approved by the Conference."

The Child Welfare Council proceeded to organise a National Council, composed of:

(*a*) Representatives of Societies and individuals, interested in the welfare of mothers and children, who are members of the Child Welfare Council.

(*b*) Representatives appointed by Local Health Authorities (County Councils, County Boroughs, and Metropolitan Boroughs).

(*c*) Representatives appointed by National Voluntary Organisations.

(*d*) Individual members.

This Council is of opinion that a carefully considered scheme should be framed dealing with the whole problem of unmarried motherhood, including assistance for widows and deserted mothers in cases of need; that the separation of mothers and children is deplorable and should be prevented whenever possible; that provision for such mothers and children should be associated with the existing

maternity and child-welfare schemes being carried out by the Local Authorities; that the responsibility of fatherhood must be recognised, and that means must be found for bringing home that responsibility to the fathers of illegitimate children.*

The Council is now at work, and the result of its activities ought to be a great amelioration of the position of the unmarried mother, and also the discharge of the national conscience in this important respect.

The main work of the Council may be considered under two headings. First, the legislation which it is endeavouring to promote for the protection of the unmarried mother and her child. Second, the education it seeks to give the public on the miserable position of the unmarried mother, and the stimulation of its conscience so that legislation when obtained may receive the necessary backing of public opinion. The best possible legislation remains a dead letter unless it is enforced by the conscience and the goodwill of the public. Probably, in the case under consideration, the education of the public will prove to be more difficult than the legislation desired. Up to quite recent years the unmarried mother was held to be so great a public danger, and so thoroughly an outcast, that respectable people could not, and dared not, take any interest in her fate. It is not

* *See* Report of Mansion House Conference.

long ago that the Diocesan Rescue and Preventive Association found its work greatly hampered by the prejudices of really good people who held that any effort to befriend the unmarried mother, anything tending to make her lot less bitter, was an encouragement of vice and a great injustice to respectable members of society. Indeed, these opinions have not yet died out, and much scandal was caused in the early days of the war by the recognition by Government that soldiers might have other dependents besides wives, mothers, and children. It must be admitted that many difficult problems arise in connection with unlawful unions and the maintenance of illegitimate children. On the one hand, the public must remember that in the majority of cases girls fall from the path of virtue either owing to poverty and economic pressure, or —and this is probably more frequent—they do what is wrong in the endeavour to get some interest and colour into their drab and monotonous lives. The majority of the young girls who succumb to temptation are probably led astray by excitement, vanity, the determination of the young to have a good time, and their unfortunate ignorance of sexual matters, which conceals from them the price they must pay for wrongdoing.

Parents and the public at large are much to blame for the ignorance and the want of self-control so general among young people. Neither

father nor mother supplies the information or gives the warning necessary to adolescent boys and girls. Worse than this, they are usually most unwilling that schoolmasters and schoolmistresses, clergy and doctors should give the information and guidance in their stead. If young girls are to be saved from improper intimacies, and from the dangerous circumstances that are likely to lead to illegitimate pregnancy, to disease, and to ruin, a very considerable alteration will be necessary in their education and in their social circumstances. At the present time the "conspiracy of silence," which worked badly enough in Victorian days, is absolutely fatal. The progress of girls towards achieving economic independence of their parents has been greatly accelerated by the demand that was made for their labour during the war. It is not likely that these young people who have been enjoying good wages, public esteem and consideration, and who have no mean opinion of their own merits, will be ready to accept restrictions on their liberty imposed either by parents or by public opinion. They have had a large measure of freedom, and certainly will not return to what they consider bondage. This is particularly well illustrated by their great reluctance to earn their living as domestic servants: many of them could command good wages and solid advantages that were undreamed of before the war, but, rightly or

wrongly, the majority of these young girls are persuaded that domestic service, far from being an honourable occupation, is really a form of slavery. They will accept no form of employment that does not leave them more or less mistresses of their evenings, and which does not emancipate them entirely from domestic control. Very unfortunately, many young girls have failed to acquire habits of self-control, and are ignorant of the heavy price that they are likely to pay for their liberty.

The National Council for the Unmarried Mother and her Child and other kindred associations will have to endeavour to enlighten public opinion, and to instruct and help young girls in the acquisition of the power of self-government, and it must necessarily co-operate with the agencies that are striving to provide the young with rational amusements, and with opportunities of meeting their friends of both sexes under suitable circumstances.

On the legislative side, it is hoped to incorporate the Council's recommendations in a Bill that is being promoted by the National Society for the Prevention of Cruelty to Children. Among them are the following :

1. That paternity proceedings for purposes of affiliation shall be taken in future without reference, or expense, to the mother, so that the onus of

proving paternity should fall on the State rather than on her.

2. That these proceedings should be taken as soon as the mother knows of her condition.

3. That if the father admits paternity the affiliation order should be made out then and there.

4. That the proceedings should be heard *in camera* except in cases in which paternity is disputed.

5. That the allowance to the mother should run from the date of the child's birth, and if necessary for a period of one or two months anterior thereto.

6. That where the father cannot be found, the payment of the allowance should be made by the State.

The first recommendation—that proceedings for affiliation shall be taken by the State—is in accordance with the view of the Mansion House Conference, where it was urged that, as in Norway, unmarried mothers should make declaration of pregnancy to a magistrate so that the State might efficiently protect the interests of both mother and child.

The suggestion that the payment of the allowance must commence at or before the time of birth is wise, for in many instances the unmarried mother is absolutely unable to provide for the necessary care of herself and her child.

It is greatly to be hoped that in future the

amount to be paid under an affiliation order may not be limited to 10s. a week, as it is at present, but that the magistrate, at his discretion and with full knowledge of the circumstances of both parents, shall be empowered to fix the amount payable in each case upon its merits.

Undoubtedly, if the State takes upon itself the onus of finding the father and of forcing him to make adequate provision for his child, paternity proceedings will gain greatly in speed and certainty, for the State is in a very different position from the betrayed girl, and will, in the majority of instances, be able to find the father of her child, and to compel him to pay a sufficient sum for its maintenence. The suggestion that proceedings for affiliation shall be undertaken as early as possible in pregnancy should make the search for the father easier than it is at present, and should prevent men who wish to shirk the responsibility for their acts from hiding themselves or from leaving the kingdom.

The endeavour to deal wisely and justly with the great problem of illegitimacy is still in its initial stage, and great caution and wisdom are needed to deal with it to the best advantage. Not even consideration for the innocent and helpless child should blind us to the fact that its mother needs not only sympathy and help but moral regeneration. This moral regeneration will not be

found in hopeless sorrow and misery, but equally it will not be secured by caring only for her physical necessities. Probably much would be gained by arrangements that make it possible for her to remain with her child and to suckle it. None but the most hardened and careless could resist the unconscious appeal made by the baby. Much moral good will also result from the sisterly sympathy and care that the girl would herself receive in well-managed hostels and maternity homes; but those who have to deal with the unmarried mother and her child must be women of tact and discretion. They must be keen to remember that the mother's comfort and safety during her time of distress is not the greatest and the most important part of their work. They must feel themselves bound to help her back to self-respect, to good citizenship, and to a clearer view of her moral and spiritual responsibilities.

CHAPTER IV

Laws and Regulations concerning Maternity Welfare

THE notification of births is not to be confounded with *registration*. Notification of births was instituted in the year 1907, but at first was only permissive. The Act could either be adopted or ignored, and a very large percentage of Local Authorities ignored it. In consequence of this, the Act was made compulsory by the Extension Act (1915), and it was supplemented by the Maternity and Child Welfare Act of 1918.

Under the provision of the Notification of Births (Extension) Act (1915), every birth must be notified to the Medical Officer of Health within thirty-six hours. It is to be notified by the father, or any person attending the mother at the birth or within six hours of it. This obligation exists in the case of the birth of any child after the twenty-eighth week of pregnancy, whether it be born alive or dead. No fee is payable to the person notifying, but the Local Authority is bound to supply stamped postcards on demand.

This Act has for its chief object the securing of the welfare of the lying-in woman and her new-born baby, and probably the most important of its effects has been a great diminution in the occurrence, and an improvement in the treatment, of cases of ophthalmia neonatorum (*see* p. 56). On the receipt of the notification an official is deputed to visit the case if it is not under the care of a duly qualified medical practitioner. By this means incipient cases of purulent inflammation of the eyes and eyelids are brought to the knowledge of the Medical Officer of Health, who is thus enabled to take prompt action. At the same visit the mother's condition and necessities are noted with a view to appropriate relief if necessary.

Registration.—A new-born child has to be registered by father, mother, the occupier of the premises where the birth took place, or by any person present at the birth or who has charge of the child. This duty, which must be accomplished within forty-two days of the birth, has been compulsory since 1836. Stillbirths, as such, are not yet registrable, but the body of a stillborn child cannot be buried unless there is either a written certificate by the doctor who delivered the woman or of one who examined the child's body after birth. Secondly, burial may be permitted on the declaration of any person who might have registered the birth had the child been alive: the

declaration should state that no doctor was present, or that his certificate cannot be obtained. Lastly, burial may proceed upon the order of the Coroner. Even if a child dies very soon after birth, registration of its birth and death, together with a death certificate, must be furnished.

It is exceedingly desirable that registration of stillbirths and premature births should be made compulsory. Stillbirths are very numerous; they comprise some 30 in the 1,000 of total births from the twenty-eighth week of pregnancy onwards, and probably four times as many evacuations of the uterus occur during the first twenty-eight weeks of gestation. It is estimated that in 1914 somewhere about 138,000 fœtal deaths occurred.

Criminal abortion.—The law of criminal abortion, as summarised by Dr. Shadick Higgins, Medical Officer of Health for St. Pancras, embraces the following points:—

1. It is a felony for any woman unlawfully to administer to herself any drug, or use any instrument or other means, with intent to procure her miscarriage.

2. It is a felony for any other persons unlawfully to employ such means to bring about a woman's miscarriage, and it is a misdemeanour unlawfully to supply or procure any drug, instrument, etc., for this purpose.

3. Very severe penalties are prescribed for such

criminal acts, even if the woman survives. If she dies, offenders have to stand their trial for murder or manslaughter, and are liable to the death penalty, although in practice this is commuted to penal servitude for life or a long term of years.

In a circular issued by the Local Government Board in 1918 it is pointed out "that the sale of drugs intended to procure abortion and practice by abortion-mongers is very prevalent in many parts of the country. . . . One of the drugs most commonly employed for this purpose is diachylon, and on 27th April, 1917, an Order in Council was made adding to the list of poisons for the purpose of Part I. of the Schedule of Poisons lead in combination with oleic acid or other highly fatted acids, whether sold as diachylon or under any other designation (except machine-spread plasters). The Board would urge every Local Authority to bring this Order to the notice of the druggists and of the practising midwives in their area, to explain to their health visitors and to the midwives the risks to life and health involved in the use of diachylon, and in every other way to do what they can to stop the traffic in abortifacients and the practice of abortion-mongers in their districts."

Legislation affecting midwives.—The Midwives Act, 1902, and the Amending Act, 1918, have been referred to on pp. 48-50, but a summary of their chief provisions has been reserved for the

present chapter. Under these provisions no uncertified woman must describe herself as a midwife, nor must any other woman than a midwife habitually attend women in childbirth for gain except it be as assistant to a doctor. Midwives are women who were enrolled soon after the passing of the Act of 1902 because they possessed certain qualifications, or because they were women who were described as *bona-fide* midwives—that is, they were women already practising midwifery, whether qualified or not. Since that time no new admission to the Midwives' Roll has been obtainable except by qualification conferred by the Central Midwives Board. The unqualified midwife should therefore soon cease to exist.

The Central Midwives Board consists of three doctors appointed by certain medical colleges, one appointed by the Incorporated Midwives' Institute, two persons (one of whom must be a woman) appointed by the Lord President of the Council, and three persons appointed by the Association of County Councils, Queen Victoria's Jubilee Institute for Nurses, and the Royal British Nurses' Association. The Board conducts the examination of midwives, removes them from the Roll in case of misconduct, and frames the rules for their guidance.

Undoubtedly, the appointment and work of the C.M.B. mark a great advance on previous con-

ditions. The improvement secured in the education and status of midwives found an immediate response in a marked fall of puerperal mortality, but no human legislation is ever perfect, and revision of the original Midwives Act was long overdue by the time that the Amending Act was passed in October, 1918. This later Act should tend to secure a more abundant supply of well-educated and better-trained midwives. Up to the present time the supply has been totally inadequate to the demand. The number of women who trained and qualified as midwives has been lamentably small, and yet of those who passed the qualifying examination of the C.M.B. a large percentage never intended to practise their profession. These midwives took the diploma not with a view of acting as midwives, but of obtaining a qualification that would enable them to earn a living as matrons of Maternity and Child Welfare Centres, inspectors of midwives, etc. It is easy to understand why the office of midwife has not been popular in Great Britain. The work has been hard, the pay poor, some of the regulations have been irksome, and the status of the midwife has not commanded sufficient respect and consideration. The Act of 1918 provides that the three months' training shall be increased to six months'—probably in the future this will be raised to one year. In the case of the midwives paid by the County

Councils and County Borough Councils, care is to be taken that skilled midwives shall be suitably remunerated; also under this Act the disgraceful arrangement by which midwives were held responsible for payment of the consultation fee of doctors (*see* p. 49) has been rescinded.*

Another grievance removed by the amending Act is the provision for the payment of travelling expenses of the midwives, and for the payment of the expenses of any midwife required to appear before the Board in her own defence. By Clause 10 midwives trained in other parts of His Majesty's dominions may be certified under the principal Act, and this brings their position into line with that of the Scottish and Irish midwives. Probably, however, the most important clause of all is that which repeals the power of County Councils to delegate their powers and duties to District Councils. Sir Arthur Newsholme, and Mr. Hayes Fisher (Lord Downham) as President of the Local Government Board, were very anxious to secure the successful passing of this amending Act. The latter said: "We all want to attract to this great

* It is, however, to be regretted that the doctor's fee is still to be recoverable from the patient. This means that poor women are likely to arrange with a doctor for their confinement instead of with a midwife. The doctor accepts more cases than can be attended, and in the end the patients are liable to be attended by a woman altogether without a certificate or the necessary knowledge. This arrangement tends to the starvation of the midwife, the annoyance and discredit of the doctor, and the danger of mother and child.

profession—and it is a great profession—a high class of midwives, and we are very short of them. We want them more in quantity, and gradually we shall want them greater in quality. We want to improve them in status. For all these things we want the most efficient supervision we can possibly get."

Some of the training schools for midwives are good, but many need improvement, and it is probable that the progress already evident in them will be greatly accelerated by the demands that the authorities and the public will make for better educated and more adequately trained midwives.

The question of the inspection and supervision of midwives is one of great importance. The present system is efficient and effective when well worked, but much depends on the personality of the inspector. The inspector ought to be a medical man or woman, or an experienced midwife. The inspector ought not only to possess knowledge of the art and science of midwifery, but should be conversant with the rules and regulations of the Board and the provisions of the Midwives Act, and should in addition possess a wide knowledge of human nature and a sympathetic insight into the duties and the difficulties of the women inspected. Payment of midwives is at present deplorably inadequate. Those employed by Local Authorities are supposed to have salaries varying from £120

to £150 a year, but those in private employment are seldom paid the 20s. to 25s. a case which they certainly ought to receive. The town midwife who has many cases within a small area may earn enough to enable her to live in comparative comfort, but this is impossible for a midwife in a rural district, where the patients are few in number and separated by wide distances. In such cases the midwife frequently holds other appointments, e.g. matron of a Maternity Centre, tuberculosis officer, or health visitor.

Unfortunately even the Amending Act of 1918 does not deal with the important question of pensions for midwives. It is perfectly clear that the country will not obtain the class of midwives that it needs and the Government desires to secure unless further action is taken to obtain many more midwives, better educated midwives, and midwives who are free from anxiety as to their comfortable maintenance when they are too old for their important and very arduous work.

Work during pregnancy.—The Factory and Workshop Acts include no provision against women working during pregnancy, although they prohibit them from working for the four weeks which immediately follow the childbirth. This absence of supervision of the pregnant woman and the inadequacy of provision for her welfare after childbirth ought to be remedied. It is impossible

that the State should secure a proper supply of healthy babies unless their mothers are more adequately cared for. This question has been more fully dealt with at p. 22.

The Maternity and Child Welfare Act, 1918.—According to the circular issued by the Local Government Board to the County Councils (other than the London County Council) and the Sanitary Authorities, this Act "widens the powers of Local Authorities in the matter of Maternity and Child Welfare. It enables them to make such arrangements as may be sanctioned by the Board for attending to the health of expectant mothers and nursing mothers and of children who have not attained the age of 5 years, and are not being educated in schools regulated by the Board of Education." A Council exercising powers under the Act must appoint a Maternity and Child Welfare Committee, of which at least two members must be women. The additional services contemplated by the Act are chiefly : (1) hospital treatment for children up to 5 years of age, (2) lying-in homes, (3) home helps, (4) the provision of food for expectant and nursing mothers and for children under 5 years, (5) crèches and day nurseries, (6) convalescent homes, (7) homes for the children of widowed and deserted mothers, (8) experimental work for the health of expectant and nursing mothers, of infants and of children under 5 years.

In this circular the Councils are informed that they are entrusted with the initiation and execution of schemes for the treatment of tuberculosis; if the organisation of a maternity and infant welfare scheme is also undertaken by them, it will be practicable to secure the unification of home visiting for a number of different purposes. Evidently, therefore, it is possible, and must be often very desirable, especially in sparsely populated districts, that the officer, whether midwife, nurse, or health visitor, should combine these duties.

Dealing with the inspection of midwives and the provision of midwifery for the poor, the circular points out that the inspectors should be sufficient in number and competent, because their visits ought to be made the occasion for giving general instruction and assistance to the midwives. It is gratifying to find that in the opinion of the Board an inspector of midwives should, if possible, be a qualified medical woman, and that in cases where the services of a medical woman cannot be secured the inspector ought to be an experienced and certified midwife.

Paragraph 5 insists on the raising of the status of midwives and on their adequate remuneration. This remuneration may come as salary from a Local Authority or sometimes as fees from patients, and where the fees received do not meet the cost of the service, the Board will find one-half of the

deficiency in cases where it has already approved of the arrangements.

Paragraph 9 provides that "in all cases the grant in respect of midwifery will be subject to the following conditions: (1) that the Board are satisfied that the midwife is competent, (2) that her services are available in respect of all women who need them, and (3) that the ordinary fee of the district is charged, and that it is only reduced or remitted where the circumstances of the case justify the adoption of this course."

Section 12 of the Circular deals with health visitors, and suggests that each health visitor should not undertake a larger district than one in which four hundred births per annum may be expected, the former standard of five hundred having been found by experience to be as a rule too high. The functions of the health visitors are defined by this paragraph to "comprise the visiting and supervision of all children under school age in the district needing this attention; the visiting of expectant mothers who have attended at an Antenatal Centre or for whom visits are desirable; inquiry into stillbirths and the deaths of young children, and attendance at the Centre to which women and children, including those whom she has visited in their homes, come for medical and hygienic advice."

Paragraph 13 points out that health visitors

must have one or other of the following qualifications, viz.: a medical degree, full training of a nurse, certificate of Central Midwives Board, training in nursing and the health visitor's certificate of a society approved by the Board, or previous discharge of duties of a similar character in the service of a Local Authority. Other duties, such as those of tuberculosis nurse, school nurse, and mental deficiency visitor, may be combined in the same individual. Also it appeared to the Board to be desirable that where possible the health visitor and the infant protection visitor should be the same person.

The Maternity and Infant Welfare Centres are not to give anything more than minor treatment and simple advice, all more serious cases being referred to the patient's own doctor or to a hospital.

From Paragraph 25 we learn that occasionally cots for sick infants may be provided at a Maternity and Child Welfare Centre, that a whole-time nurse should be in charge, but that the nursing staff should be distinct from that which is concerned in the ordinary work of the Centre—a very necessary proviso since cases of acute and infectious illness are sure to occur from time to time.

The National Insurance Act, 1918.—An explanatory leaflet for insured women who marry has been issued by the National Health Insurance Society. It points out that under the National In-

surance Act, 1918, if a married woman has been unemployed for eight complete weeks on end without being incapacitated by illness she is considered as having given up work, and she cannot then go on stamping her card, but comes under a different scale of benefits. These benefits are: (1) Sickness benefit at the rate of 5s. a week, not payable for more than six weeks in all, and stopping at the end of twelve months from the end of the eight weeks of unemployment. It is subject to the usual conditions applying to sickness benefit; e.g. proper evidence of incapacity for work must be produced, and the benefit is not payable for the four weeks following confinement. This benefit is not, however, subject to reduction for arrears. (2) Maternity benefit of 30s. is payable on the first confinement occurring after the end of the eight weeks of unemployment; or, if the eight weeks ended before marriage, on the first confinement after the date of the marriage, but in either case only if the confinement occurs within two years after the date of the marriage. This benefit is subject to deduction for arrears, but will not in any case be reduced below the sum of 20s. In the case of a married woman who is employed and of one whose husband has kept up his insurance a second sum of 30s. is payable at the time of confinement, provided that she does not undertake any remunerative work until the child is four weeks old.

The Expectant Mother

Apparently women who do not give up work on marriage, and those married women who return to employment, are treated exactly the same as other persons; except that in the case of the married woman who left off work, and returns to it within two years of her marriage, she will have the right during the waiting periods (twenty-six weeks for sickness benefit and forty-two weeks for maternity benefit) to any benefits remaining to her under the special arrangements made while she was unemployed.

It is interesting to observe that the maternity benefit of 30s. is payable only if the first confinement occurs within two years after the date of the marriage; this looks as if it were a very desirable premium offered for the prompt performance of maternal duties, and ought to be an encouragement to young couples to lead a normal life and not to interfere with the natural procreation of children.

It is evident from a consideration of all the foregoing provisions for the welfare of child-bearing women that the public conscience has been aroused, and that this awakening of the nation has enabled the Government to make very considerable advances in the performance of a public duty. At the same time, it is evident that much remains to be done. Among other things we require—

1. A larger number of midwives, and that these

midwives should be better educated and more adequately trained, so that they may be more efficient in their work and possess a status of increased value and public respect.

2. The provision of increased hospital accommodation, both in the regular hospitals and in the infirmaries.

3. Greatly increased facilities for research work and for special laboratory work on behalf of expectant women.

4. Such a multiplication of Maternity and Infant Welfare Centres and of Schools for Mothers as may provide for the assistance and the instruction not only of the present 1.5 per cent. of our expectant mothers but of all who are in need of assistance and whose opportunities of education and guidance in the important duties of wifehood and maternity are in any way deficient.

5. Some well-considered scheme for the endowment of motherhood, some arrangement by which child-bearing women may be put above the danger of poverty and consequent lack of food and warmth during the performance of their great and important duties.

In conclusion I would venture to commend the subjects treated of in this little book to the careful attention of all to whom the reconstruction and the future of our land are dear. The medical inspec-

tion of school children and the medical examination of recruits during the war revealed a truly appalling amount of unsoundness, disability and disease in our population. The knowledge thus gained is painful and unflattering to our national pride, but if it leads us to the setting of our house in order and to more Christian and more business-like modes of dealing with what might be splendid material, we shall, in a not too distant future, have cause to thank God for the revelations which seem to us so disheartening. Now is the day of our opportunity, now, while we are still tingling with the memory of all that we have suffered and all that we have feared, now is the day of action, while we are still able to realise how wonderfully we have escaped disaster, and what a vast amount of vitality, endurance and self-sacrifice still exists in the Mother Country and in the many Britains overseas.

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