

BIOCHEMISTRY

Saliva Tells Sex of Unborn

Chemical analysis of saliva of expectant mother is positive if child is male, negative if female, in "nearly every case." Hormone believed basis of test.

► A CHEMICAL test of saliva that tells whether a boy or a girl baby will be born, has been developed by Dr. Gustav Wm. Rapp of Loyola University School of Dentistry and Dr. Garwood C. Richardson, assistant professor of obstetrics at Northwestern University Medical School, Chicago.

In "nearly every case" a positive test on the saliva of the expectant mother is associated with a male child and a negative test with a female child. Actual figures showed 218 positive and three negative tests in cases of boy births and seven positive but 148 negative tests in cases of girl births.

The presence of male or female hormone substances in the saliva of the expectant mother is apparently the basis of the test. This test for whether it will be a boy or girl developed from a pregnancy test worked out by Dr. Richardson.

The pregnancy test is positive as early as two weeks after conception, sometimes even before a missed period. It is based on the presence of free estrone, a female hormone, in contrast to bound or modified estrone or

similar chemicals in the urine of the expectant mother.

Investigation of whether this hormone level rose in other body fluids, such as saliva, tears and perspiration, led to discovery of the prenatal sex determination test. When the Richardson pregnancy test was made on saliva, it was found that the test was positive in only some of the women who were in the sixth or seventh month of pregnancy, although the urine test was positive in each one.

The apparent answer came after the babies were born. Then the doctors found that almost every woman with the positive saliva test had a boy and almost every one with a negative test had a girl baby.

The exact nature of the substance responsible for the positive test is not known, Drs. Rapp and Richardson state in their report in the journal *SCIENCE* (March 7). They believe it is a male hormone substance because non-pregnant women who normally give a negative test give a positive saliva test after the injection of male hormone chemicals.

Science News Letter, March 15, 1952



JET WITH AFTERBURNER—First photo of the delta wing Convair XF-92A with the afterburner contained in the extended tail section is shown here. The afterburner adds substantially to the engine's thrust. The plane was built to explore and test flight characteristics of a true delta wing. After completing evaluation tests at Edwards Air Force Base, Calif., it will be delivered to the National Advisory Committee for Aeronautics for further research.

● RADIO

Saturday, March 22, 1952, 3:15-3:30 p.m. EST

"Adventures in Science," with Watson Davis, director of Science Service, over Columbia Broadcasting System.

Mr. Don Mason, technical director of Freeport Sulphur Company, discusses "Sulphur, Essential Material in Industry."

PHYSICS

New Neutral Particle Extremely Short Lived

► A NEW subatomic particle of extremely short life has been discovered in cosmic rays recorded on photographic plates exposed at over 12 miles altitude.

The new zeta neutral particle exists for less than ten quadrillionths of a second. It decays into two pi mesons, of opposite sign. It weighs about 556 times as much as the electron.

Discovered by Drs. M. Danysz, W. O. Lock, and G. Yekutielli of the University of Bristol, the new particle is reported in a communication to the scientific journal, *NATURE* (March 1).

Science News Letter, March 15, 1952

MEDICINE

Viruses Without Tails Give New Cancer Attack

► VIRUSES WITHOUT tails may give scientists a new way of attacking the viruses that cause disease in man and animals, including some viruses that may play a part in cancer.

The tail-less viruses were announced by Dr. S. E. Luria of the University of Illinois research laboratories at the Second National Cancer Conference in Cincinnati.

The viruses lack tails because they are unfinished. They were produced by treatment with a reddish brown dye, proflavine, which is effective in the laboratory against many disease-causing agents and which has been used to treat infected wounds.

The dye attacks the virus at a vital step in its reproduction within the cell of the animal it has attacked. These incomplete viruses are no longer capable of attacking the cell. The tail-less or incomplete viruses consist almost completely of protein. They lack an essential component of all viruses, nucleic acid.

Human immunity to virus diseases may lie in the ability of the cells of the body to stop the virus from maturing within them, Dr. Luria suggested.

The incomplete viruses he and his associates produced were the kind that live on sewage bacteria. But he thinks there is good prospect of finding drugs that will stop the ripening of other viruses, thus making them incapable of reproducing in the body and causing sickness.

Science News Letter, March 15, 1952