

Third Category To Maintain Life In Test Tube Added

By DELOS SMITH
UPI Science Editor



New York — UPI Science Editor now has added a third category to its ability to maintain life in a test tube. The new category is that of the flowering plant. The old ones were of a m. p. h. i. b. i. a. n. (such as the frog) and of fish.

This leaves the category of "higher" life, such as mammals, including man, to be conquered scientifically. So far science has succeeded only in stirring the beginning of mammalian life, including human life, in the test tube. The process has stopped after a few cell divisions.

The conquest of flowering plant life in the test tube was made by Kusum Kanta, N. S. Ranga Swamy and their international known professor, Dr. P. Maheshwari in the botanical laboratory of the University of Delhi, India.

They used a common flower of India, the opium poppy. Their starting materials were the ovules which are the plant equivalent of the ova or eggs produced by female mammals, and their male opposite numbers, pollen grains.

The ovules were excised from plants just after they had reached full bloom and before they could have been pollinated naturally. They were put into a nutritional broth in test tubes and then "dusted" with pollen grains from other poppies.

Within 15 minutes the pollen was germinating. Pollen tubes quickly developed and within two hours covered the surface of the ovules. In proof that fertilization had occurred the ovules enlarged and changed in color and composition as they would have on the plant.

Ovules from a three-day-old development when sectioned. They were on their way to producing embryos. After five days of culture, sectioned ovules revealed fully developed tissue with which to nourish embryos and a four-cell division.

After 15 days, the embryos were differentiated into the characteristics of the poppy embryo and after 22 days, the embryos were fully developed into poppy seeds capable of going through the life cycle of their kind as seeds produced by the living plant.

Had 'Controls'

The scientists had "controls," of course — that is, poppy plants germinating and



SKILLED DRIVER—Handling her little machine with all the skill and confidence of a top racing driver, Princess Soraya takes her go-kart around a sharp turn during a workout at a private go-kart track at Munich, Germany. The former wife of the Shah of Iran now makes her home in Munich. (UPI)

maintaining new life in the way natural to poppies. Their test tube life kept pace with nature in the first stages, the scientists said, but in later stages the test-tube embryonic growth was "quicker and better and even surpassed that in nature."

The Indian scientists reported their conquest to the international technical journal, "Nature." So far as they knew, and the editors knew, it had never been achieved before and there was no apparent

reason why it couldn't be done with almost any variety of flowering plant.

"Test-tube fertilization" needs refinements as a technique, the scientists said. When these refinements are made, plant breeders will be able to manipulate forms of plant life in the laboratory. As an example the scientists pointed to the possibility of cross-breeding plants in test tubes which in nature can never cross-breed because they are incompatible.

HAS SECOND THOUGHTS

Chicago — Mayor Richard J. Daley said Tuesday that Chicago "would be happy to welcome anyone and everyone" to the city, including the 1962 meeting of the World Congress for Disarmament. Daley then had second thoughts about the congress currently meeting in Moscow and said he would like to know more about the congress before welcoming it to Chicago.

House, Senate Check Writers Continue Feud

Washington — UPI — Most lawmakers figured that feuding House and Senate check writers have gone about as far as possible to prove that neither would yield, and that the time had come for both to give in.

However, harassed congressional leaders seemed no closer now than three months ago to finding a formula that would save face for the deadlocked appropriations committees and also assure the government it would not run completely out of money by the end of the month.

House Committee members insist that all they want is

the right to preside at half of the House-Senate Conference Committee meetings where final drafts of differing money bills are whipped into shape. Senators heretofore have always presided at these conference talks.

Will Gladly Yield

The Senators say they will gladly yield half their gavel time if the House will give up its claimed right to originate all money bills, and let the Senate act first on alternate measures.

With each side reaffirming its adamant stance, some House members have intimated they might be willing to see Congress adjourn for the year without passing any of the already-overdue money bills needed by government agencies for their operations in the 12 months that began July 1. However, under this plan, the lawmakers first would have to agree on a "continuing resolution" — similar to one already passed for the

month of July — to let all some basic rate, until Congress continues spending, at gross can act.

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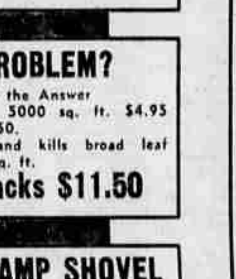
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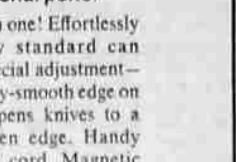
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New "TELSTAR" relays phone calls and TV pictures for first time!

Bell System microwave-in-sky satellite is latest communications triumph for America arising from telephone research

The world's first private enterprise communications satellite is now being used for dramatic experiments in relaying telephone calls and television internationally.

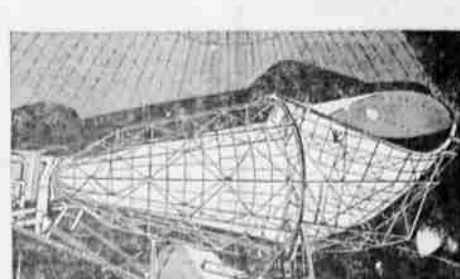
Its name: Telstar. It was launched from Cape Canaveral at Bell System expense by the National Aeronautics and Space Administration.

Telstar receives signals beamed to it from a ground station, amplifies them and transmits them to another station on the ground below — perhaps an ocean away from the first one. The new satellite thus acts as a microwave relay station in the sky, enabling voices, TV pictures and data messages to leap thousands of miles in a new and exciting way.

The ground stations in the U.S. now being used for Telstar were built by the Bell System at Andover, Maine, and Holmdel, New Jersey. Organizations abroad have built stations in England and France. The latter, a near replica of the station in Maine, is being assembled with Bell System cooperation. A receiving station in Italy will be ready late this year, and another in West Germany next year.

Telstar is a first major experimental step toward a world-wide satellite communications system that was first proposed as a practical venture at Bell Telephone Laboratories. Progress toward such a system would not have reached its present state without continuing research and development by the private communications industry, including six fundamental Bell System contributions — the transistor, the solar battery, the traveling wave tube, ruby masers, the waveguide, and new antennae for the ground stations with innovations in circuitry.

Above all else, Telstar is the latest achievement in an unending Bell System quest — the search for ways to make your telephone service still better, more economical, and more useful.



INSIDE GROUND STATION "RADOME" AT ANDOVER, MAINE. Giant antenna inside dish near rim of horn concentrates signals to Telstar in a narrow, powerful beam. In the same antenna a receiver amplifies signals coming from Telstar ten billion times.

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