The fifth group would be a relatively recent high-risk group, women who are seen by their doctors and referred for a mammogram. That is a special type of x-ray study of the breast alone. These women occasionally show up with rather peculiar changes or abnormalities or suspicious findings within the x-ray, and it would be these women also that I personally would consider suspect and would not be willing to give either estrogens or the pill to.

In these women, then, the whispers of nature call for caution and not complacency.

In the United States during 1969, as indicated in these hearings, an estimated 8.5 million women took the pill as an oral contraceptive. The clinical efficacy of these pills as a contraceptive measure is indeed striking and very well established. They have been hailed by many, including my very good friend, Dr. Guttmacher, and others, as a drug of great value in controlling the population explosion. A survey of prescriptions in the United States suggests that almost as many women also may have taken estrogens for the control of menopausal problems during the same time. That such potent drugs should have certain biologic dangers seems almost inevitable in medicine. Nevertheless, more than 50 metabolic changes which modify important biochemical processes in all body tissues have been reported to be associated with estrogens and the pill. Most of these changes as noted in Lancet "are unnecessary for contraception and their ultimate effect on the health of the user is unknown." The development of newer and more satisfactory contraceptive agents without the possible harmful effects of long-term estrogen administration would certainly be highly desirable.

The ultimate clinical significance of prolonged use of the pill or estrogens in relation to breast cancer will require and I stress this—due to a long latent period—many years of agonizingly slow accumulation of epidemiologic data. Our own clinical study of patients at the Johns Hopkins Hospital which is being currently conducted by Dr. Sartwell, Dr. Arthes and myself was started only last year and even preliminary statistical results of this type of cancer and control group are not yet available.

However, as doctors, we must practice our art by balancing the known risks with the best known scientific data presently available. The experimental evidence relating breast cancer in animals to estrogens and the pill is suggestive. The clinical evidence indicating a close relationship between estrogenic hormones, the breast and breast cancer is strongly persuasive. Yet, there is no known clinical evidence at the present time indicating that estrogens or the pill will definitely cause breast cancer in human beings.

Perhaps as indicated by Dr. Guttmacher, the benefits of the pill may ultimately outweigh its possibility for harm. Certainly, the pill is at present a proficient and convenient contraceptive agent used by many women the world over. However, as Osler has said, "medicine is a science of uncertainty and an art of probability." In this negotiation with nature, I can find no relevant olive branch with which to equate the ban on babies with the bane of breast cancer.

While awaiting the tyrant of time to tell us these vital answers, I would favor caution in the clinical use of estrogens or the pill, par-