

Parrot Disease

ALTHOUGH parrots are universally kept in Mexico, no proved case of psittacosis has yet been found. Nevertheless, the authorities, aware of the danger that always has existed in a country where pet birds abound, have given attention to domestic bird diseases.

A local parrot disease which is not psittacosis has been reported in the Mexican Biological Review by Dr. Gerardo Varela, bacteriologist of the Mexican Hygienic Institute. While this disease is distinguishable from psittacosis, its occurrence seems to explain the confusion now existing regarding the nature of psittacosis.

Dr. Varela, who has worked in the Rockefeller Institute, the Pasteur Institute of Paris and the Wright Institute in London, stated that he considers the study of every domestic bird disease similar to psittacosis important because of its relation with man. He found that in addition to the organisms of psittacosis and paratyphoid fever with which psittacosis has been confused, the parrot harbors another germ resembling the *Bacillus anatum* found by Rettger of Germany in ducks in 1918.

The organism found by Dr. Varela will produce disease in parrots, guinea pigs, rabbits, pigeons and ducks. Its existence explains the confusion existing between paratyphoid and psittacosis. These microorganisms belong to the salmonella group. The distinction between the salmonella organisms of human and animal origin is not yet clear, Dr. Varela said. In veterinary medicine the salmonellas cause epidemics that are often attributed to other causes, while in human medicine diseases produced by the salmonella sometimes are classified as enteritis or enterocolitis.

Medicine

Science News-Letter, February 1, 1930

Arsenic in Meteorites

Arsenic, favorite of poisoners, and germanium, a rare element that has been used in the treatment of anemia, are both present in some meteorites that fall to the earth from the skies. Dr. Jacob Papish and Zaida M. Hanford, Cornell University chemists, have just completed a series of analyses of six meteorites. Traces of germanium were found in all of them, while small amounts of both germanium and arsenic were actually extracted from two.

The meteorites were studied by placing portions of them in an elec-

tric arc, and studying the light from the arc with a spectroscope. Certain lines, known to be due to germanium, were clearly apparent in all the specimens studied. By a complicated chemical treatment, which started with distillation of hydrochloric acid in which the meteorites had been dissolved, perceptible amounts of arsenic and germanium were extracted from one that fell in Mexico and another that fell in Canada.

Up to the present, the only place outside the earth in which germanium has been located is in the outer layer of the sun, where it has also been found with the aid of the spectroscope. Claims have been made in the past of the identification of arsenic in meteorites, but there has been some controversy about it.

Chemistry—Astronomy

Science News-Letter, February 1, 1930

Gives Credit

To an American, Dr. C. J. Davison, of the Bell Telephone Laboratories, New York, Prince Louis Victor de Broglie gives a large share of the credit for his Nobel Prize in physics. Many years ago Prince de Broglie announced the theory of wave mechanics which implies that electrons, considered to be tiny particles, act like waves of light or X-rays. With his colleague, Dr. L. H. Germer, Dr. Davison proved this implication.

In reply to a letter of congratulation from Dr. Davison, Prince de Broglie wrote: "I know very well that if I have received the Nobel Prize, it is because your splendid research has provided confirmation of the ideas I had developed."

Physics

Science News-Letter, February 1, 1930

Landing at Sea

A new German invention, making it possible to bring a seaplane from the ocean surface to the deck of an ordinary passenger liner with a minimum of danger and inconvenience, is described by Martin Grell in a report to *Die Umschau*. It consists of a runway of sailcloth which can be unrolled from the stern of the ship and trailed in the water, allowing the plane to climb up on its lower end, whence it is pulled to the deck by a winch. The canvas is kept taut and its lower edge held beneath the water by a suitable drag. With the ship steaming at a reduced speed of from five to seven knots, the runway is rigid enough to support an ordinary plane and five men.

IN VARIOUS

The device was constructed because of the recognized need for a safer and more convenient means of contact between plane and ship than the method hitherto in use, of hoisting the floating seaplane aboard by means of a crane. In anything but a dead calm, there has always been the danger of bumping the aircraft against the ship and thereby damaging the one or the other.

The new method will be of use, Herr Grell points out, in sending late consignments of mail after a ship, or to permit a belated passenger to overtake his vessel. It can also be used in case a passenger already on board finds it urgently necessary to return. In the latter case, a plane can be summoned from the shore, taken aboard the ship, and then launched from the catapult on deck.

The North German Lloyd steamer "Lützw" has been fitted with one of the new runways to give it a trial under actual service conditions.

Aviation

Science News-Letter, February 1, 1930

Air Line to Arctic

An 1800 mile air line from Ft. McMurray near Edmonton, Alberta, to Aklavik on the Arctic Ocean has been put in operation.

It is the most northerly air line in the world. Passing over barren wastes and dense forests of the Hudson Bay country its planes travel in one day the distance dog teams often take a month to cover. The route follows the McKenzie river valley.

The planes are equipped with skis during the winter and pontoons will be used in the summer. Caches of gasoline and oil have been put in place along the line of flight. Each plane carries rifles, blankets, provisions and a small gasoline stove for use after possible forced landings.

Aviation

Science News-Letter, February 1, 1930

Ancient Ball Court

A "tlachtli" ball court, the first ever found on the plateau of central Mexico, and like the courts laid out for this sport in the Mayan cities of Yucatan, has been discovered at the ruins of Xochicalco, sixty miles south of Mexico City. The site of the court has just been investigated by Alfonso Caso, director of the Mexican Review of Archaeological and Historical Studies.

SCIENCE FIELDS

A "tlachtli" court was shaped like a long H. The closed court where this popular game was played at Xochicalco was about 235 feet long and 130 feet wide at its greatest dimensions. The structures that enclose the area are in a bad state of ruin. One of the large stone rings through which the ball was thrown has been found by Mr. Caso.

Although early chroniclers mention that the game was played in all the important Mexican cities, this is believed to be the first discovery of a court in the region where the Toltec and Aztec people developed their civilizations.

Xochicalco, which means in Aztec, "place of the flower house," is one of the mystery cities of Mexico. It has been avoided by scientific research parties because it was in one of the worst bandit belts. It has strange subterranean structures of masonry the purpose of which has only been guessed at. Its main temple is noted for a giant plumed serpent of carved stone which undulates its graceful way around the sloping sides of the pyramid base. Nothing is known of the people who built the city, nor of the city's history.

Archaeology

Science News-Letter, February 1, 1930

Mirrored Models

Images of small models and photographic transparencies reflected in a mirror with part of the silvering scratched away are taking the place of huge and costly sets in European movie studios. At a meeting of the Kinematograph Group of the Royal Photographic Society in London, Hans Nieter demonstrated the Schufftan process of model photography. The method is also being applied in England.

Though models were used in the early days of the movies, it was not possible to photograph human actors easily at the same time. Then methods were tried of using small models in the foreground, close to the camera, while the actors were in the distance. To focus the nearby models and the distant actors at the same time, however, it was necessary to use a very small lens aperture, and this in turn required extra illumination. Somewhat similar was the method used in "Robin Hood", where the upper parts of the castle

were painted on glass, and placed in front of the camera in such a way that they appeared to be a continuation of the lower parts, which were actually built.

In the Schufftan process either transparencies, made from actual photographs, or models can be used. Instead of being in front of the camera, they are placed to the side. A large lens in front of them corrects for their closeness, and a mirror at an angle of 45 degrees reflects their image into the camera lens.

When the directors and technicians have decided on the effect they want, a model or transparency is made in full size, to correspond with the model. This is erected in front of the camera, and enough of the silvering on the mirror is scratched away to show it. Final adjustments make the lines in the set appear as a continuation of those in the model. Then from the point of view of the camera, the set and model merge together imperceptibly. Because of the large correcting lens, everything is in focus, even with the largest aperture camera lenses, so that ordinary lighting can be employed.

In his demonstration Mr. Nieter showed one film of a train dashing over a wrecked bridge into a stream, with the escaping steam rising from the locomotive, and people actually swimming away from the wreck. All the parts of the train were in model form, while the people swam in a tank on the studio floor. Still other effects can be obtained with the use of several mirrors, to show, for instance, the workings of a man's mind, with various thoughts appearing for a time.

The method is particularly advantageous for the talkies, Mr. Nieter pointed out, because it permits the making of scenes in a small compass, and so avoiding the bugbear of echoes on a huge set.

Photography

Science News-Letter, February 1, 1930

Appointment Service

To aid unemployed astronomers to get posts, and to help secure appointees for vacancies, the American Astronomical Society has established an appointment service, Dr. Raymond S. Dugan, secretary of the society, announced. The service will also endeavor to aid graduate students in astronomy to secure fellowships where they can carry on their studies.

Astronomy

Science News-Letter, February 1, 1930

New Instrument

Tracing a continuous record of the intensity of radio broadcast signals, a new instrument will soon be in use to aid the work of Dr. Harlan T. Stetson in studying the relation between sunspots and radio. The instrument is called a "single point recorder," and was designed by Dr. Greenleaf W. Pickard, Massachusetts radio engineer with whom Dr. Stetson has been collaborating.

In announcing the purchase of the new instrument, Dr. Stetson, who is director of the Perkins Observatory of Ohio Wesleyan University, explained that it can follow variations in radio intensity more rapidly than the instrument he used formerly at the Harvard Astronomical Laboratory.

The recorder operates upon the principle of the Wheatstone bridge, used to measure electrical resistance, by balancing the resistance to be tested against one that is known. In the single point recorder, the vacuum tube in the last audio stage of the receiver is placed in the position of the unknown resistance. When the incoming carrier wave changes its resistance, and upsets the electrical balance, a galvanometer needle moves slightly and turns on a motor. The motor adjusts the apparatus until all is balanced again. In doing so, the motor moves the pen which writes the intensity record on a moving sheet of paper.

Radio—Astronomy

Science News-Letter, February 1, 1930

Prismatic Windows

A new type of prismatic window glass, which brings more sunlight to all who live or work in the lower floors of skyscrapers or in adjacent small buildings, has been produced in London.

The new glass is much more efficient than old prismatic panes in deflecting light from its downward course in narrow canyons between buildings to a more horizontal path so that it can better penetrate the interior of rooms, it is claimed.

Tests show that it will permit the passage of approximately 22 per cent. more light than the old panes. It also changes the angle of refraction from approximately 35 degrees to between 55 and 70 degrees from the vertical.

The prisms are large so that the glass can be cleaned easily and their bottom faces are curved to assure abundant and even diffusion of rays.

Engineering—Public Health

Science News-Letter, February 1, 1930