SCIENCE NEWS

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TELEVISION PROMISED WITHIN A YEAR

ACCORDING to an announcement by David Sarnoff, president of the Radio Corporation of America, high detail television within a year is probable in the New York metropolitan area.

The corporation will invest $1,000,000 in the development of a transmitting station, the manufacture of receiving sets and the formation of a program service which will take the air within twelve or fifteen months.

Declaring that American television is now prepared to give fine detail pictures better than those being used in Europe, Mr. Sarnoff emphasized that the greatest need of the art to-day was to take it out of the laboratory into the field for future development.

Already pictures with 343 lines to the inch, as compared with the crude 30 lines to the inch pictures of a few years ago, are available. What one can now see with the present stage of television is "comparable with what one sees of a parade from the window of an office building, or a world series baseball game from a nearby roof, or of a championship prize fight from the outermost seats of a great arena."

Television will not compete with sound broadcasting in its nation-wide scope. The first transmission will be over a circle of not more than twenty-five miles radius. Wire facilities are not available for wide distribution and such mass-broadcasting is "not here nor around the corner."

An enormous economic sacrifice will be necessary to "put over" television, Mr. Sarnoff indicated, for each advance in the art will make obsolete prior equipment, both transmitting and receiving. The situation will not be comparable to sound broadcasting where a ten-year-old receiver may still be used if one is not too fussy about the quality. It will, therefore, not be well to have the systems of transmission or receiving standardized too soon on a wide scale if future progress is to be possible.

SOVIET BALLOONS FOR EXPLORING THE STRATOSPHERE

RECALLING former fatal disasters in their stratosphere balloon ascensions, investigators in Soviet Russia are stressing safety, then more safety, in the two new balloons now under construction for scaling the atmospheric heights above seven miles.

The *LL–1*, which turns its balloon into a gigantic parachute in case of accident, has passed rigorous tests in model form. When taken up in a balloon and released with almost no gas in the envelope, the model began to fall in the shape of a pencil, but broader at the top than at the bottom. Within two or three seconds, however, the envelope turned into a fully opened parachute. The two models used in tests each had a volume of 10 cubic meters. It is claimed that even if the envelope is torn, a safe descent is assured by a secondary parachute arrangement inside the envelope, which can be brought into operation in an emergency.

A parachute which will operate automatically should the gondola become separated from the balloon is the chief safety device of the *Osoaviakhim–2*, the other "stratostat" planned to make a flight in 1935. In addition, many other details have been added or improved to insure safety. The new details should enable the *Osoaviakhim–2* to attain a higher altitude as well as provide greater safety for its crew, according to P. S. Dubinski, chairman of the Osoaviakhim (Society for Air and Chemical Defense) Committee for Study of the Stratosphere.

The balloon will be considerably larger than those of its predecessors, and, like that of the *LL–1*, will be made of rubberized cambric muslin. The upper part, from which the gondola is suspended, will be of specially reinforced fabric, and 24 cables will tie gondola to balloon. Of stainless steel, the gondola will be all-welded, and will contain two hermetically-sealed observation windows which can be opened in a few seconds in case of emergency.

CORTIN FOR WASTING DISEASE OF CHILDREN'S MUSCLES

CORTIN, the hormone produced by part of the adrenal glands and recently hailed as a life-saving remedy for usually fatal Addison's disease, may prove to be very useful in ameliorating the unhappy effects of a baffling disease of children, muscular dystrophy. Work done on several cases of progressive muscular dystrophy, hypertrophic muscular dystrophy and myasthenia gravis, in comparison with other abnormal conditions and normals, was reported by Dr. M. X. Sullivan, of Georgetown University, to the American Society of Biological Chemists.

A chemist himself, Dr. Sullivan became interested in the muscle disease when he found it was accompanied by certain changes in the body chemistry. In this disease a substance called creatine which is normally changed in the body to creatinine during muscle activity is excreted *via* the kidney as unchanged creatine. Investigating further, Dr. Sullivan, aided by Dr. Walter C. Hess and P. Irreverre, found that relatively appreciable amounts of guanidine are excreted in this disease, generally in a combined form readily converted to free guanidine by oxidation with silver oxide or mercuric oxide.

Guanidine is a protoplasmic poison and prevents the passage of an impulse over nerves to muscles. The muscles remain inactive and gradually waste away. Glycine, long considered valuable in checking the progress of the dystrophies, did not eradicate the simple guanidine derivatives, but did seem to check the progress of the disease more or less. In one case of a seven-year-old boy, treatment for several months with cortical extracts taken in pill form brought about changes towards normality. The wasting of the muscle which characterizes this disease was checked, the appetite improved, weight increased and the excretion of material yielding guanidine ceased.

Dr. Sullivan described a new colorimetric test which he

had developed for free guanidine not given by combined guanidines. Material yielding free guanidine he finds is excreted in muscular dystrophies, especially pseudo-hypertrophic muscular dsytrophy, but not in a similar disease of adults called myasthenia gravis. Some possibility exists that the cortin treatment taken early may actually have curative value.

NARROWING THE ATTACK ON INFLUENZA

INFLUENZA can not yet be listed among the conquered plagues of the world, but medical scientists seem to be closing in on the foe. Latest news from laboratories where the battle now is being carried on pin the cause down pretty definitely to a virus.

Investigators at the Rockefeller Institute for Medical Research in New York City have reported that they have found the same virus strain caused influenza epidemics in Puerto Rico in 1934, in Philadelphia in 1935 and in London in 1933, 1934 and 1935. They believe their tests show definitely that the virus is the cause of the disease.

Their views are concurred in by Dr. P. P. Laidlaw, of the National Institute for Medical Research, England, who, with his associates, isolated the virus from cases during the London epidemics. Dr. Laidlaw, according to cabled reports, has stated that he believes the idea of a virus causing the disease can be considered as a provable theory.

Dr. Laidlaw also endorses the suggestion that swine influenza is the same as human influenza. This suggestion was first made after the world epidemic of 1918 by J. S. Koen who, as hog cholera control inspector of the U. S. Bureau of Animal Industry, investigated the then new disease in hogs.

"It seems indeed exceedingly probable," said Dr. Laidlaw, "that the virus of swine influenza is really the virus of the 1918 pandemic adapted to the pig and persisting in that species ever since."

Dr. Thomas Francis, Jr., of the Rockefeller Institute, in his most recent report said that his tests showed the virus of swine influenza to be different serologically from the virus of the human disease.

While this point, like many others, remains to be settled, it is hopeful to note the progress that has been made in the long, hard task of finding what causes influenza. With that point fairly settled, measures leading to prevention of the disease or to more successful treatment can be looked for.

CONGRESS PLANS HONORS FOR AMERICAN EXPLORERS

IN addition to the honors conferred upon General Adolphus Washington Greely, for his polar expeditions in 1881, Congress is considering various methods for commemorating the exploits of Hernando De Soto, Cabeza de Vaca, Henry Hudson and Leif Ericson.

Special fifty-cent pieces will probably be coined in honor of De Vaca and Henry Hudson; while, if the bill pending before Congress relating to Ericson is passed, the President will proclaim October 9 as Leif Ericson Day throughout the nation, as has already been done in the states of Wisconsin, Minnesota and South Dakota.

De Vaca was one of the five survivors of the De Narvaez expedition to the North American Continent, which sailed from Spain in June, 1527. Enslaved by unfriendly Indians, De Vaca and three others finally escaped in 1535, and reached the settlements of New Spain in 1536. It is believed that they passed through the site of the present city of Alpine, Texas, and through the Big Bend country of the Rio Grande, thus opening what is known as the Old Spanish Trail four hundred years ago.

Henry Hudson, in the *Half Moon*, landed at the site of what is now Hudson, New York. This was in 1609. It was in 1785 that the city received its charter; thus the residents of Hudson have asked for the special coin to mark the one hundred and fiftieth anniversary of their city.

Ericson was a great Norse explorer, who sailed to North America in the year 1,000. He did his discovering as a side-issue, for his mission from King Olaf was to convert the colonists of Greenland to Christianity. An account by Professor R. B. Anderson, of Wisconsin, states the view that Ericson must have built a house at what is now called Gerry's Landing, not far from the present site of Harvard University.

Because of the approaching four hundredth anniversary of De Soto's expedition from Cuba to Florida, in 1539, a joint resolution has been introduced for the President to appoint a commission to make a thorough study of the subject, looking towards proper celebration of this historic event four years hence.

ITEMS

DISCOVERY in Death Valley National Monument of the 30,000,000-year-old skull and jaws of a titanothere, a huge extinct rhinoceros-like mammal, has extended the region over which the animal roamed in North America, according to investigators of the California Institute of Technology. One of the significant features of the find is the clear indication that during the period when this animal, and others associated with it, were present there must have existed in the area basins of vegetation that presented a decided contrast to the barrenness of the region to-day. The climate likewise must have been more favorable to the presence and development of animal life than is the case at present.

SCOTLAND does not welcome one kind of American visitor—muskrats. These natives of the New World, which have become serious pests elsewhere in Europe, have lately appeared in Scotland, and strenuous efforts are being made to exterminate them before they become really numerous. The destruction of approximately 1,000 of the animals has been considered a matter for self-congratulation among Scottish conservationists.

A FERTILE hybrid form of wheat has been obtained by crossing ordinary wheat with spelt, by Professor D. Kostoff, of the Institute of Genetics, Academy of Science of the U. S. S. R. Spelt is a plant related to wheat but belonging to a different species, and all hybrids hitherto made have been sterile. The new hybrid is considered promising from the breeder's viewpoint, since spelt is resistant to a number of plant diseases to which wheat is susceptible. An effort will now be made to transfer these resistant properties by further crossing with hard and soft wheat varieties.