THE DEVELOPMENT of the oral contraceptives has been a major scientific achievement which can become a significant step towards man's mastery of nature.

While much is still unclear about the exact mode of action of oral contraceptives, as much is still unknown about basic reproductive physiology, the experience of their use by many millions of women over periods of up to a decade proves their almost complete efficiency, indicates that they can be used by most women without undue side effects, and that long-term use dangers remain only hypothetical.

The oral contraceptives resulted from deliberate research as shown in the following quotations from contributions to the "Symposium on the Long-term Effects of Progestational Steroids", held in New Jersey in May, 1964:

Due to an increasing awareness of world society of uncontrolled population growth and also to the recognition of the need for effective methods of birth spacing to protect the health of mothers and children, the search for harmless and low-priced contraceptives is gaining momentum.

In recent years there has been a tremendous upsurge in the study of reproductive physiology directed towards the control of ovulation.

Increasing awareness of world population growth has stimulated the development and study of many oral contraceptive agents.

There have been three main motives. Besides the social one of individual family planning and health, and the political motive of population control, particularly in the under-developed countries, there is the driving force of profit for the drug combines which are aware of huge potential markets for their production of oral contraceptives.

The symposium quoted from above was one of several held recently in USA and Britain, usually with help from the drug
firms. In the aggregate hundreds of workers in the various fields—biochemistry, physiology, pathology, clinical medicine, demography, social science and statistics, among others—have presented and discussed a great volume of materials on the relevant problems. In particular, the actual and potential effect of these preparations, both short and long term, have been given wide, searching scrutiny.

In Britain the Council for the Investigation of Fertility Control co-ordinates the study of the clinical effects of oral contraceptives; no such co-ordination exists in U.S.A., and the drug firms dominate the field.

Public awareness of possible dangers in the use of new drugs and the collective conscience of the large body of scientists in the many fields concerned, provide a sound basis for policing the safety of the oral contraceptives. Consequently the drug firms have to pay specially thorough attention to the safety as well as the efficacy of their products in this field.

Ovulation normally occurs in the course of changes in the ovaries which are regulated by hormones secreted by the pituitary gland situated in the base of the skull. These pituitary secretions are regulated by stimuli from the hypothalamus, a basal part of the brain. The hypothalamic centres are regulated mainly by the levels of the ovarian hormones circulating in the blood. It is this complex, delicately balanced system which controls the normal cycles of ovulation and menstruation, and, after fertilisation of the ovum, the other changes which lead to the development of the foetus, the birth of the baby and to lactation.

The contraceptive pill consists of a combination of an oestrogen and a progestin (synthetic analogues of the natural ovarian hormones), which act as contraceptives mainly, but not wholly, by preventing the growth and shedding of the egg cells of the ovaries. At the same time they produce cyclic changes in the lining membrane of the uterus which result in regular, artificial "menstruation".

The actual substances used and their amounts vary from one make of pill to another, but they are all synthetics, basically, and more or less closely related to the natural oestrogen and progestin (progesterone) of the ovary.

The pill became possible only after 1952 when progestins which were effective when taken by mouth were first synthesised. The natural substance, progesterone, besides being expensive to extract, can be used effectively only by injection.

The synthetic progestins are easily and relatively cheaply made and are active in quite small doses by mouth. The synthetic
oestrogens are cheaply produced and are effective in quite minute doses. From the large number of these artificial hormones that have been prepared, only a few are used in the pill—those that have survived rigorous biological assays in a variety of animals, and are also most economic to produce.

The oral method of contraception has the very great advantage, particularly for women, that as well as being quite reliable, the individual acts of intercourse are freed from any separate manipulations such as must be made in the chemical or mechanical methods. This freedom is also a feature of the use of plastic intra-uterine coils which are now becoming accepted as an effective, cheap and relatively safe contraceptive method for women who have already borne children.

Much attention, understandably, has been focussed on side-effects and possible dangers of long-term “pill” taking. Study of these in more or less large groups of women in many centres provides information allowing for objective study and conclusions. Of the side effects, nausea and various symptoms of ill-ease affect a minority of women, usually only during the first few cycles. Headache may occur and last for a longer period. A small proportion of women put on weight, usually only a few pounds and usually only during the first few months until a steady level is reached. “Break-through” bleeding seldom calls for more than a search for a make of pill more suited to the particular person. Rarely, a reversible skin pigmentation may develop. Side-effects account for a proportion of women rejecting the “pill”, but it has proved acceptable to the great majority of women offered it, including women in the under-developed countries.

The artificial menstruation produced by the pill does not always make its appearance, but, apart from possible anxiety that pregnancy may have occurred, no harm results. In fact, the question arises as to whether any menstruation, natural or artificial, is routinely necessary. This opens up the way to freeing women of one of their specific disabilities.

Earlier fears that prolonged interference with ovulation by the pill might lead to atrophy of the ovaries and thus produce sterility have not materialised. The ovaries of pill takers, examined during abdominal operations for example, have much the same appearance as those of menopausal women. But they have not atrophied as, within a short time (usually two to six weeks) of stopping the pill, the ovaries resume their normal cyclical functioning. Far from decreasing their fertility, it appears quite likely that women who stop taking the pill are more likely to become pregnant than others of similar ages. Whereas formerly it was thought necessary to cease taking the pill at intervals in order to
restore normal ovarian and uterine functions, today there are some specialists who think such precautions are not needed.

Formerly there was widespread concern that the pill, through its oestrogen content, might prove cancer producing. Much carefully analysed data from many thousands of examinations shows no evidence of uterine cancer increase in pill takers, but rather the reverse. Breast cancer appears to be less in pill taking women than in others of comparable age groups. However, uterine fibroids (non malignant tumors) may increase in size if present in pill takers. Systematic study of various body systems and organs has so far shown no significant effects in normal women. In women with pre-existing liver disease there may be harmful effects.

In the course of intensive research following reports and much press publicity about the occurrence of venous thrombosis in pill takers, some small changes have been noted in some of the many complex processes that make up normal blood clotting. These changes are similar to those noted to occur in the course of normal pregnancy, and, as in pregnancy, their significance is not yet understood. Statistical analysis of the occurrence of thrombosis in pill takers and comparable groups of other women have shown no significant difference in rates.

While continued vigilance and research is necessary and will no doubt be practised, it appears unlikely that any serious long-term effects of oral contraceptives will be found. On the other hand, they have proved of great benefit to many women and to many families, facilitating marital relationships, allowing for family planning, decreasing abortion and its possible after-effects, and decreasing the many problems, economic, social and psychological, associated with unwanted children.

The oral contraceptives and the 'sequential' type therapeutic modifications are proving very useful in the management of hormonal upsets of the female reproductive system, notably in menstrual and menopausal disorders, thus saving many wombs and ovaries from surgical removal—a truly major advance.

Yet another result of the research in the field of fertility control was the discovery that the drug, chlomiphene, while acting to prevent fertility in rats, induced ovulation in women. Its clinical use is still being investigated, the main problem being how to limit its stimulating effect, as women hitherto infertile tend to produce multiple foetuses when treated.

In these days the principle of contraception has been accepted as morally sound by most people, particularly as it applies to married couples. Even the Roman Catholic hierarchy is having to accept the actual position of many, if not most, of its own fol-
lowers, and it has been said that the pill is proving more powerful than the pontiff.

Some people are concerned that if the pill were readily available its use would seriously increase promiscuity particularly among young people. Promiscuity implies irresponsibility but by no means are all extra and pre-marital sex relationships irresponsible. Today pre-marital sex relations are probably the rule rather than the exception and it is desirable, surely, that they should not result in unwanted pregnancies with their toll of emotional stress, abortion and unsatisfactory premature marriages.

Undoubtedly there would be, and even already are, sexual abuses to which the pill contributes. However, despite the commercialisation, distorted overemphasis and vulgarisation of sex to which they are subjected, young people today have, by and large, a far franker, more honest and informed attitude to sexual relations than had most people in preceding generations. Despite the increasing pressures of decadent capitalist culture, we can confidently expect this healthy trend to develop further, particularly as sex education in the schools and elsewhere is expanded, using specially trained teachers to conduct classes and discussions on sex, not as a separate subject, but as part of general human relationships.

Probably the major obstacle to the wider use of the pill is its high price—in Australia nearly two dollars a month. The prices are fixed by the big drug firms, mainly in USA, Britain and West Germany, that monopolise production and distribution. Here there is added the twenty-five per cent sales tax exacted by the Federal Government even when the pill is used primarily for therapeutic purposes. It should not carry sales tax and should be available as a pharmaceutical benefit.

The drug firms spend large sums on research in their own laboratories and in subsidising others in research. They take part in extensive field trials in many countries, including Mexico, Haiti, Puerto Rico, Pakistan, India, Ceylon, Taiwan and the United Arab Republic, whereby they hope to lay the basis for an enormous expansion of their markets.

All these costs are included in the prices which, being much the same for the various makes of pill, indicate cartel agreements similar to those of the oil companies. Certainly the elegant packaging and advertising, the salaries and expense accounts of the high pressure salesmen who do the rounds of the doctors' rooms leaving generous sample supplies, all add to the price to the public. It is safe to assume that the actual cost of production of the pill is a relatively small fraction of the price charged.
Although the competition between the drug producers does not appear to lower the prices it may have some positive effect, for in striving to improve their particular brand so as to win a greater share of the market, advances do take place in composition and in dosage schedules which provide a variety of products from which the most suitable can be chosen for individual needs.

The special interest of the drug monopolies in the "over-populated, under-developed" countries fit in with capitalist hopes that birth control can play a major part in solving the economic and political problems in these countries so as to discourage movement towards non-capitalist solutions. Capitalism has no other solution to the population problem except for the 'hawks' who would use nuclear weapons to wipe out the 'surplus' people.

Population problems exist. On present trends the world's population will double in the next thirty-five to forty years, presenting enormous problems of food, shelter, education and occupation for the great majority of peoples. Hitherto, marxists have tended to discount the possibility of world over-population as a malthusian delusion, unreal in view of the unlimited production potential of advancing technology in a socialist-communist society. The production potential is certainly enormous; but for the major part of the world socialism does not yet exist, whereas the population problems grow at an increasingly rapid rate.

In the Soviet Union, as in most of the socialist world, no over-population problems exist and standards of living are rising rapidly with increasing overall production. This is not the position in many of the newly liberated countries, where overall production tends to fall behind population growth and standards tend to decline. In these countries measures to slow up population growth can help attain higher standards of living sooner, although they cannot solve the basic problems of economic and political organisation.

An interesting public discussion is proceeding in the Soviet Union between the protagonists of the theory that world over-population is a myth, and those who, like the demographer E. Arab-Ogly, call for a balanced attitude which recognises the need for "a scientific population policy, encouraging in some cases a growth of the birth rate, or promoting, in others, substantiated birth control which may serve as an auxiliary means for considerably enhancing social progress".