studies that breast cancer exists in some cases for years before it can be clinically detected (17). However, since one woman in 20 will at some time in her life develop a breast cancer, it is obvious that in using the pill we are exposing at least this portion of women to a substance known to stimulate preexisting breast cancer in women. We have no data concerning the effect of such medications on breast cancer during the development or preclinical phase of the disease.

Women who have children are known to have less breast cancer than childless women. Breast-feeding also reduces the frequency of breast cancer in the mother but to a lesser extent than pregnancy (18). Since estrogens are greatly increased during pregnancy some observers have inferred that estrogens may even protect women from breast cancer. Others also conclude that since the pill produces some of the hormonal effects of pregnancy in the body that this medication would also protect women from breast cancer. These are over-simplified views of the hormonal complexity of pregnancy and lactation, which include numerous additional effects of ovarian, placental, fetal and pituitary origin. These additional factors are lacking in women taking the pill but they play a vital role in reducing the frequency of breast cancer in childbearing women.

In evaluating any possible effect of the pill on breast cancer it must be appreciated that the protective effect of pregnancy is most marked in women who have their first pregnancy before age 20 (19). Hence women who defer their first pregnancy by any means will have an increased risk of breast cancer. The inherent effect of such delay in having children must be taken into account in comparing the risk of breast cancer among pill users with that among women using other contraceptives or no contraception.

About half the cases of breast cancer are first clinically detected in women who have passed the menopause. This has led some physicians to conclude that since such women have very low estrogen levels at this time of life, this hormonal factor plays no essential role in the development of breast cancer (20). This inference does not allow for the prolonged developmental phase of this disease process, altered as it obviously is for life by such earlier events as prior pregnancies.

Breast cancer occurs much more frequently among American and European women than among Japanese and certain other Asian and African women (21). There is also some increased risk of breast cancer among daughters and sisters of women with this disease (22). These observations suggest that genetic factors may play a significant role in the ultimate effect of oral contraceptives in women. Since we know that certain genetic strains of animals are more highly susceptible to the carcinogenic effect of estrogens than others, it would seem naive to expect a genetically heterogenous population of women to respond in a uniform manner. It is already apparent that certain genetic determinants for specific blood groups can either protect or predispose women to thromboembolic reactions to the oral contraceptives (23). The uneven susceptibility of women of various ethnic and familial groups to breast cancer suggests that such uniformity in response is not to be expected.

Women starting on the pill frequently complain of increased fullness and sensitivity of the breasts. In most instances this complaint subsides with more prolonged use, but in some women it persists and may be accompanied by actual increase in breast size. These phenomena indicate that some type of tissue reaction is taking place in the breast, but it is not practicable to ascertain the nature of this response by microscopic study except in those women in whom breast biopsies become otherwise clinically necessary while they are taking the medication. In such instances, the F.D.A. has instructed physicians to indicate that such specimens are from women using oral contraceptives. This is well advised because it aids the pathologist in interpreting the minor deviations from normal structure sometimes encountered in such biopsies. Some observers have described several instances of more marked structural changes which are not malignant but which have not been previously encountered in nonpill users (24). These observations are too limited to establish any clear association between them and oral contraceptive use. However, such tissue effects demand detailed scrutiny and analysis.

Let us turn now to a consideration of the hormonal factors affecting cancer of the neck or of the body of the uterus. These cancers are termed respectively "cancer of the cervix" and "cancer of the endometrium". Cancer of the cervix is accessible on pelvic examination and its very earliest phases of development can be detected by microscopic study of material scraped from the neck of the womb. This type of microscopic examination is called a "Papanicoleoau