

to a top level Federal post a man who opposed that commitment might be misconstrued as a sign that White House and Defense Department brass were wavering. That, apparently, is something he feels he cannot afford. And, scientists agree, even if the President were to change his mind and exact no promise of support from a second choice candidate, few persons would believe that no promise was made.

Recruiting a new man for NSF "will now be extremely difficult, if not impossible," says Daddario. "The unhappy events of the past few days cast serious doubt on the ability of the Administration to make important decisions in public policy for science." In Washington the weekend following the White House rejection, tense meetings failed to produce results. The President would not back down and the National Science Board would not come up with an alternate candidate.

For the time being, things remain up in the air. It will be several months before Congress finally votes on the ABM and until that issue is resolved, recruiting prospects are dim. If no candidate is found, it is possible that Dr. Leland J. Haworth, slated to retire June 30 from a six-year term as NSF director, will stay on temporarily.

Or, it is possible that President Nixon will disregard the National Science Board and make an appointment on his own. Dr. Willard F. Libby, the politically conservative Nobel laureate from the University of California at Los Angeles, who reputedly was promised Dr. DuBridge's job before the November elections, comes up when scientists speculate on the outcome of this fluid situation. Dr. Libby is a hawk, and suggestions of his appointment evoke a number of "over my dead body" reactions within the board.

Or, the President may ask the NSB for another man. What will happen if he does remains, again, a matter of speculation. In an official statement, approved by 21 members of the board (one could not be reached and two who are Government officials were asked to disqualify themselves), Chairman Handler said, "From the legislative history of the foundation, the language of the National Science Foundation Act (passed in 1950) and the record of almost two decades of dedicated service, it is abundantly evident that this agency has been viewed as a special national instrument whose programs and administration should be sheltered from the winds of political change."

Regardless of the possibility of offering further advice to the White House, he said simply, "The board will continue in its statutory task of advising the White House with respect to qualified candidates for this position." ◇

ORAL CONTRACEPTIVES

Balancing risks against benefits

Birth control pills, as most commonly used in a combination of two hormones, estrogen and progesterone, affect the nervous system, the blood's ability to clot, and body levels of such essential ingredients of lipoproteins (fats) and insulin (SN: 2/3/68, p. 112). What their effect means in terms of the health of the women who take them is not known in any definitive way. But areas of concern keep coming to light.

A steady diet of birth control pills, scientists find, can be associated to a greater or lesser extent with hormone imbalance, atherosclerosis, neurological disease, stroke and perhaps diabetes. What the connection is remains uncertain. Studies have not been sufficiently encompassing to be conclusive, although it is the estrogen content that appears to be the threat. What happens in one case does not happen in all. But problems exist and the scientific community is trying to evaluate them.

"Any drug potent enough to have a beneficial effect," neurologist David Clark of the University of Kentucky in Lexington told the annual meeting of the American Association of Planned Parenthood physicians in San Francisco, "is potent enough to have, under appropriate circumstances, undesirable effects, sometimes of a serious or even fatal impact."

To a certain extent, birth control pills induce in a woman a state of pseudo or simulated pregnancy. And pregnancy, even though it is a natural condition, is known to be associated with some hazard. Severe vascular headache, attacks of migraine, worsening of epilepsy, changes in blood and the vessels through which it courses, nausea and vomiting are, according to Dr. Clark, "well recognized complications of pregnancy." Normally, he points out, a pregnant woman is exposed to these various threats once in 320 days. A woman taking oral contraceptives, however, partially mimics the entire biological course of pregnancy as many as 11 times in the same number of days.

The relation between the pill and diabetes is currently being questioned. "We do not know the answer," Dr. William Spellacy of the University of Miami School of Medicine says. "If so, it (diabetes) would take a long time to develop—longer than the time any woman has been taking them yet, but it is possible." In biochemical studies involving, to date, about 1,000 women, Dr. Spellacy has found that birth control pills, most importantly the commonly used ones containing the female hormone estrogen, raise the levels of sugar and of insulin in the blood. The

mechanism of this action is unknown, though he proposes that it would involve altered metabolism of the amino acid tryptophan, which is important in insulin production, or that it could result from unusually high levels of growth hormone. Growth hormone is regulated, at least partially, by estrogen. It blocks the body's use of sugar and thus leaves excess insulin in the blood.

In women taking birth control pills Dr. Spellacy has found an unusually high blood level of beta-lipoproteins. These are large fat molecules that travel through the blood on the backs of proteins and are associated with atherosclerosis. But while making connection on the one hand, the Miami researcher also cautions that the clinical implications of this phenomenon are as yet unknown.

Also raising a question about the relationship between birth control pills, hormones and the blood is Dr. John Laragh of Columbia University. Again in preliminary studies, he finds a possible cause and effect relationship between the pills and high blood pressure in some women. In those patients who are susceptible, estrogen-progesterone pills appear to aggravate high blood pressure or hypertension, possibly by affecting the hormone system that regulates blood pressure. In some cases, he reported to the San Francisco meeting, hypertension is aggravated when a woman is on the pill and is alleviated when the drug is withdrawn.

In a related area is the possible connection between birth control pills and cardiovascular accidents or strokes, a notably uncommon occurrence among women of childbearing age. Dr. Clark asserts that since 1960 there have been only 62 cases of stroke reported in young women and clearly associated with, though not necessarily caused by, oral contraceptives. Whether or not this figure in any way reflects the true incidence is speculation. But, he says, there are premonitory warnings that women should know.

"These warnings," he adds, "are a general sign of neurological disorders, whether a person takes contraceptives or not." Among them are nausea and vomiting, severe and persistent headaches, migraine, dizziness, personality change and double vision. All could be signs that birth control pills should be discontinued. But, he emphasizes, because evidence is preliminary, a woman's decision to take or not to take birth control pills should also be governed by considerations of the risk pregnancy would impose on her physical, marital or sociological situation.