

long, continuous-filament nylon, the short length fibers can be used to create soft, warm garments which resemble wool. This process is opening up a vast new field for synthetic fiber. Used alone or blended with wool, silk or rayon, it is giving greater variety in fabrics and more durable ones.

Both the sheerest of sheer ladies' stockings and woolly, nylon men's socks have been produced only experimentally. The sheerest stockings are 10 denier, compared with 15 or 20 for most nylons.

Nylon itself is still in its infancy. It was first introduced to the public less than ten years ago. Not in the form of stockings but as toothbrush bristles was it first placed on the market. Nylon

stockings did not appear until May 15, 1940.

Strength along with elasticity are nylon's two most important properties. Today, this fiber, a favorite with fastidious ladies, is proving its popularity in many fields. Polo shirts, jockey caps and football pants are made of it. Nurses find that uniforms of nylon save laundry bills. Nylon linings in fur coats outwear the fur. The fabric makes excellent laundry nets. Blouses, slips, panties and foundation garments are only a few of the newly-approved uses of this synthetic fiber, that in less than a decade has begun to play such a vital role in the fabric industry.

Science News Letter, January 31, 1948

California showed that streptomycin controlled pneumonic plague, the most deadly form of the disease, in 90% of mice. But its effect on human plague patients remained to be proved.

Science News Letter, January 31, 1948

NUCLEAR PHYSICS

Atomic Energy Exhibit Biggest of Its Kind in U. S.

See Front Cover

► JOHN Q. PUBLIC is invited to view the biggest atomic energy exhibit ever provided the American people at the American Museum of Natural History in New York City.

Sponsored by the Brookhaven National Laboratory to promote individual understanding of nuclear science developments, the exhibit utilizes models, demonstrations, talks, movies, large panel diagrams presenting fundamental atomic facts, photomurals and other devices to show the great values of nuclear energy in scientific research.

A model power plant, shown on the cover of this week's SCIENCE NEWS LETTER, demonstrates how an atomic pile may some day be used to generate electric power. Nuclear fission releases great

MEDICINE

Plague Patients Saved

Streptomycin was given to five dying patients after other treatment proved futile. First sign of improvement was seen within 36 hours.

► FIVE patients dying of plague, one of the most fatal of all epidemic diseases, are alive and well today, thanks to streptomycin. They are living proof of the hopes held by medical scientists that the great disease conqueror from an earth mold would prove effective against this scourge of the centuries.

The patients were victims in a plague outbreak in the Madras Presidency, India. Their rapid recoveries under streptomycin treatment are reported by the Anantapur medical officer, P. V. Karamchandi, and the medical officer of the Hindupur Plague Hospital, K. Sundar Rao, in the medical journal, *Lancet*, (Jan. 3.)

The five young patients had temperatures as high as 106.6 degrees Fahrenheit, swollen glands, were semi-conscious and had a dangerously low rate of breathing. Plague germs were discovered upon puncture of the enlarged glands.

Sulfa drugs, found partly effective in checking plague in China, were given to the first three of the patients but did not help. So streptomycin was tried. Within 36 hours after the start of this treatment the patients became conscious and recovery followed rapidly.

"Streptomycin appears to be a potent drug for the treatment of human plague," the Indian medical officers report.

No bad effects were observed from the drug.

The lowly laboratory mouse first pointed the way to check-mating the Black Death. In the early part of 1947, Dr. Karl Meyer of the University of



MAKES YOUR HAIR STAND ON END—By touching the dome of this model Van de Graaff electrostatic generator, used in nuclear processes, the young man on the right got a shock of static electricity which made his hair rise vertically. This is one of several scientific instruments being shown at the atomic energy exhibit.

heat which may be transformed into steam to drive electric generating machinery.

The exhibit, which opened on Jan. 21,

will remain in New York until April 5 and then be displayed in other cities in the Northeastern and Middle Atlantic states.

Science News Letter, January 31, 1948

MEDICINE

Early Attack Might Cure

Possibility of curing Hodgkin's disease and lymphosarcoma depends on early diagnosis and aggressive treatment before the diseases have spread.

➤ EARLY diagnosis and early aggressive treatment might lead to cure of Hodgkin's disease and lymphosarcoma, at least in some cases, Dr. Lloyd F. Craver of Memorial Hospital, New York, declares in the *Journal of the American Medical Association* (Jan. 24).

He cites the case of five patients with Hodgkin's disease treated at Memorial Hospital who survived five to 11 years, two patients treated in England with survivals of 10 and 12 years respectively, and survival rates in lymphosarcoma of from 23 to 52 out of 100 patients.

The possibility of curing these two diseases, which hitherto have been regarded as incurable, depends primarily on whether they start from a single spot in the body, as cancer does, or from many. If they start from only one spot, early treatment should make a cure possible. The evidence for this possibility, Dr. Craver states, is accumulating.

In Hodgkin's disease, he reports, it has long been his experience that outstanding among those cases with long survivals and long periods of freedom from disease have been those in which the disease has been treated fairly aggressively while it is still early and localized.

Treatment of such early cases consists in removal, by operation, of the involved lymph gland or node, and X-ray treatment.

Chemical treatment in the form of nitrogen mustards and radioactive isotopes of phosphorus, sodium, manganese or gold have so far been useful only for relieving symptoms. While the nitrogen mustards sometimes give striking results in Hodgkin's disease the improvement is "disappointingly brief" in many cases.

With his plea for early recognition and treatment of Hodgkin's disease and lymphosarcoma, Dr. Craver gives some early signs.

An enlarged lymph node or gland, for example those in the neck which are

frequently thought to be the result of a cold or sore throat, should be considered a danger signal if it does not subside in three weeks.

Cough, a feeling of pressure under the breast bone, fullness at the base of the neck, puffiness of the eyes on arising, wheezing and labored breathing are symptoms calling for careful examination to make sure they are not due to Hodgkin's disease or lymphosarcoma.

A solitary lump in a woman's breast may not be a cyst or a cancer but the first sign of lymphosarcoma.

A slightly thickened pink or purplish plaque in the skin, especially of the scalp, may be a first sign of lymphosarcoma.

A thickening in and about the tear gland and the conjunctiva of the eyes, a change in bowel habit or other stomach and intestinal symptoms, and bone symptoms are other danger signals Dr. Craver gives for Hodgkin's disease and lymphosarcoma.

Science News Letter, January 31, 1948

CHEMISTRY

Russian Tip on Vitamin May Lead to New Industry

➤ DESPITE iron curtains and diplomatic impasses, useful scientific information still circulates from nation to nation. Russian scientists are credited by chemists of the U. S. Department of Agriculture with a discovery that may mean a new million-dollar industry in this country.

The Russians, states Dr. L. B. Howard, chief of the Bureau of Agricultural and Industrial Chemistry, reported discovery of large amounts of ascorbic acid, or vitamin C, in green walnuts. Government chemists, quickly following up this lead, found the vitamin not only in green English walnuts but in the discarded hulls of ripe nuts, and developed a method for extracting it in pure crystalline form.

There are enough walnut hulls in California after each harvest to yield about 125,000 pounds of recoverable ascorbic acid, worth nearly \$1,500,000 at present prices. Further work is now in progress to arrive at an economic evaluation of walnut hulls as a commercial source of the vitamin.

English walnuts, incidentally, are not English but Persian in origin. They are more extensively grown now in California than they ever were in ancient Persia.

Science News Letter, January 31, 1948

ASTRONOMY

Astronomers Take First Peek With Giant Telescope

➤ A PEEK deeper into cosmic space has been granted astronomers by the giant telescope of Palomar. Many such preliminary "looks" into space beyond the reach of all other telescopes will be necessary as final adjustments are made on the new 200-inch telescope. Officials hope that the world's largest telescope can begin work on its important research program by June.

Test observations, both visual and photographic, have been made to try the mirror rather than to study some heavenly object of particular importance. A great deal of work remains to be done in adjusting the support system, the driving mechanism and so on. Some of the auxiliary mirrors have not yet been completed or installed.

The first project to be assigned the telescope atop Mount Palomar has not yet been decided. It will concern, in general, the relative abundance of chemical elements in stars, the structure and behavior of the universe as a whole, or it may possibly be an attempt to get a snap shot of Mars. This latter, though of great popular interest, is considered the least important.

The three respects in which this telescope is expected to surpass all others are: 1. resolving power. 2. dispersion. 3. space penetration. The first of these would lead to further evidence concerning the canals of Mars; the second to more information about the abundance of the elements in the universe; the third to knowledge about the distribution of the galaxies, those systems of billions of stars like the Milky Way system of which the earth is a part.

Science News Letter, January 31, 1948

At least 12 *gas-turbine* electric locomotives are being designed in America, Great Britain, Switzerland and France.