VOLUNTARY PARENTHOOD

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FOREWORD BY

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TO D. J.

TO WHOM
THE BOOK OWES
ITS INCEPTION

FOREWORD

DR. GRIFFITH has followed up his book on *Modern Marriage and Birth Control* and papers on the same subject by this further and well-reasoned presentation of the need for the establishment of facilities for voluntary parenthood on scientific and efficient lines. Post-war opinions, and particularly their outspoken expression, are an offence to the well-bred reticence inculcated by the training of the Victorian era, when ignorance was often regarded as the hall-mark of innocence. Many have thus dismissed birth control as not only an unsavoury subject, but as an immoral practice. There is even now, perhaps, as an escape from the disturbing process of logical consideration of a new position, an obstinate reluctance to face squarely the fact that contraceptive methods of some kind have long been employed, indeed in antiquity, and are now used very widely —according to Dr. Griffith in 95 per cent. of the population in this country. Birth control has come to stay; other changes in opinion and conduct are taking place, and new problems are becoming urgent.

The results of the attempts at birth control and contraceptive measures in the past have varied; they have often been unsuccessful; worse, they have sometimes been crude, prone to take the form of abortion—instrumental or otherwise—and thus to increase the incidence of maternal morbidity and mortality. Though there is still room for much improvement in contraceptive methods, new knowledge has recently been obtained, and the dangers of the past should now be avoided.

The public is now taking an active interest in the subject of birth control, and asking for information about contraceptive measures. It is important that what they are told should be thoroughly sound. The well-to-do of the population should now have little difficulty in obtaining the new

knowledge; but it is otherwise in the case of the poor working women with a history of several rapidly succeeding pregnancies, the constant fear of another, and already impaired health, whose piteous plight is now so graphically portrayed in these pages. Nurses, midwives, and social workers have great opportunities for gaining the confidence of these much worried mothers, and so for helping them by kindly and good advice such as is clearly and courageously provided for their guidance in these pages, which cover a wide field and contain a great deal of useful information and practical detail.

HUMPHRY ROLLESTON.

AUTHOR'S NOTE

THE country is at last becoming alive to the fact that its population is getting smaller, in fact one might almost say that the whole of Europe is worried about its falling birth-rate, whereas the East has to deal with an entirely opposite problem—over-population.

Providing the population does not fall to too great an extent, and provided we see that the quality of our stock is maintained, no great harm will come from this change in population trend, but it is probable that the birth-rate has now fallen sufficiently low, and we must embark on an educative policy which will encourage the production of healthy children.

The small family system, as Professor Carr-Saunders terms it, has come to stay, and it will be useless to adopt coercive methods or bribes to change it.

In this small book I have endeavoured to show how scientific knowledge relating to contraception can and must be welded into the ordinary life of the population, thus enabling women to have a reasonable number of children that will be satisfactory both to themselves and the State, together with a happy sex life which will thus encourage more stable marriage.

I have endeavoured to give references for all quotations, and am greatly indebted to many of my friends for helpful criticism. Should I have omitted to give references where necessary, I hope this will be taken as an acknowledgement of my indebtedness.

ALDERSHOT,
October, 1936.

VOLUNTARY PARENTHOOD

CHAPTER I

GENERAL CONSIDERATIONS

ALTHOUGH the main purpose of this book is to provide nurses and social workers with a simple outline of some of the problems connected with marriage and contraception, it contains much which will be of value to the general reader.

There may be some who will say that it is entirely unnecessary for a nurse to concern herself with any problem not directly connected with the care of her patient, but such critics must remember that the health of the body is influenced to a great extent by the health of the mind and that a worried, unhappy, or over-tired mother is going to make a poorer patient than one who is well-nourished, contented and not over-burdened with care. An anæmic, ill-nourished and debilitated woman is lacking in resistance and is very easily affected by various infective agents.

We are apt to forget how great has been the change in the status of woman during the last 150 years. When Florence Nightingale boldly went to the Crimea at the age of thirty-four, she was a real pioneer of the women's movement. Such activities as she indulged in were not considered "correct" for women in those days. Her contemporaries were either married to men who for the most part failed to understand or encourage any hopes and aspirations they might cherish, or they had already become old maids eking out a miserable existence as a governess or dressmaker to some wealthy family. Marriage in those days meant that women lost all their rights and were literally dependent on their husbands for everything. Their possessions and money passed automatically to their hus-

bands who could squander them as they pleased. The lot of the poor was even more terrible. Ill-health was rife, occupational diseases such as lead or phosphorus poisoning were common, women's wages were hardly sufficient for the bare necessities of life, averaging about 10*s*. a week.[1] Venereal disease was rampant and its cure comparatively rare.

There was no Ministry of Health before the War ; infant death rate was high ; the average expectation of life was low, and most women considered themselves old at forty. Nowadays we spend several millions a year on our public health services, the average expectation of life has increased by at least twelve years and our infant death rate is very much lower. To suggest to a woman of forty that she was old would indeed be an insult ! Although there are many conditions which still call for comment, the changes in our social life in this short time have been extraordinary. Education has been provided for everybody, as a result of which the public knows more, understands more, and expects more. In particular do they expect more from the medical and nursing professions and this necessitates a better and more intensive training, which in its turn demands a larger view point and an ability to look all round a case. The days of the old gamp have disappeared and so the nurse, like the rest of us, must broaden her outlook and realize that changing times require changed conditions ; and that the preventive side of her work becomes more and more important.

Medical science is concentrating on the prevention of disease, and the changes in the midwifery services of the country are in keeping with this altered outlook. In particular are we endeavouring to prevent the difficulties and dangers of child-birth, which too frequently lead to maternal death. The ante-natal clinic is preventive in outlook, so is the post-natal clinic or the gynæcological clinic, so also is the birth control clinic.

Education has given the thoughtful mother of the present day a different outlook from that possessed by her mother.

[1] *Towards Sex Freedom* by Irene Clephane, p. 35.

The latter took the trials and troubles that came to her as part of her appointed task in life. Her outlook was more philosophical; she understood less, knew less, and very possibly, was more contented and resigned. Not so her daughter. Improved schooling, greater concentration on health matters, the freer mingling of the sexes both in work and play, cheaper and more attractive clothes, more money, better housing, cheaper books, are only some of the influences which have brought about this change of outlook in the younger women of to-day. Although more care-free in many ways these young women are demanding more. They want more from life; more pleasures, more consideration and more understanding. They are in search of a greater ideal, and so when they marry they expect more and hope for a fuller life. Marriage demands greater responsibilities nowadays. The young married woman with two or three children is consciously or unconsciously influenced by these changes. A woman's chief interest in life is, or should be, her children, and the modern mother takes her children very seriously. She wants the best for them. Their food, health, clothing and education are matters of vital concern. Every new baby means an additional burden and the modern mother does not intend to have more than she can manage. They take more of her time and are her greatest responsibility. Besides, she knows that her income is strictly limited and soon realizes that money is not elastic.

The proper running of her home is another responsibility. She does not want her economic state to drop below a certain level. The necessities of life are expensive; it takes good management to make ends meet.

More and more are women beginning to realize that their own health is an important adjunct to family stability and happiness. If the mother becomes ill things go wrong. The children are not looked after so well; the house gets neglected and the husband dissatisfied. She has no wish to work herself to the bone as so many of her neighbours do, becoming dull and uninteresting and drab before she is thirty. She realizes that life lived in that way is a very poor affair. And finally there is the husband. Above all he must

be kept happy and well or he will become discontented and troublesome. Instinctively she feels that she must keep herself attractive for him so as to enjoy his love and affection. She makes efforts to dress nicely and go out with him occasionally to the pictures or a dance. Admittedly this is an ideal which is very frequently doomed to early disappointment—especially if the children come too fast and the mother becomes ill or debilitated as the result of a prolonged struggle against unequal odds.

We can all think of many families where such an unhappy state of affairs has arisen, nevertheless the ideal is there and should be encouraged. There are many marriages of course in which the conditions from the very start have been so bad that any hope of achieving the picture I have drawn is quite impossible. Nevertheless we find on the whole, a new outlook—a greater ideal—which may or may not be achieved. I hope to be able to show that the constructive practice of contraception will, by enabling couples to space their children as and when they consider births to be most suitable, help them to achieve these ideals. To attain this result however, a certain amount of forethought and self-control is essential.

In another large group of marriages we do not find such a happy state of affairs. A great proportion of the population marry because they have to. It is a well-known fact that in certain parts of the country and in fact all over the world young people have entered into sex relationships before marriage and have not " officially " married until the woman has become pregnant.

In a recent investigation in Australia it was discovered that out of 1,000 marriages nearly 500 couples admitted to pre-marital relationships.

Much further evidence regarding the matter has been accumulated by such well-known writers as Havelock Ellis and Westermarck. The practical results of this behaviour are often unsatisfactory. The relationship may have been commenced in a haphazard manner and without due thought or consideration. Many girls, moved by curiosity and a sense of false security based on ignorance of simple physio-

logical facts, have found themselves to be pregnant and have been more or less forced into marriage as the result of parental and social pressure. In many cases the couples are distressingly young and uninformed, the man frequently being out of work or earning very small wages. Children have followed all too quickly and in a few years the whole position of the family has fallen to a very low state. There are not enough clothes, food is scarce and often most unsuitable. Such conditions inevitably react on the health of the children, who are frequently anæmic, under-nourished and lacking in resistance. Debilitating illnesses are all too frequent and lower the resistance still further. The mother herself suffers most in such cases and is debilitated, under-nourished and equally lacking in resistance to germs which may, in her case, cause more serious illnesses such as tuberculosis, miscarriage and puerperal sepsis. In spite of a valiant struggle the woman is fighting a losing battle against insurmountable odds. She is beset by worry and fear, not the least of which is the constant dread of pregnancy. After a few pregnancies she loses all interest in her children with whom she finds it impossible to deal adequately, and so she attempts to bring about an abortion if and when she finds herself again pregnant. There is much evidence to show that most women of this type make some attempt, however ineffectual, to terminate any pregnancy after the third or fourth.

This is a lamentable state of affairs and can do nobody any good. The husband is dissatisfied, the wife disillusioned and unhappy, and the children lack the ordinary maternal care that should be given them. One would have thought that the practice of contraception in such cases was an obvious remedy upon which we should all agree. Unfortunately we do not find such agreement even amongst those who are in a position to help and advise these people, *i.e.*, nurses, doctors and social workers. We still have an unhappy knack of shutting our eyes to facts and are satisfied to muddle along with "helpful advice" and gratuitous food and clothing. It is in such cases that we should give ourselves furiously to think.

In order to help this type of case, nurses should try to understand the underlying principles of this new teaching. It is here that their greater knowledge and wisdom can be most usefully used for the good of the mothers under their care. Much perseverance and forbearance is necessary. Even if the nurse is convinced that a patient under her care should visit a birth control clinic we must admit that the woman concerned is often so lacking in understanding or initiative that she simply will not bother, any more than she will bother to go to an ante-natal clinic. That is no reason for despair however. We must realize that many of these people are definitely of sub-normal intelligence and are literally incapable of persevering with our present methods even if they are taught them. However, if we can persuade one or two to visit the clinics we have done something. Much educative work will have to be done but we must not give up hope. It was only a few years ago that ante-natal clinics were a new innovation and it took a considerable time and much work to persuade the women to visit them. Nevertheless the work goes on and we are beginning to see satisfactory results in this direction. So will it be with contraception. We must always bear in mind too, that methods will become simpler and easier to learn as scientific knowledge advances. What we have to do first of all is to *satisfy ourselves* as to the value and importance of contraception. It is the experience of workers in birth control clinics that the women of this type who come to the clinics exhibit certain well-marked characteristics. They are anxious on account of the constant fear of pregnancy. They are nervous and irritable with their husbands, and are physically in a poor state of health. It will be found in the majority of cases that they are practising coitus interruptus which, as we shall see later, is an unsatisfactory method of family limitation, because not only does it not prevent pregnancies but the woman derives no satisfaction and is in a constant state of sex tension which shows itself in this nervous irritability and strain. Her pelvic organs too, are frequently unhealthy as the result of the prolonged practice of this method. Finally these women are unable to manage

their children, with whom they are irritable and ever-ready to punish. Often they realize this but are unable to help themselves.

The teaching of a suitable contraceptive method combined with its efficient practice will quickly change this state of affairs and the woman will present a completely different picture when she makes a return visit to the clinic in a few months' time. She will look better in health and will be happier and more satisfied in both mind and body. The change will react on all around her and she herself will be the first to recognize it. Such are the benefits of contraception to this type of woman.

There remains a final type for our consideration—a type that is found in all classes of society, as indeed are the other types in varying degrees. I refer to the women whose outlook on marriage is essentially selfish. They are more interested in their clothes and comforts and amusements than in children. They either have one " hopeful " or none. Their practice of contraception, whatever the method, is selfish and therefore should be condemned. Many such cases have a fear of pregnancy. They have heard or read about so many disasters in child-birth that they have entirely forgotten that it is a normal function in a woman's life, which, in the majority of cases is experienced without any particularly devastating results. Such people, if they come our way, need as much instruction and teaching regarding the value of children and the importance of the family unit as do others in the value of contraception.

If the practice of contraception in the past has been limited to the upper and middle classes we cannot say that the same is true to-day. The working woman is becoming as interested in this subject as are her more fortunate relatives, and is equally willing to purchase articles, however unsatisfactory in nature, if she thinks that they will enable her to stop her all too frequent pregnancies. Some knowledge of contraception has penetrated every social group.

Neither can it be said that reliable contraceptive information can only be obtained by those who are in a position to pay for it. The provision of numerous birth control

clinics all over the country is rapidly changing this state of affairs. Where such a clinic exists the poorest woman can obtain the most up-to-date information for the expenditure of a shilling or two, and in many cases if there are medical indications for preventing further conception, the cost of her instruction can be borne by the local authorities.

There are of course many areas still without these clinics but a great advance has been made within the last four or five years.

The knowledge of contraception is undoubtedly having an important influence on many pressing social problems connected with marriage and sex.

As its practice is so universal it is of paramount importance that those who come into contact with the women of the country should understand its principles, as otherwise, they will not only find themselves behind the times but will fail in their duty to their patients.

In the past, birth control has been condemned as a disgusting or immoral subject but the scientific discoveries of the past few years have demonstrated the fallacy of such a short-sighted policy. The public is interested in these problems and is demanding information, in fact it has been interested in this subject ever since the War and it is largely owing to our inability to give any constructive guidance that we find ourselves in our present unsatisfactory position. As so often happens when new and startling discoveries are made, those in responsible positions fail to see the significance of the discovery whilst the general mass of the population endeavours to apply it to its own problems. There can be little doubt that about 95 per cent. of the whole population is adopting some form of family limitation and almost every working woman can be counted amongst this number. It is rare to find a couple who are not doing something, even if the something only amounts to the practice of " being careful."

Now who are the people who have the most influence with the average working woman, who understand her problems and difficulties ? The doctor for one, be he a general practitioner or the Medical Officer of Health wielding all the

powers of the local authority. The teacher for another, behind whom looms that imposing body known as the education authority; and last but not least the nurse, whether in her role of midwife, district visitor, district nurse, or hospital nurse. To her the working woman turns with increasing frequency for help and advice. She it is who often acts as the buffer between the "authority" and the woman, and it is on her advice and guidance that the patient often decides to act. The midwife in particular has an important part to play in this respect because her increased responsibilities in connection with child-birth are gaining for her an even greater hold over her patients than she had previously. I should imagine that at least 50 per cent. of the confinements in the country are conducted by her without the aid or attendance of the doctor, whether this be on the district or in the hospital. This is probably all to the good but it imposes greater responsibilities on the nurse.

Her first and foremost duty of course is to look after the interests of her patient; the mother under her care is her first concern, but I think that most nurses will agree that their duties are not ended with the delivery of the baby. Attendance on the mother may vary from ten days to a month following the confinement, and in addition, the nurse is often expected to see that her patient attends some post-natal clinic when she is up and about. Admittedly this is a duty which the midwife shares with the district visitor. Each have their own particular duties, both are responsible for the woman's health and they must often ask themselves whether the patient under their care is in a fit state of health to start another baby within a few short months. Although their immediate duty is connected with the present, the future must obtrude itself on their conscience.

Can the nurse do anything about this, can she help or advise in any way? What are the exact implications of birth control? Is the practice of contraception bad or can it be used for the benefit of her patient's health? If in the course of her attendance on the woman the subject arises,

as it is almost sure to do, or if she feels that the condition of the woman is such that she should say something about it, I think she will find an immediate and eager response. Very rarely will she be repulsed. But if she is going to be of any help she must know something about her subject, otherwise she cannot deal with it sympathetically or intelligently.

I have already suggested that 95 per cent. of the population is attempting to limit its children by some means or other. It may be that the birth rate has fallen sufficiently low. We do not wish the race to be exterminated; that would indeed be folly. On the other hand, there is no need to breed a C3 nation and there is some evidence to show that we are in danger of doing this. We need a healthy, virile race of men and women who can produce healthy children. The quality of our children is really of far greater importance than mere quantity, especially if by quantity we mean the lame, the halt, and the blind, and those who are mentally sub-normal. If our birth rate is to remain at a lower level than in former years it is of paramount importance that we ensure that only the best are produced. It looks as though the era of large families has passed. Our grandparents had many children and still more pregnancies, many of which terminated in miscarriages or the premature birth of a sickly child who did not survive very long. The population of this country in 1801 was 8,892,536. It rose rapidly during the Industrial Revolution and was about 32,500,000 in 1901—a hundred years later. In 1921 it was 37,885,000 and is now in the region of 40,000,000. The death rate was proportionately high, as was the infant death rate. In 1910 the latter was 105 per thousand. In 1933 it had dropped to 64, and now it is even lower.

Commenting on this rapid rise in population Dean Inge points out that:

"It ought to be universally recognized that the rapid increase of numbers in the nineteenth century was a wholly unparalleled phenomenon, and one which in the nature of things could not continue for ever. It was made possible by the new machinery, which vastly increased the output of commodities which could be

exchanged for food, and simultaneously by the opening up of new food-producing areas beyond the seas. The new conditions of labour were favourable to rapid increase. The manufacturers built cottages to house all who worked for them. Until the factory legislation forbade the employment of young children for wages, each child, almost as soon as he could walk, became a pitiful asset to the family budget. There was no motive for postponing marriage, since a labourer might begin to earn his maximum wage at the age of twenty-one." [1]

It is probable that an average of three or four children in each family would keep our population in a stable condition. At the present moment however the births are not dispersed equally amongst the various social groups. In 1911 there were 119 births per thousand in the upper and middle classes and 213 per thousand amongst the unskilled workers.[2] According to Dean Inge these figures are even worse to-day. He gives the following figures, based on the census of 1921, showing the relative fertility of marriages :

Teachers	95
Nonconformist Ministers	96
Church of England Ministers	101
Doctors	103
Policemen	153
Carmen	207
Barmen	234
Miners	258
General Labourers	438

" The learned professions have the smallest families ; casual labour which includes the wastrels, physical and moral wrecks, and those who for one reason or another have no regular place in the body politic, by far the largest." [3]

These figures indicate that the majority of children in this country are coming from the lower grades of society and are presumably less intelligent and less cultured than those in other walks of life. This is greatly to be deplored. We have not seen the worst, however. There is the awful

[1] *Christian Ethics and Modern Problems*, p. 266.
[2] Harold Cox, *The Problem of Population*, p. 299.
[3] *Christian Ethics and Modern Problems*, p. 275.

problem of mentally deficient people, of whom there are about 300,000 throughout the country, two thirds of whom are breeding freely. In addition there is the social problem group which comprises approximately the lowest 10 per cent. in the social scale and is definitely sub-normal. This group therefore comprises about 4,000,000 people and they too are rapidly increasing.

Of course it by no means follows that because an individual is born into the aristocracy for instance, he is automatically above the average in mental and physical development. In discussing this and allied problems in *The Eugenics Review* for April, 1935, Professor Carr Saunders points out that individuals are born at the lower end of every social grade who are possessed of undesirable qualities and similarly that many suitable types are to be found at the top of each social grade. It should be our aim to encourage the development and breeding of these suitable types in whatever social grade they are found, and to discourage those who are unsuitable. This is a problem to which we have as yet given very little thought.

CULTURAL DEVELOPMENT. We can form an opinion as to the cultural condition of a society if we pay attention to the position of women in that society. The emancipation of women in America, England and certain other countries like Denmark has reached a high level and we find that these countries are in a state of high cultural development. The opposite will be found in such countries as India and China where there are enormous populations, a high death rate and a low survival rate, together with a high infant death rate. A large proportion of the population of these countries is under-nourished and in a low state of cultural development. Take India for instance with a population of 350,000,000 and a death rate of about 38 per thousand, as against our own death rate of 12·3 per thousand. The average duration of life in this country is about sixty years, in India it is *under twenty-five years*. Millions of people die annually in India as a result of under-nourishment. Dr. Frank White in his illuminating little book *Birth Control and Its Opponents* (Bale & Danielsson) gives the number as 10,000,000 per

annum. Similar conditions are found in China where the population of nearly 400,000,000 is reaching saturation point and the birth and death rates are between 40 and 50 per thousand. Infanticide is common in China—people being unable to provide for their ever-increasing families. " Over 24,000 dead bodies of little infants were picked up in the streets of Shanghai last year, an average of more than seventy per day." [1]

In Japan the problem is reaching alarming proportions. The increase in the population in 1932 was 1,007,868. The birth rate was 32·92 and the death rate 17·72. Only about one-fifth of the land in Japan is capable of cultivation and the density of people per square kilometre in 1920 was 969 as compared with 226 for England and 394 for Belgium. [2]

Returning to Europe we find that countries like Germany and Italy are expanding their populations and are reducing the status of their women-folk to a much lower level than in recent years.

The scientific application of modern contraceptive methods could be of the highest value to such countries as India and China. Indeed the enlightened members of these communities are beginning to realise this and are demanding that birth control clinics should be established all over the country. Many of the leading thinkers in Japan consider that this is the only solution of their problem.

Germany and Italy have prohibited the teaching of birth control.

France is in a different position. Here all birth control knowledge is forbidden but the birth rate is kept low by the practice of coitus interruptus, abstention and abortion.

Is it not possible that the universal practice of contraception could markedly reduce the surplus populations of the world and keep them stable whilst at the same time raising the general conditions of health and culture ? Those countries that allow the highest degree of cultural development to their women also permit and encourage the practice of conception control. In Russia, where until recently

[1] *New Generation*, June, 1934.
[2] Himes, *Medical History of Contraception*, p. 129.

abortion was legal and contraception is encouraged (*vide* p. 28 for the present position in Russia), the birth rate is high—between 30 and 40 per thousand—and the death rate from abortion is low, being under 1 per cent. In this country and America where abortion is illegal and contraception is tolerated, the birth rate is low and the death rate from abortion is high. In France where both abortion and contraception are illegal the birth rate is lower than anywhere else, abortion flourishes and the death rate is high.

Will the increase in population so urgently desired by Mussolini and Hitler bring about that peace and goodwill for which we are all supposed to be seeking? If a country has only a few colonies and a limited space within which it can grow, it will eventually reach such a stage of congestion that it can only be relieved by expansion by means of emigration or by starvation if the food supply is inadequate. Such a state of affairs is to be found in Japan to-day as a result of which that country is endeavouring to expand into China. It is possible that the same position will arise in Germany very shortly. Where will it expand? Or will another world war be the solution?

If an unrestricted birth rate is permitted and encouraged the acquisition of new lands will only form a temporary remedy, because the gaps made by emigrants from the old country will be quickly made up and the new country will also soon become populated. America is an excellent example of this latter method. In 1820 the population of the United States was about nine millions. Now it is about 120,000,000.

Some people say that this enormous expansion does not matter provided there is sufficient food for the increasing numbers and that the world can easily provide this food supply. This is a problem outside the scope of this book and cannot be considered, but it does look as if the unrestricted increase in population is not the way in which to solve our difficulties. As we shall see later, the practice of birth control on a large scale is a more rational method because it encourages health, peace and individual prosperity and development.

This short discussion of the population question has been included because it illustrates the fact that in making up our minds about our individual behaviour we are taking decisions which affect the whole future of mankind. If we believe in unlimited reproduction, we must at least consider the results of this policy—wars, over-population, ill-health and early death. If we are not believers in these methods we must consider the other alternative—restricted populations, healthy children, quality rather than quantity, a higher standard of personal development and freedom, peace, and greater chances of cultural growth.

Woman's Changing Outlook

Woman's whole conception of life has altered since the beginning of this century. This is largely due to her own efforts at emancipation and to the discoveries of science in the realm of contraception and sexology. The entry of women into the professions and their activities during the war caused profound changes in their relationship with men. The two sexes met on more equal terms and worked together in ways that were undreamt of before.

The war caused a considerable loosening of moral restraint; the terrific tension of warfare finding relief in a few hectic days of leave. Marriages were entered into at very short notice and many people indulged in sex relationships that were contrary to civil and religious custom. If the Victorian era was one of suppressed sexuality the pendulum swung over to the other extreme during and after the war. Old traditions and customs were ruthlessly thrown away and the younger generation, regarding their parents rigid taboo about sex matters with pardonable mistrust, looked about for other ideals. The whole structure of sexual morality underwent the most drastic examination and was, in the main, thrown over as being built on unsatisfactory foundations. The relations between the sexes became freer and, whilst many terrible mistakes were made, we find the result at the present time in a better understanding, a freer mingling, and an intense desire for information regarding sex matters. The spate of books on sex subjects and the freer discussion

of its problems is, in the main, a step in the right direction. But like everything else that is new, it is open to abuse; open to misunderstanding. It is up to us to see that this new knowledge is used constructively towards social and individual betterment.

This changing outlook has brought about an entirely different conception of marriage and the sex life. In the past women's lives were dominated by the necessities of parenthood. If they married they looked after the home and brought children into the world. If they remained single they devoted themselves to their parents. Of education they had none. The boys were sent to school and college—the girls remained at home. This has all been changed. Women have discovered that their reproductive needs are frequently separate and distinct from those of sex appreciation. It is becoming more and more realized that the two are separate and distinct. It used to be thought that a woman's sexual needs were completely satisfied in the biological process of reproduction. We now know that in many cases—in fact in almost all cases—the process of reproduction by no means satisfies the physical desires of women, in fact many women have brought large families into the world without experiencing any sex feeling at all. It used to be thought that a woman who admitted to sex feelings and to pleasure in the sex life was a loose and immoral person. We now know that this is inaccurate and that women are just as much in need of sex satisfaction as are men.

Contraceptives have made it possible for women to separate their physical needs from those of reproduction. The result has been a dramatic fall in the birth rate. Contraception is not the only cause of this fall but it is one of the causes. Women no longer regard reproduction as the sum all and be all of existence. Whilst desiring children—and nothing will ever quench the maternal instinct of woman—they quickly realized that their spacing was a practical possibility.

Where our grandparents had a dozen or more pregnancies the women of to-day are content with three or four at the

most. And so we find that the practice of family limitation is attempted by all sections of the community with varying degrees of success.

This new outlook has brought about other far-reaching changes and problems. Our whole moral code is under review. The problems of divorce, pre-marital relationships, abortion, and sex instruction are being brought into the light of day and are found to be in a chaotic muddle. What will happen in the future is difficult to predict and is anyway outside the scope of this book. Those interested in this aspect of the problem should consult such books as *The Future of Marriage in Western Civilisation* by Westermarck, or some of those mentioned in the bibliography. Here we are concerned with the actual position as we find it but we must always bear in mind that some constructive plan must be worked out. If the birth rate has dropped, it is imperative that the children who are born into the world are healthy and of sound stock. If the divorce rate is going up and more marriages are unsatisfactory, being entered into lightly and broken as quickly, we must try and understand the causes and suggest remedies. If the abortion rate is on the increase we must also endeavour to understand the reasons for this rise. Not until we have considered these problems in some detail shall we be in a position to formulate constructive suggestions.

The first main problem that we have to consider therefore is the practice of family limitation and its relation to the falling birth rate.

CHAPTER II

FAMILY LIMITATION

IT has recently been pointed out by many observers, amongst whom may be mentioned Norman Himes in *Medical History of Contraception* (Williams and Wilkins Co., 1936) that the *desire* to control fertility dates back into antiquity. Its practical and safe adoption has only been made possible within recent years by the advancement in our knowledge of the chemistry of contraceptives and the vulcanization of rubber, this latter process making possible the widespread manufacture of the condom.

History is full of accounts of methods of family limitation recommended by various distinguished philosophers and physicians. Leaving aside such methods as infanticide, abortions, famines and wars, we find contraceptives discussed and practised by the Egyptian, Persian, Greek and Roman civilizations. Fifteen hundred years before Christ the Egyptians recommended a mixture of lemon juice, acacia and honey as a vaginal suppository. The resulting fermentation produced lactic acid which is used extensively nowadays ! The physician Soranos who lived in the second century made extensive researches into these problems. Soranos was the greatest gynæcologist of antiquity. He practised in Rome during the reigns of Trojan and Hadrian (91–117). He discusses abortion and contraception. He mentions indications for abortion as well as contra-indications. It is never to be practised " in cases where the killing of the fœtus is desired as a consequence of adultery or as the consequence of the desire to maintain beauty ; but on the contrary always when birth threatens to become dangerous, or when the uterus is too small so that delivery is impossible." [1] He mentions a variety of different contraceptive methods

[1] Himes, *Medical History of Contraception*, p. 89.

including occlusive pessaries, vaginal plugs, " using wool as a base, and those impregnated with gummy substances such as sour oil, honey, cedar-gum . . . astringent solutions (*e.g.*, alum and natron) which contract the os, and make impregnation less likely." [1]

He discouraged the use of amulets and had not much use for magical potions.

It is interesting to note that although contraceptive knowledge was prevalent during the middle ages it received ecclesiastical condemnation. St. Thomas Aquinas (1225–74) although no physician took the lead in this fight. He condemned birth control in his writings, notably in the *Summa Theologica* and his teaching became the doctrine of the Catholic Church and was incorporated in the general theological teaching. Here we have the origin of the religious opposition to contraception and it is interesting to note that this opposition has persisted to the present day in spite of scientific knowledge. It is an unfortunate fact that theologians have, in the main, been opposed to the discoveries of science. We may also note that this opposition is man-made rather than deriving origin from the direct teachings of Christ.

The knowledge that mankind has been interested in these problems from the commencement of history may enable us to realize that we are not dealing with some kind of mushroom growth, but rather with a new presentation of an old subject.

Those who are interested in pursuing this subject further should consult Norman Himes' authoritative work.

There is much evidence to show that large families have the smallest percentage of surviving children. Westermarck quoting Hamburger states that " the percentage of deaths was 23 in families with one child, 51 in families with eight children and 69 when the number of children exceeded 15." He also points out that the limitation of the number of children in a family " not only prevents debility in the mother resulting from too frequent child-bearing . . . it also enables the mother to bestow more care on the children,

[1] *Ibid.*, p. 91.

tends to improve their physique, and gives them a better chance of life." [1]

Evidence in support of this view comes from the Report on Maternal Mortality in Scotland for 1935 where it is stated that " the death rate from *all causes* increases with increasing multiparity, reaching in those cases with 9 or more previous pregnancies a death rate *twice as high* as the average." The Report also gives figures to show that women with bad health before pregnancy were more liable to die than those in good health, *i.e.*, of those who died 13·3 per cent. were reported to be in bad health before pregnancy, whereas for those who did not die the figure was 0·9 per cent. " Thus there was a definitely greater proportion of bad health before pregnancy among women who died." [2]

Dickinson and Bryant in *The Control of Conception* show that children adequately spaced with a two year interval or more accounted for 92 infant deaths per thousand, whereas those who had children at a lesser interval accounted for 147 infant deaths per thousand. These writers also show that whereas 105 infants die in the first confinement out of every thousand births, 119 die in the fifth and 182 in the tenth. Such figures speak for themselves and it is probable that most of my readers could provide many supporting examples from their own experience. The spacing of children is probably a matter about which we are all agreed. It is when we come to the methods to be adopted to bring about this happy state of affairs that we find strong differences of opinion.

Some people advocate the practice of " self-control " and abstinence. Others think that unhealthy people should be sterilized or segregated while others again believe in the " safe period " or mechanical devices. Many resort to abortion and not a few are still driven to the practice of infanticide, so terrible is the predicament in which they find themselves. Thus a state of affairs bordering on chaos exists in this country at the present day. Our morals and our commonsense, our religion and our experience, war with

[1] *The Future of Marriage in Western Civilisation*, p. 99.
[2] *Report on Maternal Mortality in Scotland for* 1935, *p.* 9.

one another. What help shall we be to others until we can settle our own difficulties? We must endeavour to see straight—an exercise which is particularly difficult when we are dealing with a subject that has got muddled up with morals and ethics.

To start off with however, we must understand the meaning and nature of these different " methods." So many people condemn this or that particular mode of behaviour without due knowledge of the circumstances or appreciation of the points involved. It is no use lumping all contraceptives together into one large bag of immorality and dubbing them disgusting. Some may be, but the reader must not be surprised if she discovers that those reputed to be the most " respectable " are the most degrading.

For the sake of clarity therefore we will consider the various methods under separate headings :

1. After birth. Wars, famines and infanticide.
2. After conception, abortion.
3. Before conception (*a*) Coitus interruptus,
   (*b*) The " safe period,"
   (*c*) Appliances and chemicals,
   (*d*) Abstention.

1. After Birth

It is obvious that wars and famines, by destroying large masses of humanity, are fruitful methods of checking the population of a country. Nevertheless, in countries with high birth rates such as China and India the loss of life by famine and death is quickly made up by the enormous birth rate. We have seen already that in spite of a high death rate in China the birth rate is equally high and the population increases with alarming rapidity.

Large quantities of food are required to feed these huge populations and it has been repeatedly shown by many authorities that many of the people of India and China die of under-nutrition.

Although the advances in preventive medicine have stamped out such scourges as typhoid fever which used to ravage European countries, we are still beset by the

dangers of warfare too terrible to contemplate. Such wasteful destruction of human life seems incompatable with the advancing knowledge and so-called culture of present-day civilization.

Another method which, as we have seen already, is common in many Eastern countries is infanticide. It is common knowledge that this pernicious practice is not unknown in this country although I know of no accurate statistics bearing on the problem.

These are the chief methods of family limitation that can be used after the birth of a child and only need mentioning to be condemned as utterly distasteful to any thinking person.

2. After Conception

Abortion is a growing menace to our national life and is a method of family limitation which must be practised after conception has occurred. If unwanted conception could be prevented abortion would be stamped out.

No matter how early it occurs, a new life—a potential human being—is destroyed. It is a subject of particular interest to the nursing profession because its occurrence is so common that all nurses must be conversant with its problems and dangers. In fact nurses must come across so much of it that I am surprised that they do not give more adequate expression to its condemnation. This may be due to the fact that it is a subject about which it has been more or less impossible to write or speak openly until quite recently and even now many people shun its consideration.

As a result of this short-sighted policy and the secrecy which still surrounds its practice, accurate information regarding the actual numbers of abortions is difficult to obtain. Nevertheless it is a canker gnawing at the very heart of maternity and so it behoves us to make ourselves acquainted with its problems and implications.

Its practice is not confined to any particular group of society but is to be found amongst all sections of the community. We must always bear in mind that it is no new problem, having been practised from time immemorial by

all the races of mankind. A study of the history of the greatest empire or the most primitive tribe will show the concern with which this practice was regarded and the different ways of dealing with it. Some countries encouraged it whilst others condemned it. Aristotle advised the practice of abortion before the child was viable if a woman had more than her allotted number of children. In France in spite of the fact that abortion is illegal, it has been estimated that there is one abortion to every live birth.[1]

The word " abortion " used to denote the expulsion of the ovum before the third month and " miscarriage " referred to the same condition occurring before the child was viable (28th week). Since many of these abortions occurring within the first three months were induced contrary to the law, the term came to mean the criminal interference with pregnancy. As a further advance however, and owing to the greater knowledge of the subject, the term is now generally applied to all cases of expulsion of the fœtus before the 28th week, and can be further sub-divided into spontaneous and induced abortion, whilst the " induction of premature labour " refers to the termination of pregnancy when the child is viable and before full term.

Spontaneous abortion covers such conditions as fevers and accidents when no interference has taken place, and induced abortion indicates that some interference has occurred, either by mechanical or other means. If an abortion is induced by recognized medical procedure it is termed a therapeutic abortion ; if by unauthorized persons by methods that are usually devoid of careful asepsis the term criminal abortion is used. Nevertheless it must be borne in mind that as the law stands at present all abortion is, strictly speaking, illegal, whether done under medical authority or not. The law relating to abortion in this country is set out in the Offences Against the Person Act, of 1861, which states :

Section 58. " Every woman, being with child, who with intent to procure her own miscarriage, shall *unlawfully* administer to herself any poison or other noxious thing, or shall unlawfully use any instrument or other means whatsoever, with like intent,

[1] Taussig, *Abortion*, 1936, p. 366.

and whosoever, with intent to procure the miscarriage of any woman, whether she be or be not with child, shall unlawfully administer to her or cause to be taken by her any poison or other noxious thing, or shall unlawfully use any instrument or other means whatsoever with the like intent, shall be guilty of felony, and being convicted thereof shall be liable, at the discretion of the Court, to be kept in penal servitude for life or for any term not less than three years, or to be imprisoned for any term not exceeding two years with or without hard labour, and with or without solitary confinement.

Section 59. Whosoever shall unlawfully supply or procure any poison or other noxious thing, or any instrument or thing whatsoever knowing that the same is intended to be unlawfully used or employed with intent to procure the miscarriage of any woman, whether she be or be not with child, shall be guilty of a misdemeanour, and being convicted thereof shall be liable, at the discretion of the Court, to be kept in penal servitude for the term of three years, or to be imprisoned for any term not exceeding two years, with or without hard labour."

It was pointed out in the *Lancet* in January 1927 that the interpretation of the law rests upon the meaning of the word "unlawfully" which "creates the implication that abortion may be lawful as well as unlawful." [1]

Lord Riddell expressed the opinion that "it is contrary to the law to procure or attempt to procure a miscarriage except with the object of saving a mother's life or avoiding serious injury to her health. The essence of the offence is a guilty intent. An honest effort to save the life or health of the mother is not illegal, although the practitioner may commit an error of judgment in performing an operation subsequently regarded by other practitioners as unnecessary. He will not be liable to conviction if he honestly believes that what he does is required to save the mother's life or health." [2]

We see from this that the important point is whether the operation was performed with a guilty intent. If it can be proved that the operation was done in the interests of the mother's health it is doubtful whether any jury would convict. Nevertheless the fact remains that abortion before

[1] B.M.A. Report on Abortion, 1936, Section 16.
[2] *Ibid.*

the 28th week is illegal and that the induction of labour after this period is legal. Thus we find a curious state of affairs. The law says one thing whereas medicine teaches another, because it is a well-known fact that the wisest time to perform an abortion is about the third month and the most unsuitable time is from the 28th to the 34th week. The induction of labour in the last weeks of pregnancy is of course a recognised and valuable medical procedure. It will be seen therefore that the medical profession is in a difficult position and doctors cannot be blamed if they refuse to perform the operation unless there are the clearest medical indications. Even so the doctor usually protects himself by calling in a colleague (not a partner) for a second opinion. Another result of this unsatisfactory state of affairs is that hospitals frequently refuse to admit such cases owing to the possible danger of legal complications.

The chief medical indications for the performance of this operation may be briefly summarized. They are well set out in the B.M.A. Report already referred to. Many of these indications are vague and could be clarified with benefit to all concerned. The Committee is at pains to make it clear that their recommendations are tentative and should form the basis of further discussion.

HEART DISEASE. Ninety per cent. of organic heart disease is due to rheumatism and tends to run a progressive course " frequently ending in death from congestive heart failure before the age of forty." The great majority of women with heart disease can go to term quite safely provided they have adequate care and attention, nevertheless where there are signs of early congestive heart failure (puffy feet and ankles, breathlessness and sleeplessness) the pregnancy should be terminated. The ultimate decision rests of course with the doctor, and the nurse has fulfilled her duty if she has brought the case to the notice of the doctor. She has a further duty however, and that is to see that when the pregnancy is terminated the patient is advised against the possibility of a further pregnancy which might do more damage to a heart already working to capacity. There are many other heart conditions such as mitral stenosis and

high blood pressure which are frequently indications for an abortion.

Other conditions such as pulmonary tuberculosis, previous albuminuria and other kidney diseases, certain blood conditions such as leukæmia and pernicious anæmia, many mental conditions and hereditary diseases, new growths, severe exophthalmic goitre and repeated dangerous labours, may be indications for abortion. Paragraph XIII of Section 53 of the B.M.A. Report reads as follows :

" Although the Committee has drawn attention to conditions in which the termination of pregnancy is indicated, it believes that in such cases the avoidance of pregnancy is the more rational plan and one to be encouraged as a procedure of double value in that it protects the woman against the risks to which pregnancy exposes her and at the same time eliminates the occasion for therapeutic abortion and the temptation to adopt unlawful methods."

This aspect of the question will be dealt with in more detail in Chapter VII.

The reader will note that such conditions as rape, multiparity, extreme poverty, pregnancy occurring in unmarried women, are not considered in themselves to be indications for the operation. This brings us to the question of illegal abortion.

ILLEGAL ABORTION. There is considerable evidence to show that not only is illegal abortion practised on a vast scale but that it is on the increase. Actual figures are difficult to obtain owing to the fact that countries do not demand the notification of abortion and also because of the secrecy surrounding the whole subject. Nevertheless many interesting facts have been discovered which will enable the reader to form an opinion on this matter.

The Report of the Departmental Committee on Maternal Mortality and Morbidity (1932) showed that nearly 50 per cent. of the maternal deaths are due to sepsis of which abortion accounts for 13·4 per cent. In 1930–32 sepsis was responsible for 72·5 per cent. of the abortion deaths. This can be accounted for by unskilled and dirty methods employed by the abortionist. We also know that the

percentage of deaths from this cause is higher in the towns than in the country. In 1930 the figure was 35·1 for London, 24·6 for county boroughs and 19 for rural districts.[1]

Taussig states that in America one in two and a half pregnancies ends in an abortion in the towns whereas in the country districts it is about one in five.

It is estimated that one in five pregnancies in this country ends in an abortion and in France, as I have stated already, the proportion is one to one.

Another interesting fact that has come to light recently, is that the majority of abortions occur in married women. This fact was repeatedly emphasized in the evidence submitted to the B.M.A. Committee.

The Children's Bureau in America found that 90 per cent. of abortions occur in married women. Taussig thinks that there are about 700,000 abortions a year in America and that a maximum of about 10,000 deaths a year are due to this cause.

The evidence from the birth control clinics shows that almost all women make some attempt to terminate pregnancies after the third or fourth. Out of 10,000 cases with 38,985 pregnancies (about four apiece) reported on by Dr. Marie Kopp in *Birth Control in Practice*, 5,010 women reported one or more abortions. Abortions in New York in 1932 accounted for 21 per cent. of maternal deaths[2] and the ratio in this country has risen from 1·9 per thousand in 1919–23 to 2·6 in 1924–28.

In Hamburg in 1929 the number of abortions equalled the confinements.

The causes of this increase are numerous and complicated, but amongst them are such conditions as unemployment, poor housing, insufficient food and lack of money. One can also trace a different outlook on the part of women with regard to their parental responsibilities. Consciously or unconsciously, they are beginning to realize that they cannot adequately manage numberless children who do not receive sufficient parental guidance and affection. The

[1] B.M.A. Report, Section 43.
[2] Bromley, *Birth Control To-day*.

advances in preventive medicine, our clinics, welfare centres and district visitors, together with various other social organizations are educating the public to a greater sense of responsibility. A higher standard of living and the knowledge that better housing conditions and more comfort are now coming within the reach of the majority of the population, must provide an additional incentive to parents to at least maintain their economic status. The greater knowledge of birth control methods whether good, bad, or indifferent, must also be considered, together with the widespread advertisement of so-called abortifacients and remedies for " female-ailments."

The state of mental depression and unhappiness that causes women to act in a manner so utterly in opposition to their true instincts is difficult to imagine. There is nothing to be said in favour of a practice which is so morally distasteful ; so wasteful of human life and so disastrous in its consequences to the health of the woman. That these consequences are by no means unimportant is borne out by many different observers who show that the practice of abortion, apart from setting up some degree of sepsis, frequently leads to a repetition of the occurrence owing to the unhealthy state of the uterus, and also to many other important complications such as sterility, minor degrees of ill-health, dangers of future infection in subsequent pregnancies and a host of other more or less troublesome conditions.

Even in Russia where until quite recently abortion was legalized and the death rate reduced to a very small percentage—some authorities putting it as low as ·02 per cent. —the authorities have come to realize that there are very real and important factors which militate against the practice of abortion. On May 26th, 1936, a new law was passed in Russia prohibiting abortion except for medical reasons connected with the health of the mother and making provision for imprisonment and fines for those carrying out the abortion (two years for medical practitioners, three for unqualified people). The Russian Government has always considered its abortion programme to be of a temporary

nature and the new law seems to be generally welcomed. If it is accompanied by a constructive campaign in favour of scientific contraception and child spacing, it will be to the good. If not I should imagine the step will be found to be retrograde and the death rate from abortions will rise in spite of the penalties.

That the abortion death rate is remarkably low at present in Russia is shown by the fact that " in a total of 175,000 operations performed in Moscow, there were nine deaths—that is one in 19,000." [1]

Although all these statistics are impressive and cause one to think, they cannot bring home to one the serious consequences anything like so clearly as can actual contact with individual cases. I doubt if there is a nurse in the country who has not come across a case of abortion, whilst most nurses actively engaged in the practice of their profession must see dozens of such cases, which are troublesome, dangerous, and a constant cause of anxiety. It is probable that many of the cases are self-induced although it is frequently difficult to obtain actual confirmation of this fact. However we can all recall cases where patients have told us how unhappy they are to find themselves again pregnant and have asked for help to bring about a termination of the condition. How often does our reply merely consist of a refusal ? How often do we try and indicate to the woman methods by which she can prevent the recurrence of the pregnancy ? In spite of all the accumulated evidence it must be obvious that the conclusions of the B.M.A. Committee are completely accurate when they state in Section 39 of the Report that " the statistics of deaths from criminal abortion give no true indication of the frequency of the practice, since it is certain that for every fatality there is a large number of women who escape with their lives." And further, " that the opinion universally held by the medical profession that interference with pregnancy for reasons other than medical is widely prevalent among all classes of society, must be accepted as truly indicative of the general situation."

[1] B.M.A. Report, Section 50.

And so because of, and in spite of, the law, the professional abortionist flourishes exceedingly.

Changes in the Law

We are driven to the conclusion therefore that some change in the law is necessary and indeed is long overdue. The form and degree of such change is a matter for considerable variation in opinion. A certain section of the public consider that as it is a woman's right to decide if and when she will have a child, she should have the deciding vote as to whether or not her pregnancy should be terminated. This point of view is admirably expressed by Miss Stella Brown.[1]

Alex Craig, who is another writer amongst this school of thought, points out with some truth that "the law, as it stands, is a class law, ineffective against the rich and effective only in driving the poor into the hands of dirty and incompetent practitioners."[2] And again, "we all pay in the long run; the rich with their purses, the poor with their lives."

There are certain practical objections to the idea that the woman should have the final decision in this matter, the chief of which are that not only is a woman frequently in such a deranged state of mind that she is unable to form a clear judgment and will frequently be thankful for the birth of a child which she would have given anything to be rid of in the early months of pregnancy, but more important still, the consensus of medical opinion is dead against such a procedure although possibly in agreement that some change is necessary. The support of the medical profession is essential if any change is to work satisfactorily because the doctors are the people who have to take the final responsibility and perform the operation. Another objection to this procedure is that contraceptives being by no means absolutely infallible and a certain section of the public being too lazy and unintelligent to exercise the control and forethought necessary for the successful carrying out of our present methods, this type of woman would be more

[1] *Abortion* by Stella Brown, Ludovici and H. Roberts.
[2] *Sex and Revolution*.

willing to have an abortion than practise contraception. This condition of affairs has already been noted in Russia. No, the solution of the problem does not lie in this direction.

The other alternative is one which commends itself more forcibly to the medical profession and can best be explained by again quoting from the B.M.A. Report. The Committee strongly recommends not only the clarification of the legal position so that specific authority can be given for terminating pregnancy under certain conditions, but also " the institution of some system of authorization of abortion in the individual case " (Section 53). This object might be attained by insisting " that abortion should be carried out only after the approval of two practitioners has been obtained." To remove any question of collusion it might with advantage be required that one of the approving doctors should have some recognized status on the analogy of the " approval " given by the Board of Control under the Mental Treatment Act 1930 " (Section 21).

This idea is elaborated by the authors of *Sex Ethics*, who suggest that a certificate similar to that issued for cremation, having on the reverse side a list of the indications, might be signed by the two doctors.

There are many cases where unmarried mothers would, in my opinion, benefit by the operation. In such cases, however, it should be clearly understood that some sex instruction should be provided afterwards.

Personally I am strongly of opinion that rape should be considered as one of the indications for abortion although I do not find that the B.M.A. Committee have definitely included it as one of the indications.

It must always be remembered that making abortion easier is quite different from making it so easy that anyone can obtain it for the asking.

Danger of Abortion

It is hardly necessary to point out here the numerous dangers of abortion. Mention may be made however of a few outstanding conditions of which sepsis is the chief. Severe hæmorrhage is not uncommon and sudden death

from shock or rupture of the uterus is comparatively frequent. People are occasionally poisoned by drugs or the vagina is injured by douches which are too strong or powerful. Generalised peritonitis and local septic conditions are common as are general disability and invalidism.

Voluntary Parenthood or Abortion

Finally, we must consider whether there are any further constructive methods which may be adopted to combat this evil. The main point to bear in mind is the preventive aspect of the situation. The woman's health is of paramount importance not only to herself but to her husband, her children and the State.

I have already mentioned the influence that knowledge of birth control has had on woman's outlook, and we must explore this position a little further. The main factor underlying woman's changing outlook to maternity is the fact that voluntary parenthood is now a practical proposition. We shall discover as we read further that there are many methods of attaining this end, but we must remember that long before the time of Christ women have desired to limit their children without destroying their fertility. Some of the methods which we shall be considering date back to these remote times. For the most part they were unsatisfactory and unreliable. Abortion itself was one of these methods. It is only within recent years that methods have been perfected by medical science which make the practice of voluntary parenthood a practical proposition. Indeed it is doubtful whether we can say that we have as yet discovered a " perfect " method. However, as we shall see later, we have discovered a practical method which provides a high margin of safety.

Some of my readers may immediately feel that they have definite objections to these " methods " but that is not the point I am concentrating on at the moment. Not only are there other methods which may be acceptable to them, but there is little doubt that we shall discover even more satisfactory methods. The point that I wish to make here is *that the principle of voluntary parenthood is a good principle.*

The methods can be left for later consideration. Voluntary parenthood means that children should only be conceived when they are desired. The prevention of conception is an entirely different thing from the destruction of new life, even if it has only been in existence a month or two. The chief weapons with which we can combat the evil of abortion are therefore two :

The first is voluntary parenthood and the correct spacing of children, brought about by the constructive use of some form of birth control. To make this effective we need the second weapon, namely, an enlightened policy of sex education embracing those who are already married and those who are preparing for marriage.

Some of my readers may think that the control of conception will mean the cessation of conception, but there is no evidence to support such a contention, which, after all is said and done, is quite contrary to the natural instincts of woman. Women do not desire to have no children, but merely to space their children, and there is now abundant evidence to prove that those women who space their children properly have better and healthier babies, who are not so liable to die in infancy, than those who do not space their children. I have already discussed this matter in Chapter I.

And so we see that although the indiscriminate and haphazard use of contraceptives of doubtful value may be contributing to some extent to the increase in abortion, the correct practice of family limitation, by methods which will be indicated later on, is the chief weapon at our disposal in our warfare on this demoralizing practice. When we consider this question more closely, we shall find that the medical indications for the practice of contraception are clear and definite, and what is more, the legal position is far more satisfactory and precise than in the case of abortion.

To those who are still doubtful as to the validity of my argument I would say this. What other alternative is there ? If you do not encourage voluntary parenthood how are you going to deal with the abortion question ? The problem is a large one but its solution must surely lie in a

constructive policy of education based upon a re-interpretation of the value and meaning of sex in the lives of the individual.

It is obvious that the birth rate must be stabilized, but this can only be effected by a constructive programme of education.

Such a policy must indicate the value of parenthood to the State ; encourage healthy families of from three to five correctly spaced children, use contraceptives in a constructive manner, change our abortion laws and discourage wasteful births from unsuitable stock. Our policy must be based on a background of scientific knowledge rather than popular emotion. In this work the nurse must necessarily play an important part.

And so we end this subject where we began. If unwanted pregnancies could be prevented abortion would be stamped out.

3. Before Conception

We now come to the third of our arbitrary headings, and here we shall be dealing with a new principle. Wars, infanticide and abortion are concerned with the destruction of life but the same is not true of the methods used before conception occurs. The avoidance of unwanted pregnancy is a far greater advance towards social betterment than is such wastage of human life as we have been considering up to now. Three methods demand our attention :

1. Coitus Interruptus.
2. The Safe Period.
3. Appliances and Chemicals.

Coitus Interruptus. This method seems to be the most popular form of attempting to prevent conception and demands careful consideration. Briefly, it consists in the withdrawal of the penis from the vagina before ejaculation has occurred, the idea being that sex union can be satisfactorily performed in this manner whilst conception is avoided. It requires no apparatus, no chemicals, no preparation and no forethought. Neither is any expense involved. It is a method that has been practised for

centuries and, as we have seen, was used by the Persian and other civilizations. It is mentioned in the Bible where it is referred to as the Sin of Onan. As a matter of fact this is not strictly correct, because Onan's sin consisted in refusing to carry out an order to impregnate the wife of his brother who had died. It was quite a usual custom for men to marry their brother's wives if the former died, so that the practice was perfectly legitimate and was indeed considered as a duty. Onan's sin consisted in refusing to carry out the duty.

The method is largely employed amongst the poorer sections of the community and is known to them as " being careful ". In fact it is so universally practised by them that the women do not realize that it is a method of family limitation. If one asks such a woman if she is practising any form of birth control she will almost invariably say " no," although she will admit that the method is only used in an endeavour to prevent conception when this is pointed out to her. Indeed many women are so ignorant of elementary physiology that they do not realize how it is that they become pregnant. Men, too, show the same lack of understanding, and I have frequently come across cases in which the man denied the paternity of a child and even suggested that the woman had had relationships with someone else. So common is this idea amongst men that they will often tell girls to whom they are not married that coitus is perfectly safe because they will be " careful " and so pregnancy cannot follow. It is possible that many who read this book will be in equal ignorance of the real reason why coitus interruptus fails to prevent the occurrence of a pregnancy so it may be as well to explain the normal mechanism quite shortly.

The act of coitus consists in the introduction of the erect penis into the vagina. Erection is caused by a nervous mechanism which stimulates some vessels in the penis to dilate and others to contract. As a result the penis fills with blood and becomes stiff or erect. The introduction of the penis into the vagina (intromission) causes, or should cause, pleasurable sensations both to the man and the woman,

because the tip of the penis is plentifully supplied with sensory nerve endings which, on being stimulated, convey these pleasurable sensations to the brain. There is a similar organ in the woman, known as the clitoris (*vide* Fig. I.) which is about an inch long and is situated above the opening of the urethra just between the join of the inner folds of skin (labia) which protect the opening of the vagina. This organ has the same power of erection and sense appreciation as the penis, only in a lesser degree.

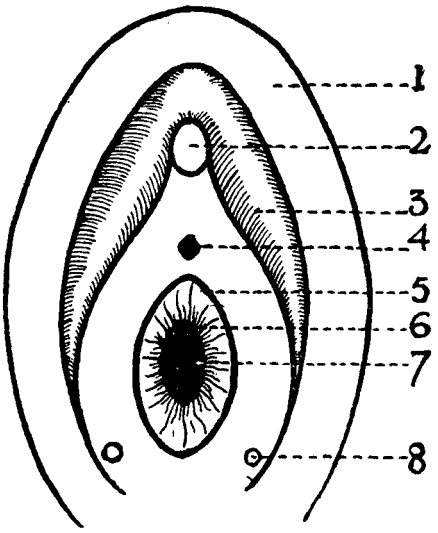

FIG. I.
THE FEMALE SEX ORGANS: SENSATION-PROVIDING PARTS

1. Large lips
2. Clitoris
3. Small lips
4. Tube from bladder
5. Edge of vaginal opening
6. Inner edge of hymen
7. Cavity of vagina
8. Bartholin's gland.

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When the penis is introduced into the vagina it usually touches the clitoris and therefore stimulates it. In addition to the sensations derived from the clitoris, further similar sensations are conveyed to the brain by the vagina when it is also stimulated by the movements of the penis. These movements further increase the sensations both in the man

and the woman until finally the woman experiences a further and stronger sensation deep inside the body which is known as the orgasm. At the moment this occurs in the woman, the man has a quickening of sensation which culminates in several rapid and spasmodic movements of the penis, ending in the discharge (ejaculation) of a certain amount of fluid known as the seminal fluid. These final sensations last for a few moments and are followed by a feeling of satisfaction and contentment. The penis immediately begins to return to its normal size and flaccid state owing to the blood returning into the general circulation. This is a brief description of the normal act of coitus as a result of which the woman may become pregnant, because the seminal fluid which has been deposited in the vagina and round the opening of the womb or cervix contains several million sperm or male seeds. These sperm which are microscopic in size and whose origin is discussed on p. 62, have the power of movement and are thus able to travel through the cervix, up the uterus and into the fallopian tube which connects the uterus with the ovary. If the tube contains an egg (ovum) which has been shed by the ovary the sperm can unite with the egg (fertilization), thus creating a new life. The fertilized egg now travels down the tube and embeds itself in the lining of the uterus which is prepared to receive it. Here it grows and develops for nine months until the baby is ready to be born. Once an egg has been fertilized in this manner no other sperms can enter the egg and so they die off.

Now the practice of coitus interruptus means that the penis is introduced into the vagina in the normal manner but is completely withdrawn before ejaculation occurs, the idea being to provide the partners with the pleasurable sensations that accompany coitus, without the chance of the sperm being deposited in the vagina, thus leading to pregnancy. How then is it that this practice fails to prevent conception ? The seminal fluid is made up of sperms and a considerable amount of fluid which is derived from the prostate gland at the base of the bladder, numerous other glands in the tube (vas) coming from the testicle (where the

sperms are made) and some glands in the tube (urethra) which passes through the penis. When erection occurs the seminal fluid is prevented from passing down the urethra by muscular control but it frequently happens that a drop or two of fluid may leak down the urethra in spite of this control and appears at the opening of the urethra in the tip of the penis.

This drop may obviously contain several thousand sperm and if it is deposited anywhere inside the vagina during coitus the sperm are obviously deposited with it, and as one sperm is sufficient to fertilize an egg the damage may have been done in spite of the fact that the man withdraws the penis most carefully and has no ejaculation inside the woman's body. Indeed a pregnancy can occur even although the penis is never introduced into the vagina but only touches the entrance or the labia protecting the entrance. In such a case a drop of seminal fluid may be deposited outside or near the entrance of the vagina but, on account of their ability to move, the sperms may find their way into the vagina and so to the fallopian tube. We are now able to understand how it is that conception can occur in these cases and why it is that the method of coitus interruptus may fail.

The purpose of the fluid which comes from the prostatic and other glands is to add bulk to the seminal fluid and to nourish and protect the sperms which are very delicate organisms and cannot live in an acid medium. The seminal fluid, therefore, is alkaline and this further serves to protect the sperms in the vagina whose secretions are slightly acid. There are two other important objections to the practice of coitus interruptus. Its practice frequently prevents the woman from achieving an orgasm and its prolonged use frequently causes a congestion of the pelvic organs. This is brought about in the following manner. The sex act can be likened to the charging of two poles with electricity. The charging goes on and on so that the tension is gradually increased and eventually becomes so great that a spark occurs between the two poles which are immediately relieved of tension. The sex act causes the same condition

of affairs. Sex stimulation and excitement causes the pelvic organs to fill with blood and become engorged. This creates a tension which is normally released by the orgasm. If the penis is withdrawn before the orgasm can occur the woman is left in a state of tension which does not subside for some considerable time. The constant engorgement of the pelvic organs without complete relief by orgasm, if continued for a long time, sets up a condition of permanent congestion which shows itself in backache, leucorrhœa and other pelvic symptoms. Finally the lack of orgasm and the consequent tension causes a feeling of dissatisfaction in the woman which may show itself in nervousness, sleeplessness and irritability. The same effect is frequently noticed in men owing to the strain of endeavouring to withdraw at the appropriate moment and the lack of *complete* satisfaction, for although ejaculation does occur outside the body it does not possess the same spontaneity as when it occurs normally. Thus we find that coitus interruptus :—

(*a*) Does not prevent conception.
(*b*) Prevents the woman from achieving an orgasm.
(*c*) Causes pelvic engorgement.
(*d*) Causes nervous symptoms in both partners.

Unfortunately it is practised widely amongst all sections of the community.

If anyone doubts the accuracy of this statement I should advise them to question their friends and patients. They will soon find that it is exceptional to discover those who have not, or are not practising the method.

A further effect of coitus interruptus is that it seems to encourage hasty ejaculation and one constantly finds patients who state that their husbands are very quick in their reactions—the usual length of coitus being about three minutes. Besides, women do not really place much reliance in the method and are therefore constantly worried and bothered by the fear that their periods will not come to time and that they may be pregnant.

In my opinion, coitus interruptus accounts for half the misery and unhappiness in marriage and has done more

than anything else to debase the sex act and make it a subject for laughter and derision. Women who enter into marriage with high hopes and ideals are frequently bitterly disappointed and rapidly become cynical and disillusioned.

The purpose of marriage is not only to produce children, but to enable two people who are in love with each other to live together harmoniously. To bring this about, the mental, spiritual and physical sides of their natures must be satisfied and adjusted. It is only by such mutual adjustment that happiness and contentment will be realized. The sex urge is a natural and fundamental urge in all of us and must be properly satisfied. If, then, there are other purposes of sex besides reproduction it is essential that these are satisfied. The constant inability to satisfy the physical, which is a direct outcome of the practice of coitus interruptus, merely means that the individuals concerned will be always trying to achieve this satisfaction. Thus coitus is frequently practised far too often and a vicious circle is created—desire, coitus, dissatisfaction, more coitus.

A completely satisfactory sex experience brings about a sensation of well-being and contentment without any desire for further coitus until the normal cycle of events brings about a normal renewal of desire. This should occur at intervals varying from a week to a fortnight. The practice of coitus interruptus frequently leads people to have coitus nightly or every other night. A correction of method and the use of suitable contraception prevents this, and adds greatly to the mental and physical well-being of the couple. A woman who is constantly fearful of becoming pregnant cannot be expected to enter into the sex relationship with any particular zest.

I hope I have said sufficient to illustrate the unsatisfactory nature of this practice because nurses can do a great deal to combat this evil by pointing out the dangers and disadvantages. Whilst it is frequently impossible to persuade couples to change their methods when they have been married for years it is certainly possible to educate the younger generation who are more ready and willing to understand

these matters and who appreciate the importance of achieving a happy and balanced sex life.

The man who practises coitus interruptus is like the man who never gives his stomach sufficient food, as a consequence of which he is always thinking about food and hankering after it. If he gets a square meal which satisfies him he is contented and does not think about it any more until the normal desire returns. The same applies to the sex act. Coitus interruptus therefore is a bad method of family limitation and is not advised by any doctor or clinic that teaches birth control.

It is only fair to add that there is a very small minority of people, usually practised lovers, who do seem to be perfectly happy with this method, but the number is very small and one usually finds that even they admit that the normal method is the best.

COITUS RESERVATUS. This method is a variation of the former. Coitus takes place but ejaculation never occurs. It is difficult to accomplish and has similar objections to coitus interruptus. It is bad for the man who, in his turn, has no ejaculation, no relief of tension, and therefore suffers from the same type of engorgement which ultimately causes unhealthy changes in the prostate gland.

THE SAFE PERIOD. There is some evidence to show that there may be certain days in the woman's monthly cycle when she is less likely to become pregnant. This depends upon the date of the release of the egg from the ovary (ovulation) which is thought to occur on or about the fifteenth day counting from the first day of the period. It is thought that the egg can only live for a few days at the most after it is released and the sperm also has a limited life in the female tract. Some authorities, notably two physiologists named Ognino and Knaus, have evolved the theory that if one can estimate these fertile days accurately, the other days must be infertile, during which a woman cannot become pregnant. They have prepared elaborate tables to enable women to find out their own " safe period," but it takes several months of careful record keeping on the part of each individual woman to enable her to determine

her own infertile days with accuracy. Another difficulty is that it is known that woman's desire for coitus comes in waves or cycles and that the time of desire usually occurs when she is most likely to become pregnant. In other words, if a woman confines coitus to the " safe " days she usually has the least desire. This is undoubtedly bad for her. Quite apart from all this, however, there is much evidence to prove that woman can become pregnant at *any* time during her monthly cycle and this makes the method most unreliable to say the least of it. As a practical method of birth control, the " safe period " has the same disadvantage as any other, namely that those women who find the ordinary methods of contraception troublesome and too much bother, are hardly likely to take the trouble to make the calculations necessary to determine their own " safe period ". The advocates of this theory seem to vary considerably in what they consider to be " safe " days. Some say that eight to ten days before a period is due and about fourteen days after are " safe " whereas others say that only two or three days before the period are actually safe. Unfortunately this method now has the approval of a section of religious opinion which does not approve of any mechanical or chemical barrier and so there is quite an extensive campaign in certain quarters to popularize the method. Much could be written on this subject, indeed whole books are devoted to it, which the reader is advised to consult if she wants further information. At present, however, it must be realized that this method is not sufficiently certain to be recommended and, if practised, people must not be disappointed to find that it fails. One or two books dealing with this subject are mentioned in the bibliography at the end of this book, *but the method should not be relied on.*

CHAPTER III

CONTROLLED CONCEPTION

WE now come to a consideration of the so-called mechanical methods. These consist of chemicals or appliances which are used to prevent the sperm from reaching the ovum. Briefly, the method necessitates the provision of a barrier between the sperm and the cervix so as to block off the entrance to the womb. Many methods have been devised to bring this about and, as we have already seen, some of them date back to antiquity. For our purpose, however, we need consider only one or two which are known to be efficacious and to provide a high percentage of safety, roughly 95 per cent.

The first method is one that is used by the man and has been made possible by the striking advances that have been made in the manufacture of rubber. The principle is that the penis is covered by a protective sheath of rubber which may be either washable, when it is known as a sheath, or of thinner rubber, when it is called a condom and is intended to be used once only. These articles are made in great variety and vary enormously in price, which unfortunately bears no relationship to reliability. The only satisfactory condom is one which is dated and made under certain carefully thought-out conditions. Of all the articles on the market those made by Messrs. Prentif Ltd., Long's Court, St. Martin St., W.C.2, and sold at the reasonable price of 1/6 for three, come nearest to the required standards. Even so a condom is liable to burst and only provides about 75 per cent. security if used by itself. Combined with a chemical soluble (used by the woman) this safety margin is raised to nearly 100 per cent. The chief objection to this method is that the onus of purchasing the condom usually rests with the man who is not a very reliable

person—and so, if there is no condom handy, coitus interruptus is usually resorted to. There are other objections to the method such as the disinclination of men to persevere with the method of which they soon tire, and also because the woman frequently notices a great diminution in sensation. Added to all this, these articles are liable to perish unless kept carefully. This last objection applies with added force to the washable sheath which many people use for long periods. Minute holes are liable to develop in these sheaths, which immediately lose their value. Although often guaranteed for several months or years, it must be remembered that rubber perishes very easily and I doubt if any sheath is reliable for more than about three months. Besides this objection, the thickness of the rubber blunts sensation to such a degree that many couples find them utterly useless. One could write much more about this method but sufficient has been said to indicate the main objections.

The estimated output of condoms in America alone is 317,000,000 a year. So far as "illegal" relationships are concerned the condom is probably the chief contraceptive used. Its main value is that it is a fairly safe preventive against venereal disease. Unfortunately condoms burst far more frequently than is generally supposed.

BARRIERS. Strictly speaking, a sheath is a barrier, but I am applying the term to those devices used by the woman only. During the past fifteen or twenty years a large variety of contrivances have been invented for this purpose. Some of these, such as the Gräfenberg ring have been placed inside the uterus, others have been devised to enable the cervical canal to be kept permanently open. Some again have been made to fit on to or over the cervix, and still others have been devised to block off the cervix from the lower part of the vagina. Now of all these varieties we need only concern ourselves with a very few. All intra-uterine or intra-cervical appliances and all those metal caps which have been designed to fit or grip the cervix are unsatisfactory. Thus we are left with several varieties of what are known as rubber pessaries. These are of three different types, each of which is designed to meet a particular case.

THE DIAPHRAGM PESSARY. This pessary is made in about twenty different sizes and is so designed that it will fit from the posterior fornix to the small ledge above the pubic bone.

The commonest type of diaphragm in this country is known as the Dutch Cap and is composed of a piece of carefully selected rubber in which is enclosed at the base a small watch spring. The spring being rounded causes the rubber to form a dome shape. There are several different makes of diaphragm pessary but their action is the same, the idea being to completely block off the cervix from the lower part of the vagina.

CERVICAL OR OCCLUSIVE PESSARY. The diaphragm cap cannot be used when the vaginal muscles are lax or torn, in which case it is usually possible to use a different form of cap known as the cervical or occlusive pessary. This is also made of rubber with a rolled rubber base, and has no watch spring in it. It is made in about four sizes and fits over the cervix. It is retained in position by suction. It cannot be used if the cervix is abnormally short, thickened, or torn, nor is it possible for the patient to learn to fit the cap easily if the cervix is particularly long, and pointing either directly backwards or forwards. In these latter cases a diaphragm pessary is usually the most suitable.

THE DUMAS PESSARY. For the former cases, where it is obviously inadvisable or impossible to fit a cervical pessary, and the diaphragm cap is also contra-indicated, another form of pessary has been devised, namely the Dumas pessary. This is made of thicker rubber, is in three sizes and has a broader base, so that it can enclose a large area and is very suitable for short stumpy cervices and lax vaginal walls.

These three different types of pessary are the only really suitable and satisfactory appliances that we have. They are safe, cheap, and durable, often lasting for one or two years, and their application is easy to learn.

However, they should never be used by themselves but always in conjunction with some chemical contraceptive which we will consider in a moment. They should only be fitted by physicians who understand their correct application,

or occasionally by nurses who have been specially trained and are working under the direction of a doctor.

CHEMICALS. It is an unfortunate fact that the market has been flooded with an enormous variety of chemical solubles. It has been estimated by Voge [1] that there are at least 500 of these articles on the market and the majority of them are totally unreliable. For the most part they contain quinine which we now know to be an unsatisfactory chemical.

The quinine or other chemical is contained in a small soluble which is usually composed of gelatine or cocoa butter designed to melt at body temperature. Besides these solubles many other devices have been invented to carry the chemical, such as jellies, ointments, foaming tablets and foaming jellies. With the possible exception of one or two foaming jellies it must be definitely realized that all these solubles, jellies and tablets are unsatisfactory and if used by themselves are liable to fail in a high percentage of cases.

If a soluble is to be used it must be used in conjunction with a vaginal pessary and it must not contain quinine. The main objections to quinine are:

1. That in a certain proportion of cases it causes considerable irritation.

2. It may be absorbed into the general circulation and cause unpleasant symptoms such as headache and other toxic manifestations.

3. It is a poor spermicide or sperm killer.

For these reasons its use is definitely contra-indicated except in certain special cases which need not concern us here.

As we shall see later on, considerable research work has been done with regard to contraceptives within the last few years, work which really should have been done many years ago before the manufacturers had time to flood the market with their unsatisfactory products. There are other chemicals which are far more satisfactory than quinine One of these is known as hexyl-resorcinol and is included in

[1] *The Chemistry and Physics of Contraceptives.*

some solubles and ointments, and in one of the foaming jellies. This foaming jelly, however, although useful in certain cases, should only be prescribed by a physician as indications for its use are very limited. Messrs. Gilmont Products Ltd., Tileyard Road, York Road, London, N.7 manufacture most of these articles and I believe that Messrs. Prentif have a similar soluble. All of them answer to certain tests laid down as a result of the most recent research work. As they must all be used in conjunction with a cap it is obvious that they should only be prescribed under medical advice if the patient wishes to obtain the maximum security.

Sponges

These can be made of rubber or wool enclosed in a fine net. They are soaked in some chemical or smeared with an ointment and introduced into the vagina. Although subject to certain disadvantages they are useful if the patient lives in outlying districts.[1]

The reader may wonder why I constantly state that it is necessary for these appliances to be fitted by a physician, but a moment's thought will surely show that it must be quite impossible for the average woman to know what type of pessary is suitable for her particular needs, and as I have already stated, the solubles if used by themselves are very unreliable.

It is an unfortunate fact that many people consider that birth control means, or implies, the indiscriminate use of these appliances and chemicals, which can be bought in most chemists shops and from less savoury places. It is true that up to a few years ago there was considerable justification for such an opinion, but during the last few years many changes have taken place in the attitude of the medical profession towards this subject and the whole outlook is now completely changed. This state of affairs has been brought about by the formation of various societies whose purpose has been to provide reliable information for the very poor. As most people are aware, the first

[1] *Birth Control* by Dr. Helena Wright.

clinic that was definitely started for this purpose was founded by Marie Stopes in 1921. Her clinic, known as The Constructive Birth Control Clinic is at 110 Whitfield Street. This was quickly followed by another clinic now known as the Walworth Women's Welfare Centre, founded by the Society for the Provision of Birth Control Clinics.

In 1930 the National Birth Control Association was formed with offices at 26 Eccleston Street, London. Most of the other clinics in existence affiliated to this association as did the Birth Control Investigation Committee which was a scientific committee whose purpose was to investigate and research into contraceptive methods. The chairman of this committee is Sir Humphrey Rolleston, whilst Lord Horder is President of the National Birth Control Association, Lady Denman being the Chairman of the Executive Committee.

The main activity of the N.B.C.A., apart from establishing voluntary clinics, has been to rouse public interest as to the necessity for the provision of properly regulated clinics and to stimulate the Ministry of Health to allow local authorities to set up municipal clinics.

Contraception and the Ministry of Health

The present position with regard to the provision of birth control clinics throughout the country can be summarized as follows :

In 1930 the Ministry of Health issued Memorandum 153/MCW giving permission to public health authorities to provide facilities for giving advice on contraceptive methods to women who were suffering from certain medical diseases, if it was thought that " further pregnancy would be detrimental to health." In July 1931 Circular 1208 was issued by the Ministry, and was intended to clear up certain misconceptions that had arisen with regard to the first Memorandum. In May 1934, the Ministry issued a further circular, No. 1408, which added other types of disability to the list and left it to the " professional judgment of the registered medical practitioner in charge of the clinic " to decide " what is, or what is not, medically detrimental to

health ". These memoranda are given in full in the Appendix at the end of this book, and should be studied in detail by those interested.

In practice, Local Authorities may provide birth control advice for married women for whom further pregnancy would be detrimental to health in any of the following ways :

1. By establishing special clinics or special sessions in connection with Maternity and Child Welfare Work.

2. By establishing gynæcological clinics.

3. By referring patients to voluntary birth control clinics or private practitioners. An agreed fee and the cost of appliances, or a block grant, is usually paid by the Local Authority.

In addition, a combination of official and voluntary effort has occurred in fourteen places where the premises of a Maternity and Child Welfare Centre have been lent or hired to a branch of the National Birth Control Association for use as a voluntary clinic.

About 174 Local Authorities have now taken some action —sixty-eight have established special clinics or special sessions at a Maternity and Child Welfare Centre, and twenty of these run gynæcological clinics. There remain 250 Maternity and Child Welfare Authorities in England and Wales which have taken no action of any sort.

Gynæcological Clinics

Every social worker must be aware of the immense amount of ill-health which exists throughout the poorer section of the population, owing to the minor disabilities which the average working woman seems to endure with a kind of hopeless indifference. Many nurses seem to be unwilling to take the necessary trouble to persuade their patients to visit post-natal clinics, or, if there is no such clinic available, to visit the doctor with a view to obtaining some advice about these matters.

Some people seem to think that it is quite possible for women to receive adequate contraceptive advice during a session devoted to ante-natal work, but this is not the case.

It is not possible to teach contraceptive methods at the same time as one is dealing with either post-natal or ante-natal cases. There are usually many patients to be seen in a limited space of time, and it is impossible to deal adequately with such divergent cases. There should be ante-natal clinics, post-natal clinics, and birth control clinics. Or, as Sir George Newman suggests in the Annual Report of the Chief Medical Officer of the Ministry of Health for the year 1933, the best methods of treating these conditions may lie in the establishment of " gynæcological clinics ".

" Such an institution under adequate and skilled supervision could receive minor gynæcological cases, deal with some forms of post-natal after-care, accept responsibility for counselling mothers of sub-normal physique or mentality, give advice on the practice of contraceptive methods when needed medically, and act as a clearing house for appropriate treatment of one sort or another by hospital or medical practitioner."

He points out that such a centre need not be " elaborately or expensively equipped, as the necessary apparatus, furnishing and outfit are of the simplest character ". The establishment of such a clinic should, in my opinion, be the aim of all public authorities.

Those who desire more information regarding gynæcological clinics should read Mrs. Evelyn Fuller's little book *On the Management of a Birth Control Centre* (Noel Douglas, 1*s.* 6*d.*) or apply to the National Birth Control Association for information as to cost, equipment and premises, etc.

As a further advance on this work, the N.B.C.A. appointed in 1936 a medical sub-committee consisting for the most part of practitioners actively engaged in the teaching of contraception. This committee, working in conjunction with the B.C.I.C.,[1] has endeavoured to draw up certain standards of manufacture and sale, both for appliances and solubles. It is largely owing to the work of these two committees that quinine has been found to be an unsuitable contraceptive and its use has been discontinued in

[1] Birth Control Investigation Committee.

the clinics, which now teach a more or less uniform technique.

It may be of interest to see for a moment what happens to a patient when she visits such a clinic. On first coming to the clinic she is interviewed by a lay worker who takes down certain particulars about age, past pregnancies and medical history. She is then seen by a doctor who examines her and, provided no local trouble is discovered, fits her with a suitable pessary. A nurse then instructs her in the use of this pessary and she is usually sent away for a week to practise placing it in position, and to familiarize herself with its use. On no account is coitus permitted to take place during this week. On her return visit she places the pessary in position and is again examined by the doctor to insure that she has fitted it properly, after which she is instructed how to use the ointment and soluble. In some clinics it is considered sufficient if a certain amount of ointment is placed above the cap in such a way that when the cap is in position the ointment surrounds the mouth of the cervix. In others an additional precaution is advised, namely the introduction of a soluble below the cap immediately prior to coitus.

Roughly speaking the patient is told to introduce the pessary any time between two hours and five minutes before coitus and not to take it out until ten hours after coitus has taken place *i.e.*, the following morning. It is then washed, dried, powdered, and put away until again required. Most patients can pick up this technique very quickly and having once learnt it can apply the pessary in a minute or two. A well-fitting pessary is unnoticed by either partner. Douching is unnecessary although it may be carried out for reasons of cleanliness should the patient so desire.

It is interesting to note that in America the pessary is usually used in conjunction with a jelly containing lactic acid and no soluble is employed. In this country, however, it is considered that a higher degree of security is obtained by the use of a chemical such as hexyl-resorcinol in the manner I have just described.

It is obvious that the successful use of the method depends

upon the woman always carrying out her instructions. A single lapse frequently ends in a pregnancy and it is an unfortunate fact that many patients cannot be bothered to practise the method consistently. It is probable that about 25 per cent. of women coming to clinics fail to carry out the method as directed. Many of these therefore become pregnant as a result of which they appreciate the value of the method and are more particular in future. There are some women, however, who are either too stupid or too lazy to take the necessary care and forethought which is required of them. This should not detract from the value of the method for those who are sensible enough to use it. Carefully used and consistently carried out, the method will provide 95 to 98 per cent. security, which is far greater than that provided by any haphazard method or by the practice of coitus interruptus. Numerous statistics have been produced to prove this, and those who are interested should consult some of the books dealing with this aspect of the question such as *Birth Control in Practice* by Dr. Marie Kopp.

As regards the value of the different pessaries, most clinics employ the diaphragm pessary in about 75 per cent. of cases, the cervical cap in about 20 per cent., and the Dumas in about 5 per cent.

It must be obvious that this type of work is of inestimable benefit to the women concerned. A visit to the clinic will not only provide them with a really safe and harmless contraceptive method, but the examination which they receive will frequently bring to light many minor ailments, which, if treated early, are easily removed but, if allowed to continue, are often the cause of much ill-health and debility.

An extraordinarily high percentage of women are found to be suffering from such minor ailments as leucorrhœa, polypi, cervical erosions, prolapse, etc., the cure of which will greatly benefit their health. It is highly undesirable to fit any pessary in the presence of a bad leucorrhœa. Many clinic workers have found that the use of suitable methods and chemicals which enable the woman to achieve proper sex satisfaction brings about an improvement in the condition

of the vagina and cervix. The re-examination which periodically occurs usually demonstrates this improved condition. The result of all this is that the woman is provided with a satisfactory contraceptive with a high margin of security. Coitus can take place normally, as a result of which the patient usually experiences normal satisfaction and is not constantly worried by the fear of an unwanted pregnancy. Her husband is much more satisfied and she herself feels better, and what is more, looks much better. When she wishes to have a further pregnancy she discontinues the use of her method and a pregnancy usually follows in a very short while.

One of the objections frequently raised to contraception is that it leads to sterility, but if contraceptives are used in the way I have indicated there is not a scrap of evidence to show that this is so, in fact the evidence is in the other direction, and it has been shown by Dr. Kopp that those women practising contraceptive methods have more live children than those who rely on less satisfactory methods. It is these unsatisfactory methods which so often lead to repeated pregnancies, miscarriage or premature birth. It must be obvious to any unprejudiced reader that the method here described is far superior to any of the other methods that we have been considering.

The duties and responsibilities of the nurse in regard to the clinics and the relationship between the nurse, patient, and clinic, will be considered in a later chapter. The method here described is the only method which prevents the possibility of conception occurring and is therefore infinitely superior to that of abortion, to which it is diametrically opposed. It is constructive in outlook, is of benefit to the woman, and is also of benefit to the child because it enables births to be suitably spaced, thereby ensuring that the woman has time to look after the children she already has.

A more widespread knowledge of contraception will go far to assist in the reduction of maternal mortality and should greatly reduce the incidence of puerperal sepsis.

Abstention

There are still many people in the country who consider that the use of any appliance or chemical contains an element of impurity and is in some way disgusting. Such people would not agree with the use of the methods which I have described, rather would they consider it advisable for women who do not wish to have children to exercise what they are pleased to call " self-control," in other words they say that the only possible way of preventing children is to practise abstention. Now abstention cannot be considered as a method of birth control because birth control presupposes that the partners are indulging in the act of coitus. If they are not they are omitting one of the recognized purposes of marriage. Those who advocate abstention are really saying that coitus should not take place unless a pregnancy is desired.

Now any nurse knows that pregnancy may occur as a result of a single act of coitus, and so if abstention is really practised it may mean that coitus can occur only very occasionally.

Another reason given for the practice of abstention in marriage is that the use of these methods of contraception, by enabling the woman to have coitus whenever she wishes to, will reduce the sex act to a lower level and in fact will permit of excessive coitus occurring. At first thought one might be inclined to think that this is true and that coitus would be indulged in to an unwarranted degree. As a matter of fact, however, this is not what happens. Most of us who are honest with ourselves know perfectly well that the average couple cannot or will not practise abstention. In reality they indulge in coitus interruptus. I have already shown that coitus interruptus leads to just such a state of affairs as the advocates of abstention deplore, namely, excessive coitus, the reason being that the method does not provide mutual satisfaction for the partners. There is ample evidence to show that those people who are practising proper methods of contraception have less frequent coitus than those practising coitus interruptus. This is obvious if we realize that once satisfaction is obtained the desire

will not arise again until it occurs as a normal sequence in the lives of the people concerned. We cannot dismiss abstention quite so easily however, but before we can pass a final opinion on this matter we must ask ourselves what is the precise meaning of sex and what is the relationship of the physical side of our nature to marriage.

Religion and Science

The discoveries of science come fast and furiously. No sooner does one man make a discovery than another betters it or invents something to counteract its action. If our grandparents lived in the age of industrial revival we are living in the age of scientific discovery. No matter whether we travel into the stratosphere in a balloon or into the depths of the ocean in a steel globe, or sit in a laboratory and invent chemicals and gases or study the hidden mysteries of life through the microscope, we find evidence of wonderful progress and advance, due to the ingenuity and inventive genius of man.

Medicine has extended her boundaries and attacked the hidden mysteries of disease. Anæsthetics and antiseptics are amongst the most important contributions that science has made to preventive medicine. Contraception is another. The biologist, the psychologist and the physiologist have exposed the magnitude of our ignorance concerning sex and have enabled us to view the whole subject with new eyes. Their discoveries must concern us now because we cannot form a judgment about such matters as the use of contraceptives and the practice of abstention in marriage, unless we understand something at least of the background on which this new idea of voluntary parenthood is based. Before going on to consider the advances that have been made in these different branches of medicine I should like to say a word on the subject of religion in relationship to these discoveries. I do not consider that this book is a suitable place in which to consider this matter at undue length, nevertheless I think it only right to indicate my own attitude to this question because many of my readers will almost certainly feel that the most important aspect of the subject

has not been dealt with if the religious and ethical considerations are omitted.

I will try therefore to make my position clear in as concise a manner as possible.

Religion has undoubtedly exercised an enormous influence over sex in every civilization. Primitive man connected sex with religious observances and many of his sexual taboos and rites were governed by the dictates of his religion. In many ways their sex lives were freer and more satisfactory, their customs were more natural and their morals more moral than are ours to-day. Such writers as Westermarck and Malinowski have clearly demonstrated this. The sex rites of many so-called savage tribes were frequently regulated by a careful moral code differing from ours no doubt, but none the less suitable for their state of evolutionary development.

There is much evidence to show that the impact of Western ideas on these civilizations has had a detrimental effect on the peoples concerned. The introduction of man-made vices such as drink and venereal disease into primitive tribes has frequently caused considerable harm. The imposition of Western ideas regarding such matters as clothing into tribes who were in the habit of wearing almost nothing has had a similar effect, and many observers have noted that where immorality was comparatively unknown amongst the men and women of a certain tribe, who wore practically no clothing, the insistence on the part of over-zealous whites that the girls at least should wear clothes immediately caused an increase in immorality. We must realize that it is no longer correct to talk of savage tribes. We have no right to say that they are in a lower state of hereditary development than we are. Professor Julian Huxley has pointed this out in his Galton lecture of February 17th, 1936, where he says: "I regard it as wholly probable that true negroes have a somewhat lower average intelligence than the whites or yellows. But neither this nor any other eugenic significant point of racial difference has yet been scientifically established," and he points out that the environment and social conditions under which the people live have

an extremely important influence on the ultimate growth and character of the individual. If religion has influenced primitive tribes to such an extent it has had an equally pronounced effect on the sex lives of our present Western civilization. The impact of Christian teaching in this direction has had the most important influence on the whole of our development. Unfortunately, for reasons that we will consider in a moment, we have come to look upon sex as something shameful or disgusting, as a provision of nature which is necessary but not altogether pleasing in the sight of God, and its manifestations as requiring constant suppression. Sex, therefore, is surrounded by shame, fear, and hypocrisy. Something which is fine and beautiful, if rightly used and understood, is made the subject of laughter and general condemnation. Until quite recent times we have been afraid to consider the meaning and implications of sex in our lives, and yet there is not a single social activity which is not, in some degree at least, influenced by our outlook towards sex.

Consider some of the major problems of to-day for instance, such as divorce, abortion, child education, the rise or fall in population, sterilization, and marriage itself. It is obvious that we have hardly begun to realize the significance of sex in these matters. As I have said, the reason for this outlook is to be found in the teaching of the Christian religion, although I am doubtful whether it is to be found in the teaching of Christ, Who seemed to have an understanding and appreciation of sex problems far greater than many of His immediate followers.

A study of the lives of such people as St. Paul or St. Augustine will show that they were obsessed with the difficulties and general significance of sex. Several books have been written recently illustrating this point. For instance, Dr. William Brend[1] shows the extremely serious consequences that have arisen as a result of St. Paul's condemnation of sex. He produces much evidence to show that had these men lived in the present day they would be subjects for psychological investigation. This criticism is

[1] *Sacrifice to Attis.*

not meant to detract from their obvious achievements and personality. We must realize that the early Christians did not possess anything like the knowledge that we possess to-day, neither had they the chance of making the discoveries which to us are more or less commonplace. They knew nothing about heredity, they knew very little biology, and they understood practically nothing about the working of the ductless glands. Even so some of the early philosophers have made statements whose truth still remains apparent.

The attitude which I think should be adopted if one is trying to reconcile one's religious beliefs with the scientific discoveries of to-day is comparatively simple. It seems to me that the whole of Christ's teaching went to show that, however imperfect we might be, we could become more perfect, not only by the action of our conscious wills, but through the help of the Spirit. I think His teaching also implied that as we grew in knowledge and wisdom so would more of the secrets of life be unfolded for us. In other words, we can look upon Christianity as growing continuously, as evolving all the time, and the discoveries which are vouchsafed to us as the unfolding of His Spirit. We cannot surely believe that the Christian religion was made absolute several hundreds of years ago and is incapable of further development. If my contention is true, the discoveries of science are merely part of the natural evolutionary process leading to an ultimate understanding. What we do with these discoveries depends upon the action of our own wills. Science provides us with facts; we can use these facts for our benefit or for our detriment. This is obvious if we consider any scientific discoveries such as chemicals, which can be used to manufacture gases for the destruction of life in war, or for the production of antiseptics for the preservation of life.

The religious strictures which were imposed in the days of early Christianity may have been very necessary at that time, they may have been the only means at the disposal of the early Christians whereby they could deal with the sex problems that arose. Nowadays, however, our added know-

ledge gives us an entirely different view point. It is up to us therefore to see that the scientific discoveries which we have made are used for the benefit of society and for the ultimate development of the individual personality in accordance with our religious principles. This does not mean that we can accept these new discoveries and fit them in with our religious views without reconsidering much of the fundamental religious teaching. To me, therefore, it seems obvious that the scientific discoveries which have been made in the realm of sex are part of the evolutionary process that God intended the world to grow up with, and as we are vouchsafed so much knowledge, so are we expected to apply it with a high ideal. I cannot see that there need be any necessity for a difference between religion and science.

This is a brief statement of what I have endeavoured to explain more fully elsewhere, but it should be sufficient for our present purpose, and with it as a background we can go on to discover what new facts science has to offer us. Finally, we can endeavour to fit these facts into our lives in such a way that our individual personalities will be developed and the whole structure of society will be improved.

The Sex Urge

The first subject which calls for our attention is the meaning and nature of the sex instinct. We are all born with various instincts such as that of fear, hunger, self-preservation, etc. The sex instinct is one of the greatest of these and is to be found in every living creature. In the simplest forms of animal life this instinct usually manifests itself in what we call reflex action, that is to say that a certain occurrence in the body sets up a train of impulses which are conveyed to the brain, which in its turn decides on a certain course of action, and sends further impulses to other parts of the body which make the individual react in a particular manner. For instance if one's finger comes in contact with heat the sensation of heat is passed up the special nerve endings of the body to the brain. Here the sense of heat is appreciated as a result of which the brain decides that the finger must be removed from the source

of heat and sends impulses to the muscles of the arm and hand which cause them to withdraw the finger from the heat.

It is probable that this reflex action is chemical in origin, and we may therefore describe many of these inborn instincts as chemical urges. A baby does not have to be taught to suck, the action is instinctive, and in fact many of the infant's actions are equally instinctive.

As we travel higher up the animal scale we find that the instincts are regulated in man by the conscious action of our wills, and here we have the great difference between human beings and other members of the animal kingdom. We alone have the power of conscious decision.

The sex urge is just a crude force and as such is neither moral nor amoral, good nor evil. What we do with it depends largely upon our own volition. Now one of the main principles that have governed religious thought in connection with sex, at any rate in the Christian Church, is the idea that sex can be employed for the purpose of reproduction only. This view has been challenged within recent years, largely owing to the work of the biologists. If we consider the sex lives of simple organisms like fish we shall understand this better. A vast expenditure of energy is necessary on the part of the star fish for instance to produce the requisite number of eggs and sperms which are necessary to prevent it from being exterminated. For every million eggs that the star fish produces it is probable that only a few dozen are fertilized and grow into new star fish. "In many fish the sex act consists simply in the simultaneous or almost simultaneous discharge, of ova by the female and of sperms by the male, into the surrounding water where fertilization of the ova takes place."[1] The eggs which originated in the female ovary are passed to the outside world through a duct known as the oviduct, and the sperms, which are similarly formed in the male testicle are expelled through a similar duct. It is obvious that here the mere ejaculation of ova or sperms is "the sole contribution to reproduction by either sex, no care being taken by the parents of the eggs and sperms once

[1] *Sex* by Dr. B. P. Wiesner.

they have been ejected". Ejaculation therefore here constitutes the reproduction act. It also represents the sex act. Dr. Wiesner points out that many of these fishes exhibit characteristic changes and excitement as a preliminary to ejaculation and he shows further that in higher animals the sex act is quite separate and distinct from the reproductive function.

As an example of this he quotes the female newt who crawls over the male sperms which have been deposited in a special little body of jelly, and draws them up into her body whence they reach the oviduct and here fertilize the egg. The fertilized eggs are then deposited by the female on nearby leaves and stems. Here the sex act and the reproductive function in the male are the same, but in the female the sex act consists in the taking up of the sperms, and not in the expulsion or liberation of her own unfertilized eggs. As a result of the reception of the sperms the female lays fertilized eggs and thereby uses her reproductive functions. We have here a significant difference. In the case of the star fish the sperms and ova are discharged haphazardly into the water and are fertilized outside the female body, whereas in the newt fertilization occurs inside the body.

The necessity for internal fertilization obviously demands a certain rearrangement or complication of the female sex organs and the development of a special mechanism for the reception of the sperms. Thus we see that the laying of an egg by the hen or the shedding of the ovum by a woman are not sexual but reproductive acts. No sensation of pleasure is experienced in the process. In the sex act, however, there is evidence that there is some sex appreciation or excitement, *i.e.*, the fish swimming round its mate. The sex organs in the higher animals and man have to perform a double function and so it may not be out of place here to consider the simple anatomical differences between the sexes.

Males and females are different, not only in outward appearance but in the intimate structure of the individual cells which go to make up their bodies.

The sex differences manifest themselves at a very early date during the life of the fœtus in the uterus, so that it is

possible to tell the sex of the individual by the essential differences in structure within the first few months of life.

THE PRIMARY SEX ORGANS. The most important sex organs are known as the gonads, which may be male, in which case they are called testicles, or female, in which case they are called ovaries. They are the primary sex organs and were they not present there would be no secondary sex characteristics, which will be considered later on.

THE MALE SEX ORGANS. As we have seen in the simple fishes, the sex organs consist of a testicle which produces sperms which pass out into a long duct and are so transmitted to the exterior. In human beings, however, these organs are more complicated owing to the fact that it is necessary to provide some means of depositing the male sperms inside the body of the female, who has not the power of drawing the sperm into her own body, as has the female newt, for instance.

The male sex organs are for the most part situated outside the body whereas those of the female are contained inside. The two testicles are suspended in a muscular bag between the thighs. Each testicle is an oval shaped body about the size of a walnut. It has two functions, one, the production of sperm, and two, the manufacture of a chemical substance or hormone, whose purpose we will consider later on. These functions are separate and distinct and it is possible for a man to be incapable of producing any sperms and yet to manufacture the hormone. The testicles are filled with numberless coiled tubes which are lined with special germ cells which manufacture the sperms.

Many of the cells in the body are specialized in the sense that although they can grow and multiply to an enormous extent, they can only produce the same type of cell, for instance a liver cell always produces a liver cell, and the brain cell will always produce a brain cell, but the germ cells can produce any type or all types of cells. They are the essential undifferentiated cells set aside for growth of new beings.

When the sperms are manufactured in the tubes they have no power of movement but are pushed along the tube by

the action of the hair-like projections or cilia, which are attached to the ends of the cells and which always move in one direction, thereby setting up currents which force the sperms along the tubes. The tubes eventually join together into larger tubes which again unite into a still bigger tube known as the vas which passes from the testicles up the groin and so into the body cavity. The sperms are forced along this tube and gradually develop sufficiently to move by

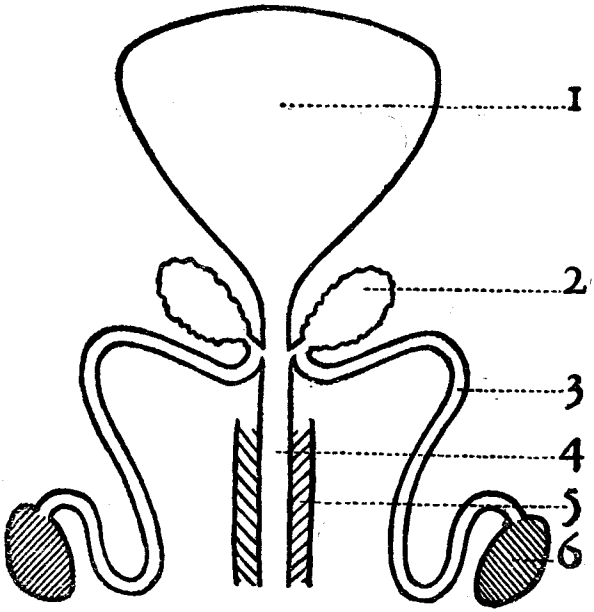

FIG. 2

THE MALE SEX ORGANS

1. Bladder
2. Fluid-producing sacs
3. Passage for sperms
4. Penis
5. Spongy erectile tissue round penis
6. Testis

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themselves. Having entered the body the vas passes behind the bladder where it joins its fellow and also a tube coming from the bladder, in an organ known as the prostate gland, which is situated at the base of the bladder. (Fig. 2.) The main function of the prostate is to secrete fluid for the

nourishment of the sperms, to act as a muscular organ and propel the seminal fluid down the urethra, and to provide bulk for this fluid.

The three tubes unite into one long tube known as the urethra which passes down the penis, which, as we have seen, is a muscular organ capable of filling with blood and so becoming hard or erect.

I have omitted to mention a special organ which is situated at the end of each vas nearest the bladder and is known as the seminal vesicle. This structure, apart from manufacturing the seminal fluid necessary to nourish the sperms, is thought to act as a kind of reservoir in which the sperms can be stored.

The manufacture of the sperms does not take place to any extent until the onset of adolescence, after which they are manufactured in enormous numbers until a late age in life. They are microscopic in size and are composed of a large body or head and a long movable tail, which makes them look like tadpoles. They are moved by the rapid action of their tails which are constantly moving from side to side.

It has been estimated that several billions of sperms are manufactured in the course of adult life and one ejaculation may contain several hundred million sperms, and we have already seen that one sperm is sufficient to cause fertilization. The amount of the ejaculated fluid may vary from a teaspoonful to a tablespoonful according to a variety of different states.

This briefly is a description of the primary male sex organs and we can see that they are so designed as to insure that the sperms will be deposited as near as possible to the egg, by the introduction of the erect penis into the vagina.

The sack in which the testicles are encased is called the scrotum and contains within its walls a thin muscle which has the power to contract and relax, its purpose being to draw up the testicles nearer the body if they are likely to suffer from the effects of cold, or on the other hand to relax and permit the testicles to hang further away if it is

hot. The reason that the testicles are situated outside the body is that it has been proved that sperms cannot live at body temperature. As a matter of fact, the testicles are originally inside the body but they pass down into the scrotum in the early months of intra-uterine life. Occasionally, however, this does not happen, in which case one or both testicles is retained inside the body, as a result of which they may not function properly and the individual may become sterile, that is to say incapable of producing live sperms.

THE FEMALE SEX ORGANS. In the female the sex organs are more complicated. Not only have they to arrange for the reception of the sperm by the ovum (fertilization) but,

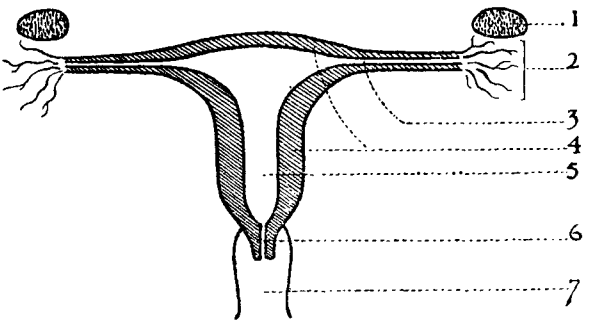

FIG. 3

THE FEMALE SEX ORGANS: WORKING PARTS

1. Ovary
2. Waving fingers
3. Fallopian tube
4. Muscular wall of womb
5. Cavity of womb
6. Mouth of womb
7. Vagina

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when this process has occurred, they have to provide for the growth of the fertilized egg until it is ready to be born.

There are two ovaries similar in size and shape to the testicles and suspended in the body by strong ligaments. From each ovary a tube passes down to the top of the womb or uterus which is situated in the mid-line. This tube (the fallopian tube) is not actually in contact with the ovary but is funnel-shaped at its ovarian end and surrounds the ovary with several fingerlike projections. When the egg is expelled from the ovary it is attracted by the fingerlike

projections and passes down the tube until it reaches the uterus which is a strong muscular organ about three inches long and shaped rather like an inverted bottle. The neck of the uterus (cervix) projects into the vagina which is about four inches long. (v. Fig. 3.)

The lower end of the vagina opens on the outside of the body and is protected by the labia. Another important structure situated at the entrance to the vagina is the hymen which is a thin dilatable membrane with a hole in the centre.

THE OVARY. Each ovary, like the testicles, has a dual function, (1) the production of ova and (2) the formation of a chemical hormone. Whilst the testicle is always manufacturing sperms the ovary contains at birth all the eggs that the woman will require, in fact there are many more than she is ever likely to use, and many of them are never developed. It has been estimated that the ovary contains somewhere about 36,000 eggs at birth.

How is it that the egg reaches the fallopian tube? A woman's sexual life is divided into a series of monthly cycles and during each cycle one egg erupts from the ovary and passes into the tube. This process can be watched under the microscope when it is found that the egg inside the ovary gets bigger and bigger and a certain amount of fluid develops round it. The egg and its fluid is contained in a membrane which is called the follicle. The follicle gradually pushes itself towards the surface and eventually bursts, as a result of which the egg is discharged into the abdominal cavity and finds its way, by some process which is not quite understood, into the tube. This bursting process is known as ovulation and is known to occur about the fifteenth day of the monthly cycle, counting the first day of the period as the first day of the cycle. Two things may now happen to the egg, which is thought to be able to remain alive for only about forty-eight hours. If in its passage down the tube it meets a sperm it may become fertilized, in which case it continues down the tube until it reaches the uterus, where it embeds itself in the lining of the uterus which, during this time, has been growing and developing ready for the

reception of the fertilized egg. In this case the development continues for nine months until the baby is born. The egg is moved down the tube by the rhythmical contraction and relaxation of the tube, and the sperms, having travelled up

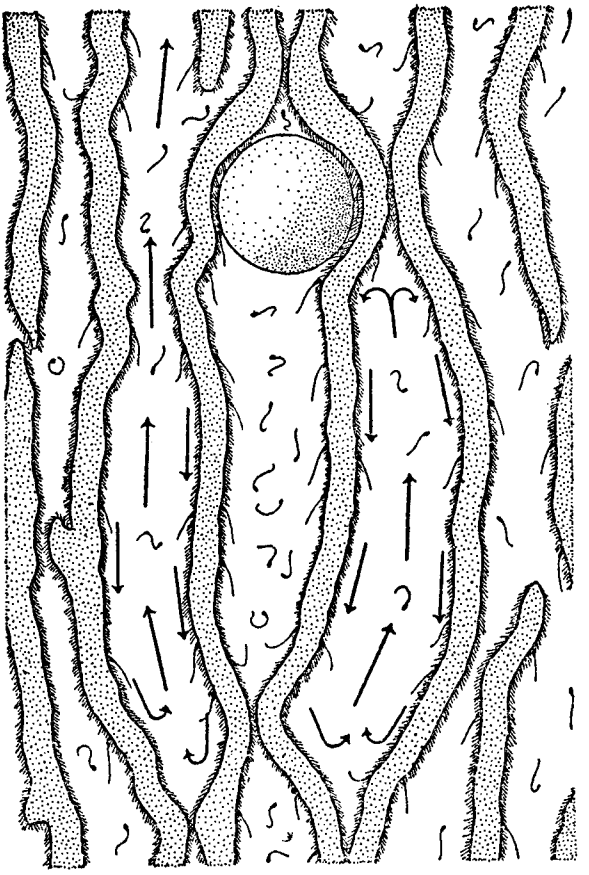

FIG. 4

Reproduced from Parshley's *The Science of Human Reproduction.* (Redrawn after Parker.) By kind permission of Messrs. George Allen & Unwin Limited.

the vagina, through the cervix, up the uterus and into the tube, are moved up the tube in a most complicated and interesting method. (v. Fig. 4.) The lining of the tube consists of ciliated cells, the cilia of which are always waving

upwards. The contractions of the tube tend to push the egg downwards but this constant contraction and relaxation forms little pockets. The tube of course contains a certain amount of liquid and the sperms swim about in the liquid in a more or less indiscriminate manner. Where the tube contracts the lower end of a pocket is of course shut up, whereas the top end is open where the tube is relaxed. The movement of the cilia tends to force the liquid and the sperms it contains from the lower to the top end of the pocket. They are thus swept into the next pocket whose bottom end is immediately shut up by the contracting action of the tube. In this way the sperm gradually moves up the tube in spite of the downward action which is necessary to force the egg along. Eventually therefore the sperms, which tend to stick to the side of the tube, come in contact with the egg and finally one sperm penetrates the egg. As a result of this some change takes place in the egg which prevents the entrance of any further sperms which rapidly die off.

If the egg is not fertilized it continues its way down the tube until it reaches the uterus and owing to it being unfertilized it cannot embed itself in the lining wall prepared for its reception. This lining, therefore, which is composed of cells and blood vessels, strips off the wall of the uterus from which it is expelled together with the unfertilized egg into the vagina and so to the outside in the normal monthly period. One can describe the monthly period therefore as an expression of dissatisfaction on the part of the uterus at not receiving the fertilized egg, because it must be remembered that this process of preparation occurs each month.

After the lining membrane has been shed by the uterus there are a few days of rest followed by renewed preparation which lasts about a fortnight. The shedding process lasts about a week.

Before considering the formation of the secondary sex characteristics there is one other structure which merits our attention, namely the hymen. The purpose of this membrane is not understood. From a biological point of view there seems to be no reason for its presence. Society has credited it with an unnatural importance. It used to be considered

that its presence was an indication of "purity" and its absence was therefore an indication that sex intercourse had taken place. Amongst primitive tribes it was often considered that the rupture of the hymen was a necessary preliminary to marriage, and that it was essential for a certain amount of bleeding to occur at this time. It was frequently considered advisable to prove a girl's virginity by sending special women to rupture the hymen before marriage could take place.

Even within very recent years it has been considered that the rupture of the hymen was an essentially painful process which all women had to undergo when they married. It is perfectly true that in certain cases this may be so, in fact the hymen may be so tight that it may be impossible for the penis to enter or penetrate the vagina. On the other hand we now know that the hymen may be normally ruptured in very early life as a result of stretching, or riding, or a fall. I have already shown that it is quite possible for a sperm to be deposited outside the vagina and to find its way through the hymen into the body of the woman where fertilization can occur, and there are many instances on record of women having been found at the time of delivery to have an intact hymen which it has been necessary to remove, so we can no longer say that the presence of the hymen is an indication of virginity. It is quite possible for the hymen to be painlessly dilated before marriage so as to avoid the unnecessary discomfort which this process occasionally produces. The method of doing this need not be described here, those who are interested will find the subject discussed at length in my book *Modern Marriage and Birth Control.*

CHAPTER IV

THE SECONDARY SEX CHARACTERISTICS

WE have already noted the fact that both ovaries and testicles have an entirely separate function from that of producing eggs and sperms, namely the production of an internal secretion, sometimes called a hormone or chemical messenger. The cells which produce these hormones are contained in the ovarian or testicular tissue but are quite independent in action. Although the production of sperms in a testicle may cease completely, the special hormone producing cells continue to function quite normally.

Hormones are so called because they are manufactured by special cells and are passed directly into the blood stream without traversing any channel or duct. They can therefore be carried all over the body and can affect organs situated a long way away from their original seat of manufacture. An organ which manufactures chemical messengers is therefore known as a ductless gland. There are many glands of this type in the body such as the thyroid and pituitary glands. We shall consider their function in greater detail in a later chapter. For the moment, however, we are concerned only with the chemical messengers manufactured by the sex glands.

The testicles and ovaries possess dual functions. The testicle in particular, as well as being a " ductless " gland, has a duct for the conveyance of sperms. Whilst the ovary has the same dual function it cannot be said that it has a duct in the same way as the testicle unless we regard the fallopian tube as a duct of the ovary. We have seen, however, that the relationship between the ovary and its duct is not so intimate as between the testicle and its duct (the vas). However, the ovary, by shedding eggs, acts in the same way as does the testicle. The hormones derived from the sex

glands are chiefly concerned with the changes that occur at adolescence. Were it not for the action of these secretions girls would not change into women neither would boys become men. As puberty approaches, the hormones are manufactured in enormous quantities and bring about the changes which produce the secondary sex characteristics. This term refers to those changes which occur at puberty and which could not occur were the primary sex organs absent. It is possible to have primary sex organs and yet for the secondary sex characteristics to be weak or absent, but it is impossible for any secondary characteristics to occur in the absence of ovaries or testicles. For instance, if a boy has his testicles removed before puberty (castration) the secondary sex characteristics never develop and although he may grow in stature his sex development is infantile. Such persons are called eunuchs.

Sex Changes in the Boy. The secondary sex characteristics begin to appear in the male from about the age of thirteen to seventeen years and show themselves in a deepening of the voice, a particular distribution of hair over the body and face, and a development of the bony structures which is essentially male. Besides these obvious changes the individual develops an outlook and personality which is essentially male. A good development of the secondary sex characteristics is an indication of a healthy individual whereas a weak development indicates that the breed is defective. The changes which take place at puberty put a great strain on the whole individual and require all the resources of the internal secretions to bring them to a satisfactory termination. When the adult state is reached these secretions still function and maintain the normal growth of the characteristics, but as age advances, their influence becomes less so that the loss or removal of the gland through disease or operation may not have so noticeable an effect as would occur in early adult life. Nevertheless considerable change is often brought about particularly in the mental capacity of the individual and in his power to concentrate or initiate new endeavours. Such people tend to become slow both mentally and physically and frequently

put on much weight. In addition to the changes already mentioned the internal secretions from the testicles stimulate the production of sperms, make the individual sex conscious, and enable erection to occur. This often occurs during sleep when it is occasionally accompanied by dreams of a sexual nature and also by the ejaculation of seminal fluid. This loss of fluid may occur two or three times a month and is a perfectly normal occurrence which should cause the boy no alarm provided it is explained to him in a sensible way. Finally it may be pointed out that it is possible for the individual to cause these erections to occur by stimulating the imagination with sex thoughts or by actual manipulation of the sex organs. This is known as masturbation and is frequently the source of considerable worry to the boy, apart from being severely condemned by adults, who unhesitatingly point out that it is a vicious practice which may lead to all kinds of serious mental and physical consequences. Such statements are highly dangerous and for the most part inaccurate. Nevertheless it is obvious that the practice is inadvisable for two very simple reasons. Firstly, the sex act is not intended by nature to be practised alone, but with another when, as we shall see later, the basic idea is the mutual help and satisfaction of the other person and the production of children. None of these aims is achieved by masturbation which is really an expression of self-love and gratification and may be looked upon as a lack of growth, because we all pass through a stage of development in which we are primarily interested in ourselves to the exclusion of all else. Secondly, it is an unwise practice because the youth has not yet reached the stage of growth in which his sex powers are intended to be used for the purposes of reproduction. He is still growing and developing and he needs all his strength and power to bring this about. Only then will he be able to perform his adult duties in the best possible way. This is a very brief consideration of a subject which is of considerable importance to most young people. Although the matter has been considered from the point of view of the male the same arguments apply to the girl if she is moved to indulge in the habit. The main fact

for nurses to bear in mind is that if they come across patients who are worried about this habit, either in themselves or their children they can indicate the proper method of approach, and, if it seems advisable, recommend medical advice. In particular they can make parents realize the responsibility they bear to their children in regard to telling them about these adolescent changes and problems. They can warn them on no account to deal with the habit by punishment or harsh words.

SEX CHANGES IN THE GIRL. Puberty usually occurs earlier in girls than in boys. The changes are sometimes started as early as eleven years, especially in hot climates, but in this country the girl is usually about thirteen or fourteen years old. Here again the same principles are at work. The internal secretions from the ovary increase in amount and initiate the changes that occur both in the bodily structure and in the uterus itself. The chief physical changes occur in the contours and figure of the girl, which take on essentially feminine characteristics. The breasts develop and the distribution of hair is typically feminine, being confined chiefly to the arm pits and pubes. It is rare to find hair on the body or limbs of the female whereas it is to be expected in the male. Similar bony changes occur in particular in the region of the pelvis which is broader and deeper than in the male. This change of pelvic growth throws out the angle of the femurs so that most women are naturally more liable to be knock-kneed than is the case with men. The emotional changes that occur at this time are as great or greater than in the male. Musical appreciation, religious fervour, literary and artistic tastes are developed, and whilst the girl is subconsciously aware of the opposite sex she is not usually so stirred by them nor is she so acutely conscious of the sex drive as is the boy. Indeed many girls may reach the twenties before they are in any sense "awakened." This difference in development is of considerable importance in the relationships between the sexes because many girls are frequently quite unaware of the attraction their physical make-up may have for their male friends. This often leads to trouble because the young

men, being naturally more sex conscious, are frequently ready to make advances of which the girls do not readily appreciate the significance and are therefore unnecessarily upset or frightened. It would be well for all girls to be forewarned by their parents or teachers of these essential physiological differences in the sexes so that they can learn to manage both themselves and their men friends, because it must be remembered that it is usually the woman who sets the pace. A man is usually ready and willing to make the best of his opportunities and it is up to the woman to keep the relationship on a high level if she wishes to maintain her own personality and integrity. A man worthy of the name will readily appreciate and respect a girl's feelings and desires. If he will not she is well rid of him for he will only cause much misery and trouble. No apology is needed for this slight digression from our main subject because a proper understanding of the relationships and differences between the sexes is essential if the sex life of the community is to be raised to a higher and more common-sense footing. Nurses are women as well as nurses, and it is only by understanding these differences that they can manage their own lives and at the same time help their patients.

The other important change that occurs at this time is in the function of the uterus. We have already seen that the ovary releases an egg on or about the fifteenth day of the menstrual cycle of twenty-eight days and the growth and development of these eggs—due to the action of the internal secretions of the ovary—commence at this time. It follows therefore that the changes which the uterus undergoes in preparation for the reception of a fertilized egg must also begin now because the girl, by becoming a woman, is potentially ready for conception and child-birth, in precisely the same way as the young male is potentially ready for the duties of producing the sperm. The same reasons that were given regarding the inadvisability of permitting sex union in the male apply to the female. Although conception is possible it is inadvisable. Complete growth and development have not yet occurred. Nevertheless the individual is ready and the uterus therefore assumes its natural role, prepares

its walls for the reception of the fertilized egg, and rids itself of this specialized lining if conception does not occur. This is the why and wherefore of the menstrual period which now commences. It cannot be too emphatically stated that parents have a great responsibility to their daughters at this time. The meaning and nature of the period should be explained to them in simple language preferably before the onset of this function and before the child is sex conscious. In this way the child will not experience any shock or fear when the period does begin, nor will she be emotionally upset or receive wrong impressions regarding her sex life. Many parents are stupidly afraid of mentioning the matter to their children in the mistaken idea that the discussion of such subjects is unnecessary or disgusting. It is essential that the perfect naturalness of these changes is sympathetically explained. An opportunity can also be taken at this time to explain the essential beauty and naturalness of child-birth. Those who are interested in this aspect of the question cannot do better than read a little book by Tucker and Pout entitled *Awkward Questions of Childhood* in which the answers to many questions that children often put at this time are simply and intelligently given.

We seem to have wandered again from our subject, but the rightful understanding of the adolescent period by all those who are likely to come into contact with young people or their parents is so important that the subject deserves careful thought.

The Purpose of Sex

We have now considered some of the essential problems that are necessary if we are to understand the real purpose of sex in our lives. We may therefore pause a moment and see where we have arrived. I suggested a little while back that many people considered that the purpose of sex was that of reproduction but this is by no means the case. It is of course true that the *main* purpose of sex is the continuation of the race but there are two other important purposes which have to be considered.

One of these, as we have seen, is the production of a good breed or type of individual, because a poor development of the secondary sex characteristics indicates a poor development of the individual. A strong development of these characteristics indicates a fine and healthy breed. This is obviously a very important purpose of sex. Misuse of sexual power during adolescence will weaken this important growth. The third purpose of sex is a little more difficult to understand, but is no less important. We have seen that the sex instinct is a perfectly natural urge and we have also seen that a full development of physical characteristics at adolescence goes with artistic and emotional development. It was suggested that these qualities would not develop if the primary sex organs were diseased or destroyed, and so we see that all the creative work that we do in the world, whether in the realm of art, music, literature, medicine, or any other human activity, owes its origin and drive to the sex urge. It follows from this that the development of the individual personality and character is largely dependent on sex because we only develop our personalities properly if we can appreciate these cultural activities which are so essential to our happiness and contentment in life. The development of the personality is therefore the third main purpose of sex. It was also suggested when discussing masturbation that the proper performance of the sex act pre-supposed the active co-operation of another person with whom one was in mental harmony. Any sexual act performed with another and devoid of the mental and spiritual relationship is a travesty of sex and is in fact nothing more than mutual masturbation. Sex union should only be utilized for the *mutual* benefit of two individuals and should never be entered into selfishly or for individual reasons, either in, or out of marriage. It is essentially an unselfish act and should never bring distress or harm to the other partner. If this is so, and it seems to follow naturally from what has already been said, we may ask ourselves how the difference between the sex act and the reproductive act can be fitted into our physical life. Here again we must emphasize that the reproductive purpose of sex is merely one of

the purposes of sex. The sex act has undoubtedly a significance of its own. Can we find any further evidence to help us understand this? Obviously, it is necessary as a preliminary to reproduction. It certainly is necessary for the development of a good breed. And if two people wish to live together, to show their love and appreciation of each other and to grow harmoniously the one with the other, thereby developing their personalities, they cannot neglect the physical.

Whilst it may be true that the lower types of life require all their sex powers for the maintenance of their species, *i.e.*, the star fish who required billions of sperms and ova to keep themselves in existence at all; this is by no means true of human beings. The lower we descend the animal scale, the more do we find that the sexual function is entirely devoted to breeding and that the cultural and mental qualities of the species are conspicuous by their absence. In these types an immense amount of energy is expended on the reproductive mechanism. They can never develop a more cultural life. No one can say that fish have a particularly fine appreciation of the arts! The higher we rise in the animal scale the more do we find that the purposes of reproduction are safeguarded and made easier so that there is an abundance of sex energy to be devoted to other activities. In man, therefore, who is the most highly developed of living things, we find that the reproductive needs of the individual are quickly and easily satisfied. One single act of coitus is sufficient in many cases to produce a new life, after which there is no need, from a reproductive point of view, for the process to be repeated for several months. Thus there is a superfluity of sex energy which has to be used up. Much of this energy finds expression in the natural expression of sex feeling, in fact our ability to obtain normal physical relief is beneficial to us and frequently enables us to work better. It is the constant repression of this natural impulse which is the cause of so much frustration and nervous irritability. A great deal more of the energy can be used to enable us to work and carry on our normal activities, in particular those activities which are creative in purpose,

whether in the realm of art, music, literature or religion. Here the specific sex energy is transferred into other channels which tend to raise the cultural development of the individual.

The Meaning of Marriage

If this is true—and there is an abundance of evidence to show that it is profoundly true—marriage has a far greater significance than many people are apt to think and the mere satisfaction of the parental urge or the reproductive instinct (if we can call it an instinct) will not in itself provide an all-sufficient purpose for marriage. Marriage is an excellent and necessary institution in which the sex life must find suitable expression. Unfortunately there are many people who cannot marry and under our present social system any lapse on their part from this strict code is looked upon as a violation of morality. For such people the necessity of finding a really creative interest into which they can put their super-abundant energy is very essential. Even so, most authorities are agreed that the complete sublimation of sex energy or, as I prefer to call it, the complete transference of sex energy into other channels, is rarely accomplished. Even the most holy and pious men were greatly troubled by the physical side of their nature, as witness St. Paul and St. Augustine.

There are some people who do not wish to marry and who are not troubled by any sex manifestations. We shall consider the reason for these variations in type in a later chapter. For most people, however, marriage is the normal state and is a union of spirit, mind and body. If the relationship is to work harmoniously the physical side *must not be neglected.* A marriage that has run aground on the shore of physical disharmony is in danger of becoming a total wreck.

People who are in love with each other naturally desire to express their love in physical terms. Men and women differ so profoundly in their make-up; their individual needs are so totally different, that unless there is much mutual understanding and sympathy there is almost certain

trouble ahead. It is an unfortunate fact that in the majority of cases young people are given practically no instruction regarding the meaning of marriage or the nature of the physical relationship. It used to be thought that whilst it was perfectly right and natural for a man to desire sex intercourse, such desire on the part of a woman who was honest enough to admit to experiencing pleasure in the marriage relationship was equivalent to making her a loose woman. We now know that such ideas are all wrong. It is perfectly right and natural for women to have sex feelings and sex desires and it is equally right that they should experience sex satisfaction in marriage, in fact it is this lack of appreciation which is at the root of most of our present-day marriage problems.

There is a large variation in normal sex desire, the reason for which will become apparent when we are considering the action of the ductless glands. Some people require sex union once a week, others once a month. The normal is about once or twice a week.

How often does one come across the woman who says that the sex side of her marriage means nothing to her, that she gets nothing from it and would be happier without it ? The whole subject is just one large mass of unpleasantness that has to be put up with as part of the duty of marriage. She must subject herself to her husband in all things even in the most intimate relationship. The children which arrive with unvarying regularity take up all her time and strength. Of course there is no reason why women should not have many children ; let them have ten or a dozen or more, provided they are properly spaced and the woman's health is not being ruined, and provided also that there is sufficient food and clothing for them. If the State requires a lot of children then the State must make adequate provision for the production and healthy rearing of these children, who, above all, must come from a healthy stock. And now I hope that none of my readers will accuse me of not advocating large families !

Until quite recently the lives of women were almost entirely devoted to the reproductive principle. The sex

act for them had no meaning. They became disillusioned within the first few months of marriage. The relationship between husband and wife which was going to be so delightful, so satisfying and so mutually beneficial, turned out to be unsatisfying, unpleasant (even painful) and most disappointing. Even if the woman never expressed herself like that to her husband that is what she felt in her inner self. There is much evidence to prove the truth of this contention but two examples will be sufficient to bring this home to the reader. Out of 10,000 divorce cases investigated recently in Germany, 75 per cent. of them were found to owe their origin to some sex disharmony. On analysing about 200 cases that had come to one of my clinics I found that only about 5 per cent. admitted to any real sex satisfaction in marriage. Several of the patients said they obtained a small amount but in the majority of cases they had none and would have been happier without further coitus. The reader may say that those figures are taken from abnormal cases and are not actually a true indication of affairs throughout all sections of the community. All I can say is that there is ample evidence from the clinics both here and in America to bear out my contention. To suggest that women attending birth control clinics must necessarily be abnormal is quite unfair. They come from the ordinary run of the population and far from being abnormal show, in my opinion, marked intelligence because not only do they realize their predicament, but, what is more important, take steps to have matters altered. I have questioned many hundreds of my patients and friends in the past ten years during my ordinary work as a general practitioner and I am convinced that my figures are no exaggeration. It is likely that the percentage of satisfied women would be higher amongst the more intelligent social group, but this is merely because these women have had more opportunity to learn. The position is undoubtedly improving owing to the dissemination of sound and sensible information regarding sex matters, but the main fact still holds good, namely that the average marriage is wrecked or severely damaged on the shore of physical disharmony. What a pity it is that so great a

travesty is made of a relationship which has such great possibilities.

Although the sex act has a meaning and purpose in marriage quite apart from the reproductive purpose, it must be managed properly. Unfortunately we have to blame religious teaching again for a great deal of the trouble we have got into over this matter. It has been tacitly agreed for generations that the act of coitus might be practised with impunity within the bounds of matrimony, in fact many excellent people look upon marriage as an institution provided by God for the purpose of satisfying man's " baser " needs. Not, be it noted, his parental urge or woman's reproductive needs. (Incidentally most women must have satisfied their maternal and reproductive instincts by the time they have had half a dozen children.) But people nowadays are searching for a greater ideal in marriage, and much of the discontent with old traditions is due to this endeavour to find firmer ground.

There is no need to make marriage a sort of licensed safety valve for a powerful emotion which cannot otherwise be controlled. This is a negative rather than a positive attitude and is unlikely to encourage a very high conception of the duties people have to each other in marriage. At the same time it is obvious that the purpose of marriage is the production of a family (the most stabilizing factor in our present society) as well as the satisfaction of the physical needs of the partners. The point is that this satisfaction must be *mutually* desired and not the mere gratification of one person. This dual purpose of marriage is definitely recognized by religious teachers, be it in a somewhat negative manner.

For instance, in the marriage service of the Church of England it is stated that marriage is " a remedy against sin " and also that it is for " the mutual society, help, and comfort that the one ought to have of the other ". And the Roman Catholic Church also recognizes these other purposes, although the statement is frequently made that the Roman Church only permits coitus in marriage for reproductive purposes. The following extract from the Encyclical Casti

Connubii issued by the Pope on December 31st, 1931, makes this clear. "For there exists also, both in marriage itself and in the conjugal use of the rights which it confers, some secondary ends, for instance, mutual assistance, the fostering of mutual love and the *allaying of concupiscence.*" This latter word is described in the dictionary as "sexual appetite" which is a good definition of the natural sex function. As such its expression is permitted by the Church of Rome. Thus do we find that science and religion are really in agreement over this matter. Science says that there is a definite need for most normal individuals to give expression to their sex appetites because the constant damming back of this strong urge may lead to a state of unnatural tension and mental anxiety which is frequently seriously detrimental to the health of the individual, and religion says that such expression is permissible. How then does the trouble and antagonism between the two points of view arise? I think in two ways:—

1. Because religion, whilst admitting the necessity for this sex expression teaches that such expression is essentially sinful or debasing and should be restricted and confined in every possible way. This seems to be an entirely unnatural interpretation to put upon a natural function, and is due as we have seen to the influence of early Christian teaching:

(*a*) By the inability of the early Christians to understand the true meaning of sex.

(*b*) To the fear that any sex expression would encourage the type of immorality which was rampant at that time in Roman civilization.

(*c*) To the belief that the second coming of our Lord would occur at any moment and that it was therefore necessary to concentrate on spiritual preparation and avoid all worldly affairs.

2. Having accepted this idea a host of taboos and restrictions were collected round the sex act which became unnatural, unpleasant and degrading. The sex organs themselves were looked upon as the devil's gift, and their very mention was immoral. The ordinary attention that

they needed from a health point of view was looked upon with repugnance and was accompanied by feelings of intense shame. This attitude has persisted to the present day and shows itself in the reluctance of women to be examined or to touch their sex organs in any way.

It is obvious that whilst this attitude persists the use of any mechanical barrier to conception would be equally objectionable. A further objection to the use of any mechanical or chemical means of preventing conception has arisen from the idea that it was wrong to kill any new life. Abortion is wrong for this reason. But there is the widest difference between killing a human fœtus and the killing of a living cell which, after all, is all that an egg or sperm is. We kill cells all day long. Millions of cells are killed as the result of one single act of coitus. But these facts were not known or understood when the religious rules and regulations governing moral behaviour were drawn up. A greater knowledge has been vouchsafed to this generation than to any previous one. We are in possession of facts which will enable us to advance considerably further along the evolutionary path. These facts are surely compatible with the enlightening spirit of Christ.

We have spent a considerable time considering this aspect of marriage because it is vitally important that we understand not only something of its difficulties but something of its possibilities as well. We can therefore lay down certain principles regarding the purpose of marriage :—

1. Marriage has two main purposes, both of which are recognized by all religious bodies.

(*a*) The production of children.

(*b*) The mutual satisfaction of two people who are in love with each other.

2. There are three main factors to be adjusted in marriage —the mental, the spiritual and the physical.

3. All three must harmonize and take their rightful place if the partners are going to develop their personalities to the full.

4. The family is the foundation of society.

5. The production of children therefore is an entirely

admirable and in fact essential element in marriage provided this is governed by the following principles :

(*a*) Children should be suitably spaced. There are two reasons for this.

1. A woman requires several months interval between the births of her children in order to regain her normal health.

2. Children who are spaced at two year intervals are healthier and more likely to survive than those born at a lesser interval.

(*b*) The health of the woman must be such that she can stand the strain of the pregnancy without damage and without reducing her to a state of invalidism, in which case she can manage neither her husband, her home nor her children.

(*c*) There must be a reasonable prospect of the children being brought up in good home surroundings where they can receive proper parental care and affection.

There must also be adequate facilities for education, clothes, food and housing, and increased opportunities for privacy.

The importance of an adequate diet is becoming even more apparent.

(*d*) The parents must be healthy and likely to produce children mentally and physically normal.

It was reported in the *Daily Telegraph* of May 19th, 1936, that Lord Horder stated in an address before the American Medical Society that one in ten persons in this country were too dull to be absorbed into industry ; one in 120 were mentally defective and one in 300 were certified as insane.

6. In order to enable the above principles (para. 5) to be brought about, some form of conception control must be practised. The choice lies between :—

(*a*) The destruction of life after conception (*i.e.*, abortion).

(*b*) The safe period.

(*c*) Coitus Interruptus.

(*d*) Any haphazard method such as the prolongation of

lactation or the purchase of some unsuitable contraceptive.

(*e*) The practice of scientific contraception under medical guidance.

7. The only other method available is abstention, which is unsatisfactory except in the case of a very small minority, for the following reasons :—

(*a*) It is a denial of the second important function of marriage (v. par. 1).

(*b*) It is biologically unsound.

(*c*) It is psychologically unsound, often leading to severe nervous anxiety in one or both partners.

(*d*) It is physiologically unsound inasmuch as man's constitution requires, in the majority of cases, a physical outlet.

(*e*) Its practice demands a very high degree of control which is frequently emotionally unsettling or else is comparatively easy owing to the low strength of the sex appetite.

(*f*) For the majority of the population its practice is an impossibility. Carried to extremes this practice would mean that the highest type of individual practised abstention whereas the lower and less suitable type propagated freely, thus producing a weaker breed.

8. Sex experience is the normal right of every woman.

9. Woman's full physiological life is progressively realized by falling in love, marriage, coitus and children. Unless there is any definite contra-indication this sequence should always be attempted in accordance with the individual health and circumstances of the partners.

10. The satisfaction of the sex appetite is both permissible and advisable in marriage. It can of course be used as a preliminary to conception, during pregnancy, or when conception is not desired. In this latter case the woman must be adequately protected. In all cases its expression must be regulated by definite principles :

(*a*) Coitus must always be mutually desired.

(*b*) Mutual satisfaction and orgasm must be obtained.

(*c*) The relationship must be based on the principle of unselfish devotion to the other and must never be practised if harm can come to the other person.

These are the principles upon which voluntary parenthood is based. I know of no other way in which these principles can be obtained than by the constructive use of suitable contraceptive means. The indiscriminate use of contraceptives for selfish ends is wrong. Nevertheless whilst our present chaotic ideas exist regarding the whole subject of marriage and sex education we have only ourselves to blame if people use these methods outside marriage or selfishly inside marriage.

CHAPTER V

MORE BIOLOGY

THERE are several other matters of biological interest which will enable us to still further clarify our thinking and must therefore occupy our attention.

We have repeatedly referred to cells, and as a study of their behaviour will help us to appreciate more fully the immense influence which sex has on our lives we must investigate their mode of life more intimately. We have seen that the cell is the basis of life and contains within itself all the essential properties necessary for life. It is a microscopic piece of living matter called protoplasm containing a nucleus which is separated from the rest of the cell contents by a fine membrane. It possesses all the requirements of life—movement, digestion and excretion, respiration, nervous (or chemical) irritability, and reproduction. I have already explained that there are various kinds of cells, such as liver or brain cells, gland cells, etc. The body is made up of uncountable billions of cells, most of which are all growing—reproducing and dying. The blood contains about 10,000 white and five million red cells per cubic centimetre. The nerve cell is probably the most specialized cell in the body and the germ or sex cell the most undifferentiated, by which I mean that from it all other cells can develop.

The Sex Life of Cells

Cells reproduce themselves in two different ways—asexually or sexually.

Asexual reproduction means the simple division of one cell into two equal halves, each of which contains all the essentials necessary for an exactly similar growth to the first. Where there was one there are two, but the parent has disappeared in the process. This simple method of

reproduction is only practised by the simplest living things and then not always. Occasionally the two cells may come together (conjugate) and remain in this state for some while, during which time certain essentially vital substances are passed from the one cell to the other. After a while the two cells separate and resume their own individual life and method of simple division, but they have obviously obtained renewed energy from the union because their splitting process, which had been becoming slower and slower, is now speeded up to a remarkable extent. This conjugation is the simplest form of sexual reproduction we know. There are two points to be noted here :

1. The conjugating individuals are of the same shape.

2. They separate, whereas the egg and sperm fuse permanently. It is obvious that in higher and more complicated types it would be impossible for the two animals to conjugate entirely and so special sex cells are set aside for this purpose.

Another important point to notice is that in higher organisms the cells which fuse are dissimilar, the one is male, the other female.

Cell Division

During the process of cell division which is such an essential part of the whole sex life, the chief part is played by the nucleus. This important component of the cell is really its main constituent. The changes in the nucleus which occur during cell division are designed to ensure that each daughter cell receives an exact and equal proportion of the vital nuclear substance, for, as we shall see later, the nucleus contains the bodies which are essential for the transmission of hereditary characteristics and qualities. We can best follow this complicated process by reference to the diagram on page 90. I am grateful to Messrs. Allen & Unwin for permission to reproduce this diagram from Professor Parshley's excellent book *The Science of Human Reproduction* and for permission to quote from his book. It is usual to divide the process into different stages for the sake of simplicity.

STAGE A. The cell is resting and has a nucleus full of darkly staining granules, which are called chromatin granules. The nucleus is separated from the rest of the cell protoplasm by its limiting membrane. At the top of the nucleus is a small body—the centrosome.

STAGE B. Chromatin granules have joined themselves together into one long thread. The centrosome has split into two equal portions which are passing to opposite poles of the cell, having fine threads stretched between them.

STAGE C. The large chromatin thread is divided into different smaller pieces called chromosomes. The limiting membrane of the nucleus is disappearing so that the contents can mingle with the outer protoplasm.

STAGE D. The chromosomes are arranging themselves on the threads which are now known as the spindle. Each chromosome seems to be attached to a particular thread.

STAGE E. The chromosomes are splitting longitudinally.

STAGES F & G. The chromosomes having split are passing to separate poles of the spindle.

STAGE H. The chromosomes are rearranging themselves round the two centrosomes, the cell is beginning to divide in the middle and the spindle is disappearing.

STAGE I. The chromosomes are arranging themselves into a thread and then into the ordinary granular structure with which they started. The cell is dividing into its two separate parts and a limiting membrane has surrounded each nucleus again. Thus the original cell has divided into two and each nucleus contains the exact proportions of the original chromosomes.

This is not all, however. The hereditary qualities are transmitted in special little bodies in the chromosomes. These bodies, which are so small that they are invisible even with a powerful microscope, are called "genes." They are the "units of heredity" and are divided in a similar manner to the chromosomes. Thus is heredity maintained from generation to generation.

"It is an extraordinary feature of the evolutionary history of living things that this elaborate process, once developed in some remote ancestor, has been preserved in

substantial identity in all the species of animals and plants. This constitutes a strong, if neglected, proof of evolution."[1]

The chromosomes of every species of animal are always the same in number, size and shape. For instance the mouse has forty; the cray fish 100; the domestic fowl

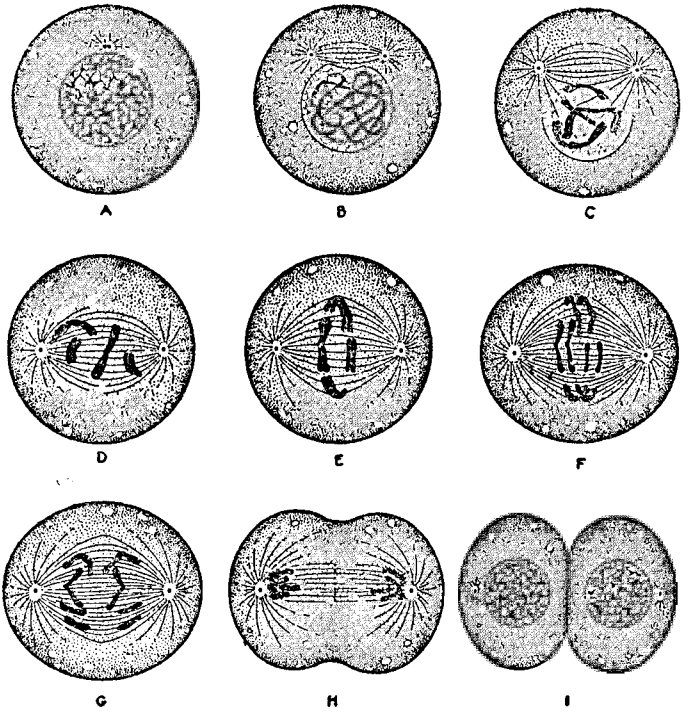

FIG. 5

Reproduced from Parshley's *The Science of Human Reproduction.* By kind permission of Messrs. George Allen & Unwin Limited.

eighteen, and the human forty-eight. The chromosomes are always paired.

If two cells are uniting, such as the egg and sperm, the two nuclei fuse together and the chromosomes of the one cell join completely with those of the other.

The union of the sex cells differs in one important respect from ordinary cell division. When these two cells unite it is

[1] Parshley, *The Science of Human Reproduction.*

essential that the chromosome content of one is passed entirely into the other cell. If the chromosomes of each cell split longitudinally the cell resulting from the union would contain *twice* the correct number of chromosomes. If the forty-eight chromosomes in the egg split into forty-eight halves and the forty-eight chromosomes of the sperm did likewise the resulting fertilized cell would obviously contain ninety-six chromosomes. In order to prevent this the chromosomes in these cells (egg and sperm) do not split longitudinally but separate in pairs so that each cell only contains *half* the correct number. The union of the two cells which follows brings the chromosomes up to the correct number. Subsequently, the fertilized cell divides in the ordinary way. It must be remembered here that the fertilized cell doubles and redoubles and that the cells do not separate but remain united together in a single mass which ultimately forms the new individual. Only when the new mass of cells has reached a certain degree of development does differentiation of cells occur to form special structures such as the liver or the brain.

THE GENES. The chromosomes contain within themselves certain highly organized particles of living matter called genes, which are responsible for the transmission of the hereditary characteristics. A single chromosome may contain hundreds of genes and each gene is the bearer of some special hereditary feature. One gene may be responsible for the colour of the eye, another for the hair and so on. Others again are responsible for mental characteristics. " It takes many genes to make an eye, but one may change it in some respect." [1]

Thus the genes are responsible for our special characteristics. It is found that the characteristics of an individual can be divided into " Dominant " and " Recessive." The dominant characteristics are usually good and valuable, the recessive bad. Thus, supposing an individual contains a recessive gene bearing the characteristic of epilepsy or mental deficiency, if it unites with a dominant gene which does not contain this bad characteristic the result will be

[1] Parshley, *The Science of Human Reproduction.*

absence of epilepsy and the individual will not show any characteristic of mental deficiency although he will contain within himself the recessive gene. The breed will not therefore be " pure ". The defect will be masked and be liable to appear in a future generation. If, however, the recessive gene meets another recessive gene, the result will be that the individual is mentally defective or whatever else it may be. Recessive genes must be present in pairs if they are to manifest themselves during development. It has been proved that if a creature whose characteristics are purely dominant is mated with another creature whose characteristics are recessive, the result will be in accordance with the dominant characteristics. But if these are inbred again amongst themselves " one quarter of their offspring will be purely recessive, one quarter purely dominant, and the remaining half apparently dominant, but actually ' mixed.' " [1]

We can now understand how it is that bad or recessive characteristics such as mental deficiency can " jump " a generation. If two apparently normal people each have a hereditary tendency to mental deficiency, their children may be mentally defective. If only one partner bears the bad strain the children will be born according to the law just mentioned.

Sex Determination. One pair of chromosomes differs from the others and is known as the sex chromosomes. Most chromosomes are of the same size, but the pair of sex chromosomes may vary in size. One is big (X) the other small (Y). The distribution of these chromosomes at fertilization determines the fundamental sex tendency of the individual at the very start of life. Every cell in the male body is intimately different from every corresponding cell in the female body, for the cells of the male body carry one X and one Y chromosome, while in the female every cell has the constitution XX. " No wonder that the sexes are so profoundly different since they bear in their very cells this completely pervasive work of primary sex differentiation." [2]

[1] Canon Hodgson, *Eugenics*.
[2] Parshley, *The Science of Human Reproduction*.

Sperms contain either one X or one Y chromosome. Each egg contains one X chromosome. Thus if a sperm containing an X chromosome unites with an egg (containing one X) the resulting union (XX) has a tendency to femaleness. If on the other hand a Y-bearing sperm unites with the egg the resulting individual tends to be male (XY).

So we see that sex determination depends upon the male and not upon the female as was formerly thought to be the case. The sperms are usually distributed equally with regard to their X and Y properties. It seems to be a matter of chance whether a Y sperm unites with an egg in one case and an X sperm in another. If we could control the process we might be able to decide whether we would have boys or girls !

This question of sex determination is complicated and difficult to understand. We have seen that the fertilized egg or embryo bears within itself male or female tendencies. It is either XY or XX. It takes two X's to overcome the tendency of the egg towards maleness.

The Y element encourages the production of male hormone from the sex cells, and this male hormone acting on the embryo throws the balance towards maleness. The strength of this hormone action determines the degree of maleness in the individual who may accordingly be strongly or weakly male.

A little male hormone will give a small degree of maleness—a great quantity will give a strong degree of maleness. Thus we all bear some potential degree of maleness and femaleness in our make-up. The addition of ovarian hormone at this stage makes no difference to the growth of the female ; she develops whether it is there or not. As puberty approaches, however, the need for the ovarian hormone becomes apparent because the change from girlhood to womanhood cannot occur without the action of this hormone.

Much investigation has been made into this problem during the past few years, notably by Dr. B. P. Wiesner, who sums up the position as follows :—" The body will differentiate in female direction unless male hormone is present—and male hormone must be present in sufficient

quantity to overcome the inherent tendency towards female differentiation. The difference lies in the fact that the ovum's inherent tendency is male, *i.e.*, it tends to develop a testis if not forced, by two X chromosomes or by other procedure, to develop an ovary." [1]

Graded Sex Types

We see, therefore, that no one is completely male or completely female. We all possess something of the opposite sex in us to a greater or lesser degree. This differentiation is regulated by the action of the internal secretions. The strength of this action therefore determines the maleness of the individual. If the action is absent or weak the individual remains female or weakly male. As a result of this, mankind is composed of graded sex types. At one end of the scale we find the type which is completely female. As we travel down the scale we find the type of person becoming progressively more male until we find the type of woman who is particularly masculine, both in outlook and physique. Then comes a type which is " intermediate " in character containing elements of both sexes in equal proportions, and then the female type of man and so on to the man who is utterly and completely male.[2]

Most of us can think of examples of such types amongst our friends and acquaintances. Some women are masculine in outlook, talking, dressing and walking in a typically male manner. Many men have a large degree of femininity in their make-up, in particular those with delicate and sensitive natures. This is an interesting subject about which there has been much misunderstanding in the past, and even to-day there are far too few physicians who both understand the difficulties and problems of the intermediate sex and are willing to deal with them intelligently and sympathetically.

Sex Attraction

It is important to understand something about sex attraction. We have seen that we are all born with sex

[1] *Sex*, p. 109.
[2] See *Sexuality and Intersexuality*, Crew.

instincts, indeed we should be very dull and uninteresting people were this not so. And we all possess some degree of sex attraction for others and are so attracted to other people. This attraction often acts in a most mysterious and compelling fashion. Every living creature manifests evidence of this powerful sex attraction. The trouble and energy expended by animals in satisfying this urge is most extraordinary. The male frog travels for miles over hill and dale to find some pond where he can fertilize the eggs which are released by the female and it is believed he fights with other males for the right to perform this function. The male moth will travel immense distances to some imprisoned female round whose cage many males will flutter continuously. What the attraction is, how it works, and what satisfaction is derived is at present unknown. That the urge is all compelling is illustrated by the dangers these individuals take in order to overcome any obstacles.

Fish seem to exhibit sex pleasure. The males will often be seen swimming and darting round the females. Fertilization consists in the sperm being deposited over the eggs as they are discharged by the female, or, as we have seen in the case of the newt, by being drawn up inside the female.

The sperm are deposited inside the body of the lobster in a special sac, where they remain until the eggs are laid. This also occurs in the queen bee who is fertilized by the drone in the autumn, retains the sperms alive in her body all the winter, and then either fertilizes her eggs or not, as she desires. The unfertilized eggs become drones and the fertilized eggs either queens or workers (arrested females).[1] This production of drones is an example of a condition known as parthogenesis in which growth and development occurs without the need for fertilization. If the unfertilized egg of a frog is stimulated by being pricked with a needle or injured in some other way it may develop into a normal frog without any fertilization occurring.

In higher animals there seems to be some more definite sex appreciation, whilst in human beings sex feelings play an important part in the process of sex attraction and coitus.

[1] *Biology for Everyman*, p. 252, Sir J. Arthur Thompson.

The whole surface of the human body is capable of responding to sex feeling if appropriately stimulated. In the main this feeling is centred in the specific sex organs. In the male the tip of the penis is particularly sensitive and is capable of transmitting sensations to the brain which cause pleasant feelings. These feelings are obviously aroused during coitus and eventually reach such a pitch of intensity that ejaculation is brought about.

In the female the whole body can be similarly stimulated. The breasts and lips are particularly sensitive to appropriate stimulation. If reference is made to the diagram on p. 36 it will be noticed that there is a small organ situated above the urethra and between the folds of the inner labia called the clitoris. This is a sort of rudimentary penis and is furnished with nerve endings which can convey these sensations to the brain during coitus. The friction of the penis on the sensitive clitoris causes these sensations. Similar friction of the penis on the vaginal walls causes similar sensations, which finally bring about a culmination of feeling deep down inside the woman's body which is known as the orgasm and is similar to the feeling experienced by the male at the moment of ejaculation. The reason for considering this matter in some detail is that the normal sex attraction of two people to each other should end in a mutually satisfactory coitus culminating in mutual ejaculation and orgasm. The necessity for a man to appreciate sex satisfaction has been realized for centuries, but the same cannot be said of women. We have already seen that it is still considered "immodest" for a woman to admit to sex satisfaction during coitus, but I hope I have made it clear that not only is it right and normal for a woman to experience such feelings, but that it is *essential*. Unless a satisfactory orgasm occurs she is frequently left in a high state of nervous excitation and the engorgement of the pelvic organs is not relieved. It is much easier for the man to experience this feeling than it is for the woman. A man is more ready to make love, is more quickly satisfied, and forgets the experience more quickly than does a woman, who is far more deeply stirred in her innermost being by

such experience. This explains why pre-marital sex experience is so frequently upsetting to women and is an adventure which, although often embarked on from curiosity or ignorance, is likely to have far-reaching effects on her individuality. Sex appreciation is one of the most wonderful experiences we can have, but it must be practised with consideration and understanding between two people who are mutually in love with each other. Interfere with its spontaneity—surround it with ideas of guilt and shame—and it is almost certainly doomed to failure. That is why, apart from any other reason, the average pre-marital relationship is both dangerous and unsatisfactory. Nurses who come across such cases, and the world is full of them, should do their utmost to persuade the people concerned to talk matters over with some person of understanding, in particular someone who has a proper knowledge of sex psychology.

For the sex relationship in marriage to occupy its rightfully constructive place, it is essential that mutual orgasm is experienced. Otherwise there will be a constant underlying feeling of friction between the two partners. Correct the maladjustment, provide the woman with a suitable contraceptive, and the change brought about in a few short months has to be seen to be believed.

CHAPTER VI

THE INTERNAL SECRETIONS

IT has been impossible not to mention the chemical messengers or hormones which have such an important action in the regulation of our character and physical build. We may briefly summarize the information that has been already mentioned at different times in this book:

1. The hormone or chemical messenger is an internal secretion coming from various special "ductless" glands in the body and travelling to distant parts of the body through the circulation.

2. The hormone from one ductless gland may influence another ductless gland.

3. The sex glands manufacture hormones which are necessary to develop the secondary sex characteristics.

4. The male or testicular hormone plays an important part in sex differentiation.

It may be as well, therefore, to devote some space to a more detailed consideration of these glands which play such an important part in the regulation of our lives. The recent discoveries in this intriguing branch of science have made quite an impression on the public mind.

There are numerous ductless glands situated in different parts of the body, chief among which are the thyroid in the neck, the pituitary at the base of the brain, the pineal also in the brain, the thymus at the back of the breast bone and the supra-renals above each kidney. In addition there are the sex glands—ovary and testis—in whose behaviour we are particularly interested now.

THE THYROID GLAND. Most of the readers of this book are probably already well aware of the function and behaviour of this gland. Briefly, over-secretion of the gland causes a general speeding up of the whole metabolism which

manifests itself by an excessive excitability, tachycardia, nervous tremors, and a typical condition of the eyes which are unusually prominent. The gland itself may or may not be enlarged. The opposite condition, known as myxœdema, shows itself in an exactly opposite manner; sluggish metabolism, a tendency to put on weight, loss of hair, slow mentality and poor heart action. If such patients are fed on thyroid extract the condition is frequently greatly improved. Deficient thyroid secretion before puberty shows itself in stunted growth, poor mentality and a general lack of development. A child suffering from such a condition is known as a cretin and can usually be cured by prolonged doses of the extract. We see, therefore, that the thyroid plays an important part in growth. Women who have recently had children frequently show signs of deficient thyroid activity and it has been shown by Dr. Timme in America that this is due to the over-activity of the gland which is necessary during pregnancy. He also shows that it takes anything from eighteen months to two years for the woman to return to normal health. If this condition is not achieved and the woman again becomes pregnant at a too early date there is a danger of the thyroid deficiency becoming more marked, thus leading to real and often serious ill health. He considers that the most important natural aid in recovery is sunlight and therefore advises that two summers should elapse between one pregnancy and the next.[1]

A deficiency of thyroid secretion also affects the sex glands, which do not function so satisfactorily so that sexual vigour is frequently lost. The action of this gland is far better understood than is that of some of the other glands whose functions are possibly more complicated.

THE PITUITARY GLAND. This has been called the leader of the endocrine (ductless gland) orchestra because it seems that the secretions from this small gland initiate and govern many of the actions of the other glands. In particular does it show a marked influence over the sex glands. A normal

[1] "Constitutional Disturbances Due to the Improper Spacing of Pregnancies," an article appearing in *Biological and Medical Aspects of Contraception* published by The National Committee on Federal Legislation for Birth Control Inc. Washington.

pituitary is about the size of a large pea, but in spite of its small size it is probably the most important of them all. it has two lobes, anterior and posterior, whose action and purpose are entirely different. Extracts of the posterior lobe exert a specific action on the muscle of the uterus and it also has the power of raising the blood pressure. Pituitrin is the trade name for this substance which used to be employed in midwifery to control the action of the uterus after labour had finished. It has been largely superseded, however, by Pitocin which is the same substance minus the blood-raising properties contained in Pituitrin which were occasionally found to be dangerous to the woman. Pitocin therefore is almost always employed for the purpose of controlling uterine hæmorrhage and is one of the most valuable drugs in the practice of midwifery. The secretion from the anterior lobe, however, has quite a different action. It is thought that there may be two separate secretions, in fact some observers say there are more. For our present purpose, however, we need only remember two. One of these has a direct action on the ovary and probably initiates the changes in the ovary that bring about the secretion of œstrin, the substance which causes the Graffian follicle to develop. We shall be considering this process more carefully in a moment. Another action of the pituitary extract is the regulation of bony growth. Over secretion of the hormone at or before puberty causes enormous overgrowth of all the bones so that the individual becomes extremely tall and, if pushed to an extreme, a giant. Over action of the anterior lobe after puberty causes a similar increase of the bony structures, especially of the hands and feet, long bones, and those of the face and jaw. This overgrowth is occasionally noticed to occur in tumours of the pituitary, in which case a condition known as acromegaly is developed, which, if not relieved by operation, usually leads to death. It is also thought that the pituitary may be the determining factor in causing the changes to take place in the cells of the follicle after the egg has been released.

Some observers consider that a well acting anterior pituitary is the cause of the dynamic drive and power

possessed by many notable men such as Napoleon and Mussolini. In Napoleon's case it was thought that the changes in his character and his loss of grip and decision were due to the pituitary action diminishing. At the time of his death his body had the typical appearance of one whose pituitary had failed to act; excessive fat, a clear smooth skin, lack of hair and typical mental changes. Whether or not this lack of pituitary was the only cause of Napoleon's complete loss of vigour and mental ability is difficult to say, but it presumably played a great part in the progress of his life.

THE SUPRA-RENAL GLAND is one whose complete action is not yet understood. It is known that a disease of this gland such as is caused by tuberculosis will lead to a definite physical condition easily recognized and known as Addison's disease. Here, there is marked bronzing of the skin, extreme lassitude, vomiting and other symptoms. It is also known that tumours of the gland which occasionally occur in children are marked by great sexual precocity so that a child of six may show all the physical characteristics of a grown man; marked overgrowth of hair, development of the sex organs and so on. Removal of the tumours usually cures the condition. Thus it looks as though the supra-renal gland has something to do with the growth and deposition of hair and it probably plays some part (as yet imperfectly understood) in the functioning of the sex organs.

THE THYMUS GLAND also plays its part in the development of growth. The gland is abnormally large during the first few years of life and then rapidly shrinks. It has been found that those children who occasionally die under an anæsthetic for no particular reason are found to possess an abnormally large thymus. Some observers think that the thymus of the fœtus may have something to do with the initiation of labour but this is by no means proved. It is also thought that the gland acts as a kind of brake to sexual development. If it is functioning very actively this development is retarded.

Other glands such as the spleen and the pancreas have their internal secretions. That of the pancreas is called insulin and governs the action of the liver. Diminished

secretion of insulin is the cause of diabetes. The action of these glands and their relationship to each other is not, as I have said, perfectly understood as yet, but sufficient is known to demonstrate their immense importance in the maintenance of a normal healthy life. If one is overacting or underacting the whole organism is thrown temporarily or permanently out of gear.

The only glands which are left for our consideration are the gonads or sex glands and their action is so important that we must consider them in greater detail.

The Sex Glands

We have seen that the testicular hormone is responsible for two separate functions, namely the changes which occur at adolescence, and the maintenance of virility throughout life, and the process of male sex differentiation in early embryonic life.

The ovarian function is more complicated however. It plays the same part in female adolescence as does the testicular hormone in the male, but owing to the fact that woman's sex make-up is far more complicated than that of man, its influence is far more varied.

Woman's sex life is centred around the menstrual period which appears once a month in a "cycle" which lasts twenty-eight days during which the uterus is either preparing its lining for the reception of a fertilized egg, removing the lining because the fertilized egg has not transpired, or resting. Briefly stated the sequence of events is as follows :— After the period has finished there are no marked changes in the uterus itself. There is, however, some hormone action from the pituitary gland which stimulates the ovary to produce more of its internal secretion—œstrin. The œstrin stimulates the growth of the Graffian follicle which bursts about the fifteenth day. After this two things may happen according to whether fertilization occurs or not.

IF FERTILIZATION DOES NOT OCCUR. The cells of the Graffian follicle which remain in the follicle and which have been producing œstrin now change their action and secrete another hormone called the follicular hormone. The cells

in the follicle grow very quickly and the whole is called the corpus luteum (yellow spot). This change of secretion in the follicular cells from œstrin to the follicular hormone is thought to be brought about by another hormone from the anterior pituitary.

The follicular hormone now stimulates an immense growth of the lining of the uterus. This increases for some days and then, as fertilization has not occurred, the follicular cells in the corpus luteum diminish in size; the action of the follicular hormone gets weaker and is overcome by the œstrin coming from the ordinary ovarian cells. This process finally terminates in the death of the corpus luteum; the throwing off of the uterus lining at the menstrual period, and the uninterrupted sway of œstrin.

IF FERTILIZATION OCCURS. In this case the growth of the corpus luteum is enormously increased and prolonged, as is the production of its follicular hormone and therefore the growth of the uterus lining. The exact mechanism that brings this about is not completely understood but the result is that the fertilized egg embeds itself in the lining of the uterus and here it grows and develops for the nine months of pregnancy. Its position and security in the uterine wall (and of the placenta later) is maintained by the action of the corpus luteum which persists right through the pregnancy although its action and importance diminish as full-term approaches.

It occasionally happens that the action of the follicular hormone does not seem to be sufficient to overcome or maintain a constant superiority over œstrin. As a result of this the fœtus does not get properly embedded and frequently detaches itself and terminates in an abortion.

There are some people who persistently abort at about the third month and this is usually due to the deficient action of the corpus luteum. It can occasionally be prevented by the injection of large doses of extract of corpus luteum.

This brief and not too technical explanation of the functioning of the pituitary and ovarian hormones explains the complicated processes that govern uterine function. It will

be readily understood that woman's sexual life is divided into two cycles. There is the cycle of growth and preparation and there is the cycle of regression. There is much evidence to show that woman's sex desire also goes in cycles. Increased desire for coitus seems to coincide with the few days leading up to the bursting of the egg, *i.e.*, from about the seventh to the fifteenth day. This of course is as it should be ; an increase of sex desire should occur during the time when conception is most likely to occur.

We can now appreciate how it is that some people have highly sexed natures and others are not troubled in this particular way. Our characters and behaviour are influenced by these glands to a far greater extent than we have realized before. If these facts were more universally appreciated people would not be so ready to criticize those who exhibit variations in sexual behaviour which are not precisely the same as their own.

The different methods of family limitation have been discussed at length and any intelligent person who considers this matter dispassionately must agree, I think, that the scientific method of family limitation is the only possible method that can commend itself to thinking people. The benefits that can come to society by its constructive use are unlimited. We have here potential forces for good, that might—if universally practised—diminish the danger of wars, limit unnecessary suffering and reduce maternal mortality. The happiness and contentment that comes to those who practise it throughout their lives has to be seen to be believed. That it possesses possibilities for evil must be admitted, but so does everything else that was ever invented for human betterment. The beneficial uses to which it can be put far outweigh the possible evils which, as a matter of fact, could be reduced to a minimum by a sound policy of sex education. We shall consider this matter at greater length in the final chapter.

We must now turn our attention to the medical indications for the practice of contraception and the manner in which the proper knowledge regarding the safest methods can be disseminated throughout the country. These are matters

of profound interest to any nurse because she cannot be expected to support this new work unless she understands its principles, and knows not only the type of case most in need of assistance, but the rules and regulations governing the distribution of this knowledge.

CHAPTER VII

MEDICAL INDICATIONS

WHEN we were discussing the abortion question in Chapter II. we found that the whole matter, although so vitally important to woman's health and happiness, is in such a chaotic state that the Government has no policy with regard to the problem. Even the law relating to the subject dates back nearly a hundred years. Abortion is not permitted. Contraceptive advice on the other hand is not only permitted, but encouraged.

We have already seen on p. 48 that the Ministry has provided the Local Authorities with special powers if they care to use them. There can be little doubt that these powers will have to be greatly extended in the near future, in fact the main object of the N.B.C.A. is to persuade the Government to make contraceptive advice available for all married women whether they are medical cases or not. The birth control clinic or the gynæcological clinic should become a normal part of the health services of the country and all women should be encouraged to attend them, in precisely the same way that they are encouraged to visit the ante-natal clinic or the post-natal clinics. Not only are these clinics valuable from the point of view of birth control, but they are also valuable because many minor conditions are discovered which require treatment.

The trouble is that in many cases the Local Authority, either through misunderstanding or indifference or on account of sectional opposition, will not use the powers with which they are provided. The constructive and preventive value of contraception has not yet penetrated the official mind, nor for that matter the lay mind. It is up to those who see the immense possibilities for good that exist in this new movement to do everything in their power to stir up interest in the subject in their own areas.

Medical Cases

A brief outline of various conditions in which pregnancy is contra-indicated will show the large variety of persons requiring this help. We may divide them roughly into temporary and permanent conditions.

TEMPORARY. The first condition is spacing. The arrival of children should be regulated both in the interests of the mother and child. Lord Horder tells us that " indiscriminate childbearing is a disease ", and this is amply borne out by the facts mentioned earlier in this book. The authors of *Sex Ethics*, four leading gynæcologists, consider that " trivial disturbances of normal physical fitness ", such as influenza, boils and post-operative convalescence, are temporary conditions. A more debatable point is whether unemployment, debility due to lack of suitable food and bad housing, are also indications. It could be argued, and I think quite rightly, that amelioration of the condition by providing proper food, work and housing, is the correct treatment. Nevertheless, until such time arrives that no one is unemployed and we all live in nice houses and have proper nourishment, the judicious practice of contraception is to be advocated. After all, contraception should really be a part of one's general life and children should not come if their arrival is going to lower the whole economic status of the household. We can therefore place the results of these bad social conditions in the temporary class, *i.e.*, rapid pregnancies, debility, anæmia and general under-nourishment. Most nurses must know of many such cases where all the woman needs is a little respite from the constant overstrain occasioned by these excessive pregnancies. There is evidence to show that multiparity increases the maternal death rate. The Scottish Report on Maternal Mortality shows that this reaches twice as high as the average in women with nine pregnancies or over. It is doubtful if these conditions could be included in the Ministry's term " detrimental to health ". Every case would have to be dealt with on its merits. With regard to the permanent conditions, however, there can be no disagreement.

Permanent Conditions

TUBERCULOSIS. It is generally agreed by most authorities that tuberculosis, particularly of the lungs, is made worse by pregnancy. Not only is the condition dangerous for the woman but the children are frequently liable to future infection. Even a woman with a cured condition in the lungs runs a severe risk should a further pregnancy occur. Should the nurse come across a case it is her duty to indicate the possible dangers and to endeavour to persuade the patient to visit a clinic. Should she suspect the presence of trouble in an as yet undiagnosed case she should of course persuade the woman to seek medical advice.

HEART DISEASE. The majority of heart disease is due to rheumatism, and most of these cases are made worse by pregnancy. The recent report of the B. M. A. on abortion stresses this point and considers that in many cases abortion may be advisable. Other heart conditions such as auricular fibrillation, serious valvular disease, paroxysmal tachycardia and myocardial degeneration are all possible causes for abortion.[1] How much more then is contraception indicated.

Unsuspected heart disease is frequently discovered at the ante-natal clinics and nurses should always be on the look out for signs that may indicate this condition. The most important of these are shortness of breath, palpitation and puffy ankles.

Diabetes, hyperthyroidism, severe anæmia and pyelitis are all indications, as are severe abdominal operations, lax muscles in multiparæ and repair operations to the pelvic organs. Any venereal disease is of course an absolute indication for the avoidance, not only of pregnancy, but even of coitus.

HEREDITARY CONDITIONS. Many diseases such as disseminated sclerosis, hereditary blindness, mental deficiency and some types of epilepsy are contra-indications to childbirth.

MENTAL DEFICIENCY. This subject has received so much publicity during the last few years that something must be said about it in this book. The report of the Brock Com-

[1] B. M. A. Report, section 26.

mittee on Sterilization, issued in 1935, has enabled many people to clarify their views and indicates the difficulties of the problem. The main fact for us to note is that there are roughly 300,000 mentally deficient people in the country, two-thirds of whom are breeding freely. This does not include those who may not themselves be mentally deficient but who are " carriers " of degenerate genes. Many people, whilst not being mentally deficient, are undoubtedly of subnormal mentality. The problem of dealing with these ever-increasing numbers is one of immense difficulties. Some people recommend that voluntary sterilization should be permitted in the country so that some at least of these people might be prevented from breeding. The difficulty is, however, that sterilization will not touch the carriers. Incidentally, sterilization is not castration, which means the total removal of the ovaries or testicles, and is a seriously maiming operation. Sterilization is a comparatively simple operation in the male and consists of cutting out a small portion of the vas as it passes up the groin and before it enters the abdominal cavity. It can be done under a local anæsthetic and the only result that it has is to prevent the sperms from travelling up the vas. The sperm producing cells eventually die off but the other cells that manufacture the internal secretions are left intact. In the woman the operation consists of tying or cutting the Fallopian tubes and is more serious as it necessitates opening the abdomen.

Some mental defectives, or those bearing the recessive genes of mental deficiency, are capable of practising contraception but the majority unfortunately are not sufficiently intelligent, or do not possess the determination to carry out the required technique for a long time. Some cases can of course be aborted if they are recognized and are willing, but it is obvious that this cannot be practised on a large scale, nor would such treatment be desirable. At present we can only state the position and leave each case to be decided on its merits.

The laws in Russia and Germany have been so framed as to include rules for dealing with these cases. Time alone can indicate the success or failure of the experiment.

Another large group of women who should practise contraception are those suffering from repeated miscarriage, cervical conditions, prolapse and so on. Some of these may be of a temporary nature, others permanent.

Albuminuria of Pregnancy

This is an important subject and one which is of almost daily occurrence. In fact I should say that the condition is becoming more prevalent rather than the reverse. In discussing this matter the Committee on Maternal Mortality states: "It is generally admitted that about 4 per cent. of all pregnant women suffer from albuminuric toxæmia of all grades of severity, an incidence of 28,000 yearly. If we assume as a moderate estimate that 35 per cent. of these ultimately become the victims of chronic renal disease, or recurrent albuminuria, it means that every year at least 10,000 puerperal women are more or less seriously damaged from this cause alone". It is obvious therefore that a large number of women who suffer from this condition are liable to recurrent attacks in later pregnancies. It is *essential* that these women are given time to recover. As a matter of fact one frequently finds that a woman will seemingly recover completely from an attack and will decide to have another baby only to find that she again becomes ill. It seems that the woman can keep fit provided that the kidney is not subjected to the added strain of pregnancy. Each attack is worse than the last, and of course, causes further damage to the kidney. I have dealt with this problem at some length because I do not think that the seriousness of the condition is fully realized by many nurses and certainly not by the patient, who cannot understand why, if she feels so well, she cannot have another child. It is essential to point out that they may do permanent damage to their kidneys which may not only materially shorten their life, but frequently leads to much ill health and discomfort with a consequent inability to look after their husband and the children they already possess.

As a matter of fact, there are many members of the medical profession who are not as attentive to this matter as they

should be, in fact the nurse must always remember that many medical men are still woefully ignorant of the principles of contraception and do not encourage its practice. Nevertheless, it is usually possible to find some doctor or clinic who will give help and advice.

Eclampsia

This condition is of course far more serious, but there is a tendency for people to think that if a person has had one attack there is less likelihood of another occurring. There is evidence to show that a large proportion of eclamptics have further attacks in future pregnancies.

PUERPERAL MANIA. This is a definite indication for the prevention of conception. It is a dangerous condition with a high mortality rate, and if recovery occurs a future pregnancy will usually cause a return of the conditions with fatal results.

This short account of the medical conditions in which further pregnancies would be detrimental to health indicates their wide range. In many instances the ultimate decision must be made by the doctor or even by the patient herself. After all, if she likes to run the risk of a further pregnancy that is her own affair, provided the dangers have been pointed out to her. The nurse's responsibility is ended when she has done this.

The following statements are frequently made by the opponents of scientific contraception :—

1. That the seminal fluid has some other purpose than that of nourishing sperms, *i.e.*, that it has a hormone action.

2. That these hormones are absorbed into the body of the female and are therefore beneficial to the woman. The use of caps would prevent such absorption.

3. That cysts and so on are caused by the use of contraceptives. Some people go so far as to say that cancer is caused by their use.

4. That the caps and chemicals cause sepsis.

These and other similar statements have so far not been proved and when challenged for evidence the upholders of these opinions remain silent.

On the contrary the evidence is all the other way but it would require too much space to present it all here. Those who are interested can obtain the information from many recent publications on birth control.

With regard to the possibility of sepsis, the evidence from the clinics goes to show that not only is there no basis for the statement but that the chemicals and necessary attention to personal hygiene tend to improve the health of the vagina and cervix.

The nurse must remember that the decision as to whether a case is one coming under the Ministry's permission, that is to say, one for which the Local Authority can pay, does not rest with her but the Medical Officer in charge of the clinic. Doubtful cases can of course attend voluntary clinics in which case they would be expected to pay a small fee.

CHAPTER VIII

THE FUTURE OF CONTRACEPTION

WHAT of the future ? Have we reached finality ? Certainly not. It is possible that the future of contraception does not lie in the use of mechanical means at all. As I wrote recently in *The Practitioner*, we must realize that : " Contraception has passed the stage of adolescence ; it is a valuable addition to preventive medicine. It affects all aspects of life, and can be used eugenically for the good of society or disgenically for its destruction. Its practice presents many problems. Abortion, marital disharmony, social betterment, national health and population—who knows whither its ramifications will spread " (*The Practitioner*, June, 1936).

There are three possible ways in which appliances may be eventually abolished. One is by the discovery of some chemical, so potent and yet so harmless to everything except the sperm, that the use of a cap will become unnecessary. Unfortunately, owing to certain mechanical conditions met with in some women it seems highly improbable that any vaginal method will be so safe that all mechanical barriers can be eliminated. A second line of advance lies in the possible use of vaccines prepared from the male sperms. Some recent work has been done on this subject both in America by Dr. Baskin and in Russia by Prof. Tushnov. The idea is to discover a vaccine which can be injected into women and will make them immune for a certain period, in precisely the same way that we can now immunize people against diphtheria.

A third possibility depends upon the action of hormones. It is conceivable that we shall eventually discover some hormone which can prevent the occurrence of pregnancy, whether injected into the patient or taken by mouth.

Most authorities are agreed that contraceptive advice

should be given to "medical cases". This view is stated emphatically in the Scottish Report on Maternal Health (1935) and in The Ministry's Report on Maternal Mortality and Morbidity. It is also embodied in the Memorandums issued by the Ministry dealing with the establishment of clinics (v. appendix). Any further extension of its use must be made subject to constructive principles.

THE SALE OF CONTRACEPTIVES. The present unsatisfactory position with regard to the sale and distribution of contraceptives is largely due to our past inability to realize the enormous increase that has arisen since the war in the demands of the public for information and appliances. There are hundreds of different varieties on the market and they are sold without any restrictions whatsoever. The fact that the majority of them are most unreliable does not yet seem to have penetrated the public mind. Prices vary enormously for the same article and there is no guarantee of reliability or freshness. A few firms are more particular and comply with the standards that are laid down by the National Birth Control Association. For instance all condoms should be dated so that the purchaser knows he is buying fresh goods. Unfortunately there are only one or two firms who do this. One cannot help thinking that some measures ought to be adopted to regularize the position so that only those articles should be sold which conform to certain standards. Moreover, the sale should be restricted to certain firms, shops, doctors and clinics. The public should be educated to this point of view because if there was sufficient public demand for proper control the Government would undoubtedly act. The principle to be aimed at is that contraception should be taught by the medical profession either privately or in clinics and that whilst the necessary appliances should be easily obtained they should be harmless, reliable, and cheap, and only sold by reputable firms and shops.

Another matter which needs ventilation is the type of drug that is used as a contraceptive. Almost all the chemicals on the market contain quinine as their main ingredient, but the objections to its use have already been discussed

(v. p. 46). There are better and safer chemicals which should be used. Those who want reliable information on these points should communicate with the N. B. C. A. who have a list of those firms who comply with the standards that are considered necessary. The indiscriminate sale of contraceptives is, in my opinion, to be condemned. The short description of methods which was given in Chapter III shows that the tendency is towards simplification, the raising of the standard of the contraceptive articles, and the regularization of their sale.

CONSTRUCTIVE PARENTHOOD. Can we form any further constructive ideas as to how this immense problem of voluntary parenthood is to be handled? The individual is an essential unit of the State and his or her behaviour has a bearing on the larger problems of national safety and health. We do not wish the population of the country to dwindle away. Neither do we wish the C3 part of the nation to reproduce its kind at the expense of the more healthy members. This latter point is not a matter of class but of health and eugenics. Ideally speaking only those who are healthy and are likely to produce healthy children untainted by disease should be allowed to breed, no matter to what social group they belong. Similarly all those who come from tainted stock should be dissuaded from adding to their type. Healthy children demand healthy parents and happy homes and so we cannot neglect problems of housing and nutrition. The family is the basis of society and a nation that throws over its family life is in danger of disaster. Healthy women should be encouraged to have as many children as they can reasonably manage and educate, the ideal number being about three or four per family. Some will necessarily have less, others can easily have more. No one has the right to produce tainted children—it is not fair to them. We must realize, however, that the majority of couples will practise some form of family limitation. This is all to the good provided such practice is done constructively and not selfishly; for the good of the family and for the benefit of the State. The methods used must be good methods which will not bring harm or ill-health to those using them. The woman's

individuality must be respected. Marriage must not be looked upon as an institution provided by society for the gratification of man's physical needs. It is something greater and finer, demanding the most careful thought and control. Practised under such circumstances and with such ideals contraception can only be of benefit both to the individual and the State. Unfortunately such ideals are as yet far from being universally practised.

The Nurse's Duty

Now what is the nurse's responsibility in all this? It must be remembered that she is not only a nurse, she is a citizen as well, and a citizen who has knowledge and training and therefore special responsibility. First and foremost, as I have frequently stated throughout this book, her duty is to her patient. If she thinks that the woman under her care would benefit from contraceptive advice it is her duty to talk to her, to explain things to her and, if necessary, to go with her to the clinic.

It is as much her duty to see to her patient's health in this matter as it is to see that she attends an ante-natal clinic to have her blood pressure taken or to eliminate the possibility of danger from a contracted pelvis.

It is not part of the nurse's duty to teach patients contraception or to advise them as to the best contraceptive. This is entirely a medical matter and outside her scope. Many nurses, of course, do fit patients and teach them, but this should always be done under medical supervision.

The patient, however, is not the only person who requires enlightenment regarding the principles of voluntary parenthood. The public as a whole is lamentably ignorant about the real meaning and purpose of voluntary parenthood, and is in equal need of constructive education. A nurse can quite easily combat wrong ideas, explain the advantages of proper clinics as opposed to haphazard methods, and show that there is a positive and constructive side to the matter. She can disseminate reliable information and can encourage any movement in her town or village towards a better understanding of sex matters. It must always be remem-

bered that whilst this book is mainly concerned with contraception this, in reality, is only part of a greater whole, namely the vital problem of sex education. And here we are practically on virgin soil for very little has been done.

SEX EDUCATION. If our ultimate aim is to build up a nation composed of healthy, happy families who are reasonably contented and provided with the necessities of life, one of our objects must be to provide efficient sex education. You may say that this is already done by the parents and in fact is an entirely personal matter between parent and child. One might be willing to agree with this view if one knew that the parents not only recognized their responsibility but were able to impart the correct knowledge. How many of my readers received anything like an adequate education in these matters? We must realize that most parents and a large proportion of teachers are quite incapable of imparting this information. Even if they know what to say they do not know how to say it, or, what is more important, when to say it. Just as constructive contraception is one of the cogs in the marriage machine, so is sex knowledge one of the cogs in that general system of education which is designed to guide us throughout life. Commencing in the cradle, its principles should be gradually unfolded throughout the early life of the child partly by the parent, partly by the teacher. Its problems should never be shirked and the questions that arise should always be answered carefully and truthfully. Perhaps the day is not far distant when sex instruction will form a normal part of the general biological teaching and will be given in every school throughout the country as a matter of course.

As things are to-day, however, we must realize quite definitely that the vast majority of young men and women are embarking on their careers with very little knowledge of sex and with the vaguest ideas of their responsibilities either to themselves or to others. The precise manner of dealing with these questions is outside the scope of this book, but broadly speaking we can say that we need a policy of education for the children, for the young adult, and for the parents themselves. This can be provided in some

measure by means of lectures arranged for particular groups. In particular should we concern ourselves with the problem of preparation for marriage. Is it not ridiculous that we allow young people to embark on one of the most serious adventures of life without any preparation. Marriage is just as important as nursing and in many ways as difficult and exacting in its demands and yet anyone can marry without any training at all. What a mess the nursing profession would be in if anyone could call herself " nurse " by simply putting on a uniform and signing a register. We hear much of the troubles and tribulations of marriage ; of the divorces and separations which occur so constantly, and of the misery endured so uncomplainingly by thousands of people. The authorities spend much time in discussing this unsatisfactory state of affairs and in endeavouring to draw up regulations for the prevention of divorce, but Society has no one to blame but itself if it allows people to be married in such a haphazard fashion and then finds that it doesn't work.

Those who are interested in the problem of Sex Education in schools should read the two excellent little books by Tucker and Pout already referred to and mentioned in the bibliography. These pioneers in sex education in schools have lectured to over 25,000 school children and have many excellent things to tell us. This, and similar matters are not outside the province of the nurse if she intends to make herself acquainted with many of these important questions which are rapidly coming to the fore.

The need for constructive thought is pressing. We have got to face up to realities and endeavour to meet the difficulties of the situation with intelligence and understanding. Negative criticism is useless unless it is accompanied by constructive suggestions. A policy of *laissez-faire* will get us nowhere.

The Training of Nurses

At present any ordered system of lectures on the principles of voluntary parenthood for the nurse during her training is conspicuous by its absence. It may be that her curriculum,

like that of the doctor, is over full, but it ought to be possible to squeeze in a lecture or two dealing with the broad principles of sexual physiology and anatomy, together with a little constructive advice regarding the management of the sex life.

The average nurse knows very little about contraception and still less about sex. She is given no teaching on the subject during her training and the text books she reads are gloriously free from a discussion of the simplest anatomical or physiological details. To the outsider it seems strange that a woman who comes into such close contact with human beings, who sees such distressing exhibitions of physical frailty and who ministers to the personal needs of man with such understanding and tenderness should be kept in such childish ignorance of the simple facts of sexual hygiene. After all, a nurse may for one reason or another remain unmarried but she deals with married people for the greater part of her life, and, whether married or single, she is a woman —moved by the natural impulses that come to all women. The vocation of celibacy may be definitely chosen by her, but that does not mean that knowledge of sex matters should be withheld from her; that she should shun the subject. Rather does it mean that she should know herself —understand herself and the urges and impulses that possess her. My experience of the celibate shows me that the best ones—whether men or women—are those who understand most about their own mental and physical composition.

There is nothing indelicate or indecent in discussing sex matters, but rather has it an importance that should give the subject a place in the curriculum of nurses' training.

The time has come to adopt a broader and more sensible attitude. The two professions of nursing and medicine come into closer contact with the raw side of human nature than any other body of people. It is high time that the idea of sex as being low, disgusting and sinful was eradicated from our minds. That it can become so degraded must be admitted, but there is absolutely no need for this to occur. That one of the most powerful instincts should be reduced to the level of the gutter is really ridiculous. Its rightful

use both in and out of marriage can be of inestimable benefit to us all and its energy can be utilized in the most idealistic and constructive manner. As I have said before changes will only be made when there is a demand for such changes from the rank and file. In this case we are considering matters which are of vital concern to the womanhood of this country. Need I say more ?

Whether or no instruction is given during the general education of the nurse, there can be no excuse for refraining from teaching the midwife the principles of voluntary parenthood. The subject is part of her daily life. She is up against its problems from the moment she takes over her first case. And yet I know of no training hospital for midwifery where a lecture or lectures is given on the subject. The position is almost ludicrous. All nurses undergoing midwifery training should have one or two lectures.

Many nurses having completed their training may feel inclined to learn the subject thoroughly so that they can take positions in clinics where contraception is taught. As the number of clinics grow, so will the demand for nurses who are qualified in this particular branch of nursing increase. Those nurses who are already in practice can do much to bring this matter to the front by suggesting to their central bodies and organizations that they have lectures on the theory and practice of contraception. Those who wish for special training cannot do better than attend one of the numerous clinics all over the country where they can receive proper instruction. They can obtain particulars from the Secretary, The National Birth Control Association, 26 Eccleston Street, London, S.W.

I have endeavoured to present the present knowledge of this subject in as dispassionate a manner as possible. Although I am an ardent advocate of what I preach I am fully aware that many people are still violently opposed to contraception. Much of this opposition is based on ignorance of the facts combined with a certain type of religious thought. I am firmly convinced that this attitude is wrong and it has been my endeavour throughout the whole of this book to present the facts as they exist and to show

that there is a definite relationship between science and religion in this matter. I cannot see that there is anything incompatible with the teaching of Christ and the understanding of our sex needs. Indeed I think that the challenge presented by the problems of marriage, divorce, abortion, and sex education in general provides the greatest opportunity to people of good will to find a solution compatible with true scientific knowledge and Christian principles. Science presents us with facts. We can use them for our own salvation or destruction. Ignore them we cannot if we wish to avoid disaster. The sanctity of the marriage state and the health of the women of this nation are of vital concern to us all. For the nurse the understanding and application of these principles provides her with one of the most valuable and constructive assets in her constant endeavour for the welfare of the mothers under her care.

It is frequently suggested that the fall in population is due to birth control. It is true that this may be one of the causes, but the recognition of the fact will not help us to solve the population problem. Often it has been pointed out that the terrific increase in population during the nineteenth century was abnormal and that the conditions of housing and labour that existed then no longer exist to-day. A large family was an asset in those days as we have seen already. What we have to realize is that the small family system has come to stay and that there are a variety of reasons to account for this, such as a disinclination for unlimited children—who are no longer a financial asset ; an inability to pay wages according to the numbers of a family ; housing and food conditions and so on. These are all important social conditions militating against the large family.

The small family has come to stay and so has birth control. What we have to do is to educate the public to a sense of its responsibilities in these matters and to realize that whether we have large families or small, the practice of scientific contraception along the lines I have indicated should become a natural part of married life.

In order to bring this about and to ensure that the new

knowledge we possess is used for the good of the individual, the State, and the future generation, we must institute a system of sex education and marriage preparation through which all the young people of the country should pass as a matter of course before being permitted to undertake the responsibilities of marriage.

APPENDIX

THE MINISTRY OF HEALTH'S MEMORANDA

G.R. Memo. 153.
M.C.W.

Birth Control

1. The Minister of Health is authorized to state that the Government have had under consideration the question of the use of institutions which are controlled by Local Authorities, for the purpose of giving advice to women on contraceptive methods.

2. So far as Maternity and Child Welfare Centres (including Ante-Natal Centres) are concerned, these Centres can properly deal only with expectant mothers, nursing mothers, and young children, and it is the view of the Government that it is not the function of the Centres to give advice in regard to birth control and that their use for such a purpose would be likely to damage the proper work of the Centres. At the same time the Government consider that, in cases where there are *medical grounds* for giving advice on contraceptive methods to married women in attendance at the Centres, it may be given, but that such advice should be limited *to cases where further pregnancy would be detrimental to health*, and should be given at a separate session and under conditions such as will not disturb the normal and primary work of the Centre. The Minister will accordingly be unable to sanction any proposal for the use of these Centres for giving birth control advice in other cases.

3. The Government are advised that Local Authorities have no general power to establish birth control clinics as such, but that under the Notification of Births (Extension) Act, 1915, which enables Local Authorities to exercise the powers of the Public Health Acts for the purpose of the care of expectant mothers and nursing mothers, it may properly be held that birth control clinics can be provided for these limited classes of women. Having regard to the acute division of public opinion on the subject of birth control, the Government have decided that no Departmental sanction which may be necessary to the establishment of such clinics for expectant and nursing mothers shall be given except on condition that contraceptive advice will be given only in *cases where further pregnancy would be detrimental to health.*

4. Under the Public Health Acts, Local Authorities have power to provide clinics at which medical advice and treatment would be available for women suffering from gynæcological conditions. But the enactments governing the provision of such clinics limit their availability to sick persons, and the Government have decided that any Departmental sanction which may be necessary to the establishment of such clinics shall be given only on the following conditions: (1) That the clinics will be available only for women who are in need of medical advice and treatment for gynæcological conditions; and (2) that advice on contraceptive methods will be given only to married women who attend the clinics for such medical advice or treatment, *and in whose cases pregnancy would be detrimental to health.*

Ministry of Health, July, 1930.

Circular 1408.

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Maternity and Child Welfare Authorities.

MINISTRY OF HEALTH,
WHITEHALL,
LONDON, S.W.1.
31*st May,* 1934.

Birth Control

SIR,

1. I am directed by the Minister of Health to refer to Memorandum 153/M.C.W. dated March, 1931, and Circular 1208 of the 14th July, 1931, and more particularly to paragraph 4 of the Memorandum and paragraph 3 of the Circular which deal with the provision under the Public Health Acts of clinics for women suffering from gynæcological conditions. It was stated in paragraph 4 of the Memorandum that the Government had decided that any Departmental sanction which might be necessary to the establishment of such clinics should be given only on condition:—

(1) that the clinics will be available only for women who are in need of medical advice and treatment for gynæcological conditions and (2) that advice on contraceptive methods will be given only to married women who attend the clinics for such medical advice or treatment, and in whose cases pregnancy would be detrimental to health.

2. The Authority will be aware that the Departmental Committee on Maternal Mortality and Morbidity, in their Final Report published in 1932, called special attention to the importance of the avoidance of pregnancy by women suffering from organic disease such as tuberculosis, heart disease, diabetes,

chronic nephritis, etc., in which childbearing is likely seriously to endanger life. The Committee considered that advice and instruction in contraceptive methods should be readily available for such women.

3. It was pointed out in the Memorandum and Circular of 1931 that the powers which the Public Health Acts confer upon Local Authorities for the provision of clinics limit their availability to sick persons, but the Minister is advised that there is nothing to prevent the Local Authority from rendering such a clinic available for women suffering from forms of sickness other than gynæcological conditions. After careful consideration of the recommendation made by the Departmental Committee, the Minister is of opinion that where a Local Authority has provided a clinic at which medical advice and treatment are available for married women suffering from gynæcological conditions, and at which contraceptive advice is afforded to married women so suffering in whose cases pregnancy would be detrimental to health, it would be proper also for married women who are suffering from other forms of sickness, physical or mental, such as those mentioned in the Report of the Departmental Committee, which are detrimental to them as mothers, to be afforded contraceptive advice at the clinic if it is found medically that pregnancy would be detrimental to health. What is, or is not, medically detrimental to health must be decided by the professional judgment of the registered medical practitioner in charge of the clinic.

I am, Sir,
Your obedient Servant,
A. K. MACLACHLEN,
Assistant Secretary.

The Clerk to the Local Authority.

BIBLIOGRAPHY

Books make excellent presents! Those recommended here cover a wide field and serve different purposes. Some are useful to give to others; some are standard text books and are fairly technical. Others again are more general in outlook or deal with one particular aspect of the problem. Some are cheap and others are expensive, but the expensive ones can usually be obtained from a library such as Messrs. H. K. Lewis's, Gower Street, London, W.C.

Awkward Questions of Childhood. Tucker and Pout. Howe Ltd. 3*s.* 6*d.*
Describes how children's questions can be answered intelligently and simply.

Abortion. Stella Browne, A. Ludovici and H. Roberts. Allen & Unwin. 4*s.* 6*d.*
An excellent *résumé* of the position both for and against abortion.

Abortion—Spontaneous and Induced. Taussig. H. Kimpton. 32*s.*
The best text book on the whole subject.

Christian Ethics and Modern Problems. Dean Inge. Hodder & Stoughton. 5*s.*
Dean Inge has many trenchant criticisms to make which are most stimulating to thought.

Men, Women and God. A. Herbert Gray, D.D. S.C.M. Press. 3*s.*
An excellent book dealing with the relationships between men and women.

Modern Marriage and Birth Control. Edward F. Griffith. Gollancz. 5*s.*
Intended primarily for those who have recently married or are engaged.

Preparation for Marriage. British Social Hygiene Council. 5*s.*
Many well-known authors have contributed to this book which covers the whole field of sex relationships.

Right Marriage. Barry, Mullins and White. S.C.M. Press. 6*d.*
An outspoken and constructive pamphlet which can be given to young people thinking of marriage.

Sex Education in Schools. Tucker and Pout. Howe Ltd. 3*s.* 6*d.*
Describes the method adopted by these two pioneer teachers.

The Health of the Mind. J. R. Rees. Faber & Faber. 6*s.*
An excellent little book by a well-known psychologist.

Morality on Trial. Hugh Martin. S.C.M. Press. 2*s.*
Discusses modern social problems clearly and constructively.
The Principles of Contraception. Joan Malleson. Gollancz. 3*s.* 6*d.*
Explains the technique admirably.
The Sex factor in Marriage. Dr. Helena Wright. Noel Douglas. 3*s.* 6*d.*
One of the best books on the subject and most readable.
What is Sex? Dr. Helena Wright. Noel Douglas. 5*s.*
Youth Sex and Life. Dr. Gladys M. Cox. Pearson. 3*s.* 6*d.*
These two books provide all the information that is necessary for young people to know.
The Woman's Book of Health. Proprietors of Woman's Friend. 3*s.* 6*d.*
A valuable book for a young married woman to keep by her.
The Science of Human Reproduction. Parshley. Allen & Unwin. 25*s.*
An excellent explanation of the biology of sex. Well illustrated and easy to read.
Voluntary Sterilisation. C. P. Blacker. Oxford Univ. Press. 5*s.*
The best short book on the subject.
The Future of Marriage in Western Civilisation. E. Westermarck. Macmillan. 12*s.* 6*d.*
The title is self-explanatory and the author's name is sufficient guarantee as to the value and interest of the book.
Birth Control. Dr. Helena Wright. Cassells. 1*s.*
A good cheap book which is easy to understand and can be recommended to clinic patients.
Marriage, Past, Present and Future. Ralph de Pomerai. Constable. 15*s.*
An excellent book dealing with the whole history of marriage.
Medical History of Contraception. Norman E. Himes. Williams & Wilkins. 25*s.*
The only book of its kind. Easy to read and most informative.
The Control of Conception. Dickinson and Bryant. Baillière Tindall & Cox. 20*s.*
A technical book crammed full of interesting information.
Birth Control and Its Opponents. Frank W. White. Bale & Danielsson. 3*s.* 6*d.*
Presents the case for constructive contraception in a most convincing manner.
Birth Control in Practice. Dr. Marie Kopp. McBride. 15*s.*
An examination of 10,000 cases in America. Full of information.

Sex. B. P. Wiesner. Butterworths. 2*s.* 6*d.*
Explains the biology of sex simply and clearly.
Planned Parenthood. Dr. Mary Denham. George Newnes. 3*s.* 6*d.*
A simple explanation of different methods.
Parenthood. Design or Accident. Michael Fielding. Williams & Norgate. 2*s.*
This excellent little book has sold well over 100,000 copies, so there must be something in it !
Laws of Life. Halliday Sutherland. Sheed & Ward. 6*s.*
This is written by a well-known opponent of much that I am in favour of. Nevertheless, I find it an interesting book that presents the other's point of view well and fairly. It is particularly valuable owing to its explanation of the " Safe Period ".
Ideal Marriage. Van de Velde. Heinemann. 25*s.*
The author has contributed much towards a more constructive outlook regarding marriage and all his books are well worth reading. This one in particular will be found of great interest to the general reader.
Fertility and Sterility in Marriage. Van de Velde. Heinemann. 25*s.*
Sex Efficiency Through Exercises. Van de Velde. Heinemann. 25*s.*
Sex Hostility in Marriage. Van de Velde. Heinemann. 17*s.* 6*d.*
Ideal Birth. Van de Velde. Heinemann. 10*s.* 6*d.*
Psychology of Sex. Havelock Ellis. Heinemann. 12*s.* 6*d.*
This is probably the first book that should be read by anyone wishing to get a clear idea of the meaning of sex, and is written by the greatest authority on the subject.
The Hygiene of Marriage. Isabel Hutton. Heinemann. 5*s.*
An excellent little book.
The Sexual Life of Savages. B. Malinowski. Routledge. 15*s.*
A standard work which has thrown much light on sexology.
Marriage, Children and God. Claud Mullins. Allen & Unwin. 6*s.*
An excellent book by the well-known Metropolitan Magistrate, which should be read by anyone interested in present-day social problems.
How a Baby is Born. K. de Schweinitz. Howe. 2*s.* 6*d.*
A delightful book for young children.
Marriage and Parenthood. Society of Friends. 3*d.*
A most excellent pamphlet to give people.
Sex Education for Children. Dr. C. P. Blacker. Eugenic Society. 3*d.*

LIST OF VOLUNTARY AND MUNICIPAL CLINICS

London and District

CROYDON MOTHERS' AND INFANTS' WELFARE ASSOCIATION, BIRTH CONTROL CLINIC, 33, ST. JAMES' ROAD, CROYDON, SURREY.	2nd and 4th Wednesdays, 2.30–4 p.m.
DAGENHAM AND DISTRICT BIRTH CONTROL CLINIC, THE CLINIC, BECONTREE AVENUE, DAGENHAM, ESSEX.	2nd and 4th Thursdays, 7–9 p.m.
EAST LONDON WOMEN'S WELFARE CENTRE, 6, BURDETT ROAD, STEPNEY, E.3.	Mondays and Wednesdays, 2.30–4 p.m.
GOSWELL WOMEN'S WELFARE CENTRE, 39, SPENCER STREET, GOSWELL ROAD, E.C.1.	Mondays, 6.30–8 p.m. Thursdays, 2.30–4 p.m. Gynæcological Clinic : Fridays, 7.30 p.m.
GREENWICH WOMEN'S WELFARE ASSOCIATION, 118, WOOLWICH ROAD, NEAR WESTCOMBE HILL, S.E.10.	Thursdays, 2–4 p.m.
LAMBETH WOMEN'S WELFARE CENTRE, 53, ETHELRED STREET, S.E.11.	Wednesdays, 6.30–8 p.m.
*MOTHERS' CLINIC, 108, WHITFIELD STREET, TOTTENHAM COURT ROAD, W.1.	Daily (except Saturdays), 10 a.m.–6 p.m.
NORTH KENSINGTON WOMEN'S WELFARE CENTRE, 12, TELFORD ROAD, LADBROKE GROVE, W.10.	Mondays and Fridays, 2.30–4 p.m. ; Tuesdays and Wednesdays, 6.30–8 p.m. Gynæcological Clinic : Thursdays and Fridays, 2–3.30 p.m.
WALWORTH WOMEN'S WELFARE CENTRE, 153A, EAST STREET, S.E.17.	Tuesdays and Fridays, 2.30–4 p.m. ; Thursdays, 6.30–8 p.m.
WILLESDEN WOMEN'S WELFARE CENTRE, MUNICIPAL HEALTH CENTRE (1), 9, WILLESDEN LANE, KILBURN, N.W.6.	Wednesdays, 6.30–8 p.m.

Owing to pressure of numbers at the Goswell and North Kensington clinics, only those patients are seen whose incomes do not exceed £5 a week.

Provinces

ALDERSHOT AND DISTRICT WOMEN'S WELFARE CENTRE, Manor Park House, Manor Park, Aldershot, Hants.	1st and 2nd Tuesdays, 3–5 p.m.
ASHINGTON AND DISTRICT BIRTH CONTROL CLINIC, Child Welfare Centre, Ashington, Northumberland.	Last Friday in month, 2.30–4 p.m.
BASINGSTOKE MOTHERS' CLINIC, Castons Road, Market Square, Basingstoke, Hants.	Alternate Fridays, 2.30–4 p.m. *For dates, apply Secretary*
BIRKENHEAD MOTHERS' WELFARE CLINIC, 11a, Oxton Road, Birkenhead, Cheshire.	Tuesdays, 2–3 p.m. Thursdays, 6–7 p.m.
BIRMINGHAM WOMEN'S WELFARE CENTRE, 22, Masshouse Lane, near Moor Street, Birmingham, Warwickshire.	Mondays, 2.30–4 p.m. Tuesdays, 7.30–9 p.m. Thursdays, 2.30–4 p.m
BRISTOL MOTHERS' WELFARE CLINIC, Salford Hall, 14, St. James' Barton, Bristol, Gloucestershire.	Fridays, 10–12 noon.
CAMBRIDGE WOMEN'S WELFARE ASSOCIATION, 22, Parsonage Street, Cambridge.	Wednesdays, 3–5 p.m.
CANNOCK AND DISTRICT WOMEN'S WELFARE CENTRE, Apply to: Mrs. Strange, Tinacre, Wightwick, Wolverhampton, Staffs.	
DERBY MOTHERS' CLINIC, Maternity and Child Welfare Rooms, Nightingale Road (Amber Street Entrance), Derby.	2nd and 4th Thursdays, 7.30–8.30 p.m.
DEVON (NORTH) WOMEN'S WELFARE AND ADVICE CENTRE, 113, Boutport Street, Barnstaple, Devon.	Every 3rd Tuesday, 2–4 p.m. *For dates, apply Secretary*
EXETER AND DISTRICT WOMEN'S WELFARE ASSOCIATION, The Dispensary, Queen Street, Exeter, Devon.	Fridays, 2–4.30 p.m.
GRIMSBY WOMEN'S WELFARE CLINIC, Watkin Street Hall, Grimsby, Lincs.	Mondays, 2.30–4 p.m.
GUILDFORD WOMEN'S WELFARE CENTRE, 6, Stoke Road, Guildford, Surrey.	1st and 2nd Wednesdays, 5 p.m.
HALIFAX WOMEN'S WELFARE CLINIC, 19, Savile Road, Halifax, Yorks.	2nd and 4th Wednesdays, 7–8.30 p.m.
HEREFORD WOMEN'S WELFARE CLINIC, 1, Carlton Flats, Eign Street, Hereford.	Wednesdays, 2–3.30 p.m.
KENT (EAST) MARRIED WOMEN'S ADVISORY CLINIC, 24, Gilford Road, Deal, Kent.	2nd and 4th Wednesdays, 3–4.30 p.m.

Provinces—*continued.*

*LEEDS MOTHERS' CLINIC, 68, BELLEVUE ROAD, LEEDS, YORKS.	10–6 p.m. daily (except Saturdays).
LIVERPOOL MOTHERS' WELFARE CLINIC, 23, CLARENCE STREET, OFF MOUNT PLEASANT, LIVERPOOL, 3, LANCS.	Wednesdays, 2–3 p.m. Fridays, 6.30–7.30 p.m.
BRANCH AT COMMUNITY HALL, TOWNSEND AVE., NORRIS GREEN, LIVERPOOL 11, LANCS.	Mondays, 2–3 p.m.
MANCHESTER, SALFORD AND DISTRICT MOTHERS' CLINIC FOR BIRTH CONTROL 123, GREENGATE, SALFORD, LANCS. (ENTRANCE GARDEN LANE.)	Thursdays, 3 p.m. and 7.30 p.m
MEDWAY TOWNS MOTHERS' ADVICE CENTRE, HENDERSON HOUSE, NEW ROAD, ROCHESTER, KENT.	1st and last two Tuesdays in the month, 2.30–4.30 p.m.
MERTHYR COUNTY BOROUGH VOLUNTARY BIRTH CONTROL CLINIC, GLEBELAND STREET CLINIC, MERTHYR TYDFIL, GLAMORGANSHIRE.	Alternate Fridays, 11 a.m. *For dates, apply Secretary*
NEWCASTLE WOMEN'S WELFARE CENTRE, 24, SHIELDFIELD GREEN, NEWCASTLE-ON-TYNE.	Tuesdays and Thursdays, 2.30–4 p.m.
NORTHAMPTON WOMEN'S WELFARE ASSOCIATION, MATERNITY AND CHILD WELFARE CENTRE, DYCHURCH LANE, NORTHAMPTON.	New Patients: Third Thursday in the month, 6.30–8.30 p.m. Return Visits: Fourth Thursday in the month, 6.30–7.30 p.m.
*NORWICH MOTHERS' CLINIC, 17, PITT STREET, NORWICH, NORFOLK.	Tuesdays, 3–4 p.m. Wednesdays, 7–8 p.m.
NOTTINGHAM WOMEN'S WELFARE ASSOCIATION, 15, MARKET STREET, NOTTINGHAM.	Thursdays, 6–8.30 p.m.
OXFORD FAMILY WELFARE ASSOCIATION, 4, KING STREET, JERICHO, OXFORD.	Wednesdays, 2.30–4 p.m. (women). Men: by appointment.
PLYMOUTH MOTHERS' ADVICE CENTRE, BEAUMONT WELFARE CENTRE, BEAUMONT PARK, PLYMOUTH, DEVON.	Tuesdays, 6.45–9 p.m.
PORTSMOUTH WOMEN'S WELFARE CENTRE, TRAFALGAR PLACE (CLIVE ROAD), FRATTON ROAD, PORTSMOUTH, HANTS.	Tuesdays, 6–8 p.m.
SALISBURY MARRIED WOMEN'S ADVISORY CLINIC, 49, HIGH STREET, SALISBURY, WILTS.	1st and 3rd Thursdays, 2–4 p.m.
SHEFFIELD WOMEN'S WELFARE CLINIC, ATTERCLIFFE VESTRY HALL, ATTERCLIFFE COMMON, SHEFFIELD 9, YORKS.	Tuesdays, 6–8 p.m.; 1st Tuesday in the month, 2.30–4 p.m.

Provinces—*continued.*

SLOUGH AND DISTRICT MARRIED WOMEN'S ADVISORY CLINIC, 272, FARNHAM ROAD, SLOUGH, BUCKS.	Wednesdays, 2.30–4 p.m.
SUNDERLAND WOMEN'S ADVISORY CLINIC, 46, JOHN STREET, SUNDERLAND, DURHAM.	2nd and 3rd Wednesdays, 2–4 p.m.
TYNEMOUTH AND DISTRICT WOMEN'S ADVISORY CENTRE, 1, CLEVELAND ROAD, NORTH SHIELDS, NORTHUMBERLAND.	Tuesdays, 2–4 p.m. 1st and 2nd Tuesdays in the month, 7–8 p.m.
WELWYN MARRIED WOMEN'S CLINIC, LAWRENCE HALL, APPLECROFT ROAD, WELWYN GARDEN CITY, HERTS.	2nd and 4th Fridays, 7.30–9 p.m.
WINCHESTER AND DISTRICT MARRIED WOMEN'S ADVISORY CLINIC, 4, THE SQUARE, WINCHESTER, HANTS.	2nd and 4th Thursdays, 2–4 p.m.
WOLVERHAMPTON, STAFFORDSHIRE AND DISTRICT WOMEN'S WELFARE CENTRE, 62, HEATH STREET, HEATH TOWN, WOLVERHAMPTON, STAFFS.	1st Wednesday in the month, 2–4.30 p.m.

Scotland

*ABERDEEN WOMEN'S WELFARE CENTRE, 4. GERRARD STREET, GALLOWGATE, ABERDEEN.	10–6 p.m. daily (except Saturdays).
EDINBURGH MOTHERS' WELFARE CLINIC, THE DISPENSARY, 21, TORPHICHEN STREET, EDINBURGH.	Tuesdays, 6.30–8 p.m. Fridays, 3–4.30 p.m.
BRANCH AT CRAIGMILLAR COLLEGE, NIDDRIE, EDINBURGH.	Fridays, 6–8 p.m.
GLASGOW WOMEN'S WELFARE AND ADVISORY CLINIC, 123, MONTROSE STREET, GLASGOW, C.1.	Tuesdays, 7–8 p.m. Thursdays, 3–4 p.m.
GREENOCK, THE BIRTH CONTROL CLINIC, MATERNITY AND CHILD WELFARE CENTRE, 3, TERRACE ROAD, GREENOCK, RENFREWSHIRE.	Alternate Mondays, 7–9 p.m. *For dates, apply Secretary*
PAISLEY MOTHERS' CLINIC, CO-OPERATIVE HALL, BANK STREET, PAISLEY, RENFREWSHIRE.	Tuesdays, 7–8 p.m.

All Clinics on this list are under medical supervision. At those marked with an asterisk patients are normally advised by a certified midwife, at all the rest they are advised by a doctor.

LOCAL AUTHORITIES

The following Local Authorities provide advice on birth control for those women who need it on medical grounds.

London and District

Acton M.B.
Barnes M.B.
Bethnal Green Met. B.
Croydon M.B.
Dagenham U.D.C.
Dartford M.B.
Ealing M.B.
Edmonton U.D.C.
Fulham Met. B.
Greenwich Met. B.
Harrow U.D.C.
Kensington Royal Borough
Paddington Met. B.
Romford U.D.C.
Shoreditch Met. B.
Southall U.D.C.
Southgate M.B.
Stoke Newington M.B.
Walthamstow M.B.
Wandsworth Met. B.
Wembley U.D.C.
West Ham C.B.
Willesden M.B.

Provinces

Aldershot M.B.
Ashington U.D.C.
Banbury M.B.
Barrow-in-Furness C.B.
Bath City C.
Batley M.B.
Bedford M.B.
Bedlington U.D.C.
Birmingham City C.
Blackpool C.B.
Bournemouth C.B.
Brighton C.B.
Bristol City C.
Bucks C.C.
Burton-on-Trent C.B.
Cambridge M.B.
Cambridgeshire C.C.
Chelmsford M.B.
Cheltenham M.B.
Crewe M.B.
Devon C.C.
Dewsbury C.B.
Doncaster C.B.
Dudley C.B.
Durham C.C. (6 centres)
  Birtley
  Bishop Auckland
  Consett
  Durham City
  Felling
  Seaham Harbour
Essex C.C. (7 centres)
  Braintree
  Brentwood
  Hornchurch
  Laindon
  Maldon
  S. Benfleet
  S. Chingford
Exeter City C.
Gillingham M.B.
Gloucester City C.
Gloucestershire C.C.
Grimsby C.B.
Halifax C.B.
Hants C.C.
Hebburn U.D.C.
Hove M.B.
Hull City C.
Kendal M.B.
Leeds City C.
Leicester City C.
Leics. C.C.
Lincoln C.B.
Liverpool City C.
Lytham St. Annes M.B.
Manchester City C. (2 clinics)
Mexborough U.D.C.
Middlesex C.C.
Newburn, etc., U.D.C.
Newcastle City C.
Norfolk C.C.
Northampton C.B.
Northants C.C.
Northumberland C.C.
Norwich City C.
Nottingham City C.
Nuneaton M.B.
Oxford City C.
Plymouth City C.
Portsmouth M.B.
Reigate M.B.
Rochdale C.B.
Rotherham C.B.
St. Helens C.B.
Salford City C.
Sheffield City C.
Somerset C.C.

Provinces—*continued.*

Southampton C.B. (2 clinics)
Stoke-on-Trent C.B.
Stretford M.B.
Sunderland C.B.
Sussex (East) C.C.
Sussex (West) C.C.
Swinton (Lancs) M.B.
Tilbury U.D.C.
Torquay M.B.
Tynemouth C.B.
West Bromwich C.B.
West Hartlepool C.B.
West Riding C.C. (4 centres)
  Doncaster
  Hipperholme
  Leeds
  Swinton
Worcestershire C.C.
York City C.

Wales

Aberavon and Port Talbot M.B.
Aberdare U.D.C.
Barry U.D.C.
Caerphilly U.D.C.
Colwyn Bay M.B.
Denbighshire C.C.
Gellygaer U.D.C.
Glyncorrwg U.D.C.
Llantrisant R.D.C.
Mountain Ash U.D.C. (3 clinics)
Ogmore and Garw U.D.C.
Penarth U.D.C.
Pontypridd U.D.C.
Rhondda U.D.C.

Scotland

Aberdeen M.B.
Renfrew, Royal B.

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