

## Learning to make sex satisfying

Adam and Eve, the original pioneers in sex research, have been succeeded in recent years by William Masters and Virginia Johnson, the St. Louis sex research team. The work of Masters and Johnson has, in turn, spawned a number of sex therapy programs across the country. One such program, run by the Human Sexuality Center of the Long Island Jewish-Hillside Medical Center, has been functioning since 1971. Sallie S. Schumacher, director of the program, has released a detailed study of the first 200 couples who participated in the program.

Prior to applying for treatment, more than half of the patients (aged 20 to 68) had had various types of therapy including marriage counseling, hypnosis, hormone injections and psychoanalysis. "Traditional therapy, especially psychoanalysis, is highly beneficial in terms of individual growth and understanding," says Schumacher. "However, direct discussion of sexual functioning with the two people involved generally is a more efficient and productive approach to sexual distress than individual treatment or indirect discussion of the sexual problem." In addition, the program, run by a male-female therapy team, focuses on physiological problems. Patients are given a comprehensive biological evaluation particularly with regard to endocrine function and hormone assays, in addition to continuing medical examinations. Patients visit the center once or twice a week for two to four months and then return three times during the following year. The therapy seems to work. In about half of the 200 couples, initially both partners had been sexually dysfunctional. The most common problems for men were impotence (36 percent) and premature ejaculation (33 percent). The major causes of female distress were orgasmic difficulty (52 percent), sometimes because of physical problems such as vaginismus (vaginal spasm). More than 70 percent of the patients reported improvement in sexual satisfaction and marital relationship. All were able to achieve coitus with orgasm and ejaculation. More than five percent of the couples had not previously consummated their marriage. Several had not had intercourse, orgasm or ejaculation for five years or more.

## Marijuana and sex

Marijuana, it has been said, is supposed to heighten sexual sensitivity. It may do so but there is now evidence that heavy use of marijuana might lead to temporary sterility. William H. Masters of the Reproductive Biology Research Foundation in St. Louis reports in the April 18 *NEW ENGLAND JOURNAL OF MEDICINE* that heavy doses of marijuana seem to temporarily inhibit the production of sperm and the male sex hormone testosterone. Twenty male pot smokers were studied, a small sample, Masters admits, but the effects seemed obvious. One of the subjects was impotent but regained normal sexual functioning after he stopped using marijuana. In three others testosterone levels went up sharply two weeks after they stopped smoking pot.

Temporary sterility may not sound too serious but there are other implications. In preadolescent males an imbalance in testosterone levels might adversely affect puberty and normal physical maturation. Heavy use of marijuana by pregnant women might also affect the sexual development of a male fetus. Testosterone must be present in the proper amounts during the development of the male sex organs or they will not develop properly.

May 11, 1974

## Satellite data rate climbs

Prompted by anticipations of a rosy future for satellite transmission of digital data (SN: 4/27/74, p. 269), the U.S. COMSAT Laboratories and Telesat Canada have completed a joint test using what they claim to be the highest data rate ever transmitted by satellite.

The accomplishment is due not to improvements in the satellite, but to an improved modulation system in the ground equipment. In the test, Canada's ANIK-1 satellite was used to relay 67.2 million bits of data per second through a single transponder, while maintaining a commercially acceptable error rate of one bit in 10,000. By comparison, the Intelsat-4 satellite, using ground equipment not equipped with the modulation system, has a one-transponder capacity of about 40 million bits per second.

The purpose of the test was to obtain enough data capacity to send two television signals through a single transponder, effectively doubling the TV capacity of the satellite. This possibility was suggested by a previously developed system called DITEC, which allows television signals to be encoded into digital form, rather than the more bit-consuming analog method.

## Easing access to earth resources data

The difficulties of getting relevant and prompt interpretations of satellite and aircraft data on earth resources are well known to frustrated potential users (SN: 2/9/74, p. 91). Where can an agriculturist, for example, turn for help if he knows that there is valuable soil runoff information in the data, but not how to isolate or analyze it.

This month, General Electric is opening a commercial Image Processing and Analysis Center (5030 Herzel Pl., Beltsville, Md. 20705) to help with the problem. Consultants in the various earth sciences will advise users on what aspects of the data concern their questions, selectively extract the relevant information and aid in its interpretation. Using a processing device that can select desired information from the original digital data, the center can provide thematic maps, overlays and other services.

A present bottleneck in speedy acquisition of the raw data in the first place is the overworked Earth Resources Observation System Data Center in Sioux Falls, S.D., the main source of the data for non-NASA users. Within two years, GE anticipates offering low-cost ground stations (about \$1 million—within range of a state government or large company) that will enable users to obtain raw data directly from earth resources satellites, for interpretation either themselves or at commercial centers.

## More walls, less weight

A spacecraft or satellite with double-walled construction could be adequately protected from meteoroid penetration with only half the weight and half the total material thickness of a craft with a single, more massive wall, according to data from the Explorer 46 satellite.

This could make a major difference on such craft as the proposed Jupiter orbiter, whose one-layer wall could equal the weight of its scientific instrumentation. A 50 percent weight reduction would allow that much more instrumentation. Some advantage to double-wall construction (with space in between) had been expected, but Explorer 46 has shown the benefit to be twice what was anticipated.

305