

What appear now to be the future patterns of basic research in the sex steroid-oral contraceptive field? Dr. Gregory G. Pincus of Worcester Foundation thinks ovulation mechanism studies are the vogue-to-be. "The locus of action seems to be the central nervous system but nobody knows where," he told C&EN. Dr. Geoffrey Harris of Oxford University has recently shown in rabbit studies that the primary site of action could well be at a higher level than the hypothalamus. There seem to be connections between such nervous system metabolites as serotonin, noradrenaline, and prostaglandin and the hypothalamic control of ovulation. One typical idea is that biogenic amines are responsible for inhibiting ovulation and that the sex steroids block breakdown by amines, thereby causing suppression of gonadotropin. Dr. Pincus thinks such mechanism studies must be related to all types of ovulation inhibitory agents alone and combined.

The overall picture that can be drawn after discussions with individuals in basic endocrinology laboratories, in industry and in Government is lack of agreement on exactly what paths to take in exploring all the ramifications of oral contraception mechanisms. One scientist throws his hands up over the hope of making any immediate headway. The field is too volatile, he says, products are changing, events in the field don't stand still long enough to even set up the proper experiments. Steroid metabolism work is simply confoundingly difficult. Only clinical studies, at least for this era, yield the quick results most investigators in the field seem to want.

Adds another scientist from a private research foundation: "The trouble in this field is that aside from purely physiological and pharmacological considerations, you know that almost all investigations are done in mutual vacuums. All specify one drug or another; there's little comparative work in the same lab, no unified approach.

"Purely independent work is difficult because so much of it is supported by industry. Government takes months to respond to a proposal. Another hindrance to objective results, and I think this ought to be said, is that too many investigators have too personal an interest in the drugs they work with. All in all I get the feeling that the experimental aspects of this field are so fluid and so controversial that you must be careful over who says what and why he says it."

Whether the scientists do indeed prejudice their studies is something nearly impossible to document. But what is needed is better research coordination and improved rapport between biochemists, clinicians, and physiologists. "Another of the troubles in this field," one scientist told C&EN, "is that many of the big names in steroids frown on basic work on the pill. Those that go ahead with such research immediately get tagged as a toxicologist, or worse yet, a commercial boy. It's ridiculous, but that's the attitude of mind."

Many scientists think the Government is the logical place for a coordinated program to understand all aspects of oral contraceptive action. But no such program exists, despite the recommendation of a special advisory committee to establish one a couple of years ago in the National Institute for Child Health and Human Development. The special advisory committee was asked to suggest research programs in the then new institute, and among the recommendations was a multidisciplinary effort at unraveling problems connected with contraception. But the recommendation was turned down by the National Institutes of Health.

Research on the metabolism of the pill seems to be run in scattered fashion at NIH. There appears to be little effort to coordinate NICHD's oral contraceptive research with that being pursued in considerable volume at the neighboring cancer, heart, general medicine, and allergic and metabolic disease institutes within the organization.

The final note, an ironic one, involves the position of industry. Industry has helped find, and has certainly inspired, some of the research on the frontiers of reproductive biochemistry. Yet, the drug industry is the last to be identified with an aggressive search for solutions to problems of biological science as they relate to public issues. This is unfortunate although consistent with a competitive economy.

One nonindustry chemist commented to C&EN that "Industry isn't shoving very hard to delve into some of the problems because they know that what's found could work against, as well as for, them. Yet I have to say truthfully that they've been quite generous in the support of my work."