SCIENCE AT WORK

By DELOS SMITH
United Press Science Editor

New York—(U.P.)—It now appears that copper has nothing to do with black cats having black hair. Scientific study has demonstrated that the white hair of a white cat shows 34 parts of copper per million parts, whereas the black hair of a black cat shows 14 parts per million.

This analysis was made by Harold Goss and M. M. Green of the University of California. It contradicted the findings of a group of Japanese scientists whose analysis of the hair of men, guinea pigs and rabbits indicated that copper had much to do with black hair.

Goss and Green used a different method of measuring copper content of hair which is more likely to be precisely accurate than the Japanese way, chemists told this writer. Goss and Green also examined many more varieties of hair—hairs from a three-year-old red-headed child, for instance. Those hairs showed 47 parts of copper per million parts, which might suggest that copper gave the reddish color.

Amino Acids

The sample evidently came from a baby book because they also analyzed the adult hair of the same person. Now the copper content was down to 15 parts per million. The hair of another red-haired adult showed 18 parts per million, and that of another redhaired child showed 18 parts, too.

But hair from two light red Hereford cows showed 26 and 30 parts per million, which might seem indicative. So Goss and Green took hairs from a red spot of a calf of the spotted Herefords and hairs from a white spot. The former showed 17 p.p.m. and the latter showed 23 p.p.m.!

Hairs from a black dog and a white dog showed what cat hairs had shown—there was more copper in the white hairs. That applied to guinea pigs, sheep, and rabbits, but not to hogs. A white hog hair had 12 p.p.m. of copper; a black one had 17 p.p.m.

Science knows that the pigmenting matter of hair is derived from the amino acids, tyrosine and trytophan. But the question is, these amino acids and what else make one human being black-haired and another red-haired and put color spots on cattle, cats, and dogs? It's a neat scientific problem.

The Japanese scientists, H. Kikkawa, Z. Ogita, and S. Fujito, had suggested that the "what else" might well be iron, cobalt, nickel, molybdenum and copper, all of which are included in the functioning chemistry of mammalian bodies, in "trace" amounts. And they may well be right; the only trouble is, they haven't demonstrated it scientifically yet.

For example, Goss himself has shown that the wool of black sheep will grow out colorless when their food contains too much molybdenum, but the black pigment reappears quickly when 100 parts per million of copper are added to the high-molybdenum diet. First awareness of this phenomenon was when it was observed that cattle feeding in pastures with grasses high in molybdenum lost their hair color.

Yet Goss and Green demonstrated that the hair of normal white sheep consistently showed a higher copper content than the hair of black sheep.

The scientific reports of both the Japanese and the California investigators were published by the American Association for the Advancement of Science.

PREDICTING THAT IT won't be long before huge atom-powered airplanes take over the skies, G. I. Pokrovsky, eminent Russian scientist, describes how an atomic plane of the future might look and operate. Drawing in Soviet magazine "Young Engineer" shows pencil-slim fuselage 600 feet long from supersonic needle nose to atom plant in tail. Engine would resemble today's turbo jet with a reactor, instead of burners, and uranium dust as fuel. Passenger compartments are forward, cargo in center. *(International Soundphoto)*

Rural Census Shows Less Active Farmers

Champaign, Ill. — (U.P.) —Only about three-fourths as many persons in Illinois are farming as three were in 1920, a University of Illinois rural sociologist has reported.

C. L. Folse said the 1920 Illinois population included about a million farm people, one-sixth of the total population. The 1950 number had dropped to about 750,000 only about one-twelfth of the total population.

The sociologist said, however, that the number of country dwellers who do not farm has increased from just under a million in 1920 to about a million and a half in 1950.

The most rapid change in the state's population occurred in the last 10 years of the 30-year period and the trend has continued even faster since 1950, Folse said.

Most of the increase in "rural, non-farm" population has been in the suburban areas around big cities, although some persons who do not make their living farming are moving into the open country.

Tarantulas are not usually dangerous even though they are poisonous. Some have been turned into pets.

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Britain Has Answer To American Jets

London — (U.P.) — Britain today disclosed its answer to the latest American jet passenger plane designs, a "double-bubble" turbo-prop transport that carries 105 passengers at 425 miles per hour.

Vickers- Armstrong released the design and British European airways announced the first orders for the double-decker "Vanguard," a challenge to the American Lockheed Electra.

British airmen immediately dubbed the Vanguard "double-bubble" because of its two-deck design.

The Vanguard will be built by the same firm that developed the original turboprop Viscount airliner. The Viscount is the first all-British airliner sold to American carriers.

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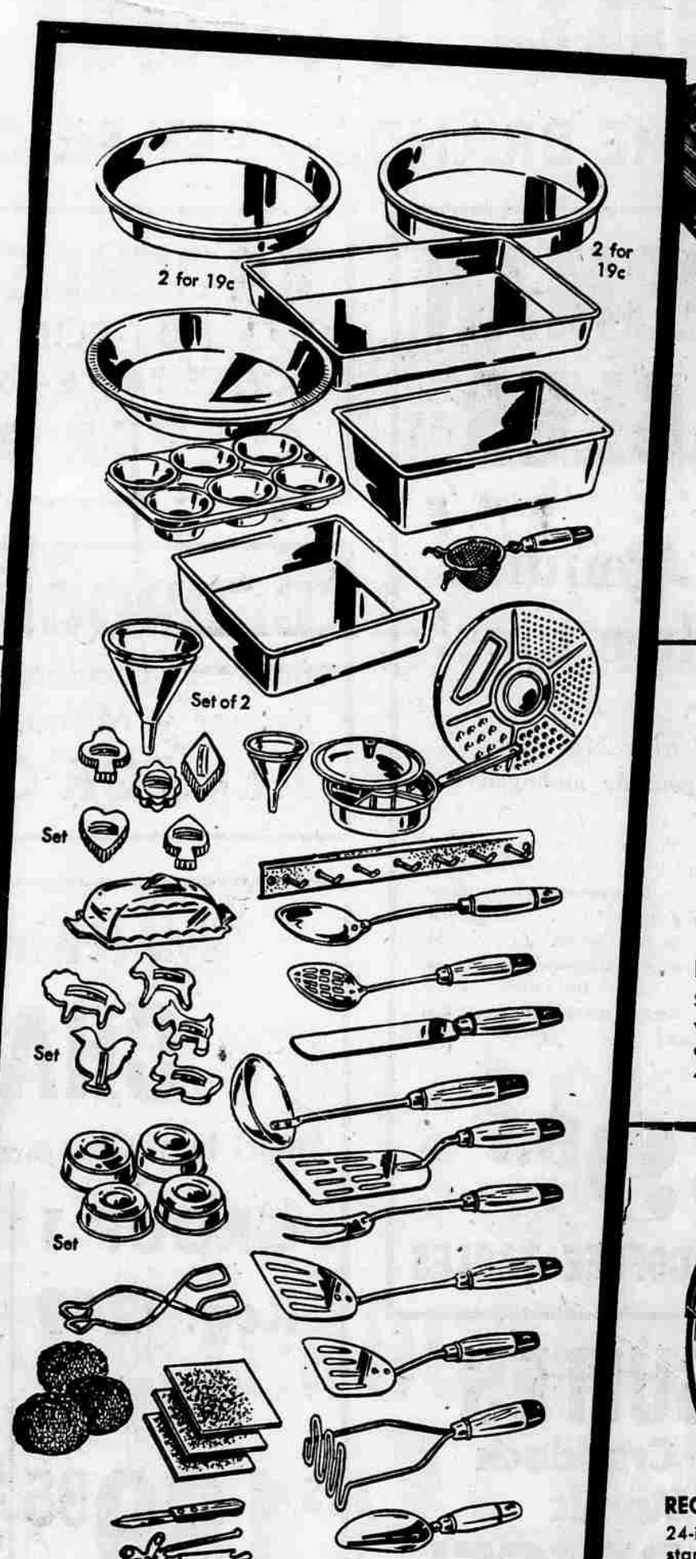

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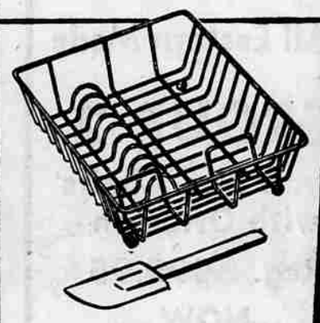

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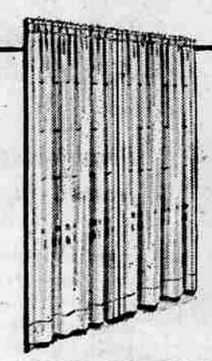

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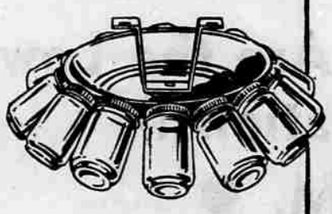

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