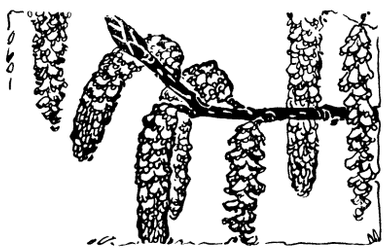
NATURE RAMBLINGS

By Frank Thone



Cottonwood

A much maligned tree that would, if given a fair chance, be very useful for shade and ornament is the American poplar, or cottonwood. Quick of growth, exceedingly hardy, readily adaptable, it is in its natural state a "pioneer," appearing at the edges of things, where conditions are still unfavorable for other trees; marching out into the western dry plains, where hardly any other trees can grow at all.

Two objections are advanced against the cottonwood. One is that it becomes irregular and awkward in shape as it becomes old, the other that it "sheds cotton" all over everything. The first objection is not serious if the tree is regarded, as it should be, primarily as a tree for temporary planting, to be removed when the more permanent trees have reached their maturity.

The objection to the cottony seeds is more serious, but very easily overcome. Unlike most smaller plants, but like many other trees, the cottonwood genus is bi-sexual, that is, the pollen-bearing flowers are borne on one tree and the seed-bearing flowers on another, and it is only the seed-bearing tree that scatters the "cotton." The one offense of the pollen-bearing tree is that it litters up the sidewalks, for a short time in spring, with the finger-length red catkins of spent staminate flowers, that look like vegetable caterpillars; but this is nothing serious. If therefore one only takes care that nothing but pollen-bearing trees are planted, there will never be any "cotton" to contend with.

It is very easy to secure a pure stand of pollen-bearing trees. Seedlings should never be used, for no one can tell how a seedling will turn out until it is full-grown. The proper thing to do is to grow the young trees from cuttings taken from trees known to be pollen-bearing, for the new trees will of course always remain of the same sort as the original stock.

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Our Universe Part of "Super-Universe"

Astronomy

WE live in a "super-universe." The sun, the Milky Way, all the stars we see in the night sky, even when looking through a large telescope, form a huge system made by the condensation of a loose swarm of smaller clusters of stars. One of this system's component clusters is the globe of stars between thirty and sixty quadrillion miles in diameter, in which our sun is an insignificant member.

Such is the latest picture of the structure of the cosmos, delineated by Dr. Harlow Shapley, director of the Harvard College Observatory, in a Harvard Observatory circular just released.

A few years ago, Dr. Edwin P. Hubble, of the Mt. Wilson Observatory, solved the mystery of the spiral nebulae by showing them to be swarms of stars something like our own "universe", or galaxy, but probably outside its limits. Further studies brought fresh evidence for this theory, but also showed that our galaxy was far larger than any of the spirals. Dr. Shapley's new theory, based on a study of several independent swarms of spirals, perhaps similar to that from which our galaxy has evolved, removes the difficulties. The individual clusters in our system, and not the entire system itself, are shown to be analogous to the outside spiral nebulae.

"Our galactic system, it is now proposed, is neither an uncommonly great spiral, nor a single unified star system like a Magellanic Cloud on a grand scale," he said, "rather it is a super-galaxy—a flattened system of typical galaxies. In mass and population the galactic system should therefore be compared with the Coma-Virgo cloud of bright galaxies, which is composed of some three hundred members.

"Our local system, a star cloud a few thousand light years in diameter, appears to be a galaxy similar to the Clouds of Magellan or to the typical extragalactic nebulae. The Scutum star cloud, the Cygnus star cloud, and perhaps half a dozen other distinct Milky Way clouds also are or have been, on this interpretation, typical galaxies, in the sense in which the average spiral nebula is a galaxy.

"The greater part of the recorded obscuring nebulosity (and of the bright diffuse nebulosity as well) is concentrated near the plane of the local system; on the present view it represents an equatorial dark ring of matter, such as is frequently observed on the edges or between the arms of many spiral nebulae.

"The work at Harvard on the star clouds in and near the galactic center suggests that the Sagittarius-Scorpio-Ophiuchus region is occupied by a single galaxy of about the dimensions and structure of the great Andromeda Nebula. Its size is comparable; its novae also are concentrated towards the center. The central region is so rich in stars that if seen from the distance of the Andromeda Nebula they could hardly be resolved by any existing telescope."

Dr. Shapley concluded:

"We observe that the interpretation of the galactic system as a cloud of ordinary galaxies removes the anomaly of the status of our system in the stellar universe. Ours is not a spiral fifty times the average in diameter, nor an entirely unmatched discoidal star system."

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Sparrow-Size Kingfisher

The Celebes Wood Kingfisher (*Ceycopsis fallax*), shown on the cover of this week's SCIENCE NEWS-LETTER, is a bird scarcely as large as an English Sparrow. Similar kingfishers of tiny dimensions are found in various tropical countries. They are hunters as well as fishers and feed on insects and other life as well as on small minnows. They frequent forests quite as much or more than watercourses.

The picture is supplied through the courtesy of the Field Museum of Natural History.

Ornithology

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The oldest watches known today date from about 1550, but it is believed that watches were invented some 50 years before that.

Elevated playgrounds about 14 feet above street level are proposed for the use of children in New York's crowded tenement districts.

Labor inspectors in Germany have noted a shortage of apprentices in many industries due to the decline in the birth rate during the World War.

400,000 old, unfit automobiles will be scrapped during the coming year in a highway safety drive.