BOTANY

Nature Ramblings

By FRANK THONE

Christmas Trees

CHRISTMAS trees, like many of the other things wherewith we deck our houses at the Yule season, are older than Christmas itself, and were first used in lands far remote from Bethlehem. They belong to the North, to the lands beyond the Rhine and the Danube. When the Church conquered Odin his tree was permitted to stand, but as trophy to the Child in whose name he was forced into banishment and final oblivion. So behind the gayety of the Christmas tree, as the dark leaves of the fir or spruce or pine stand behind the gayety of the tinsel and the candles, stands the sober and solid fact of the march of the creed that made Christendom. We tend to forget that Christmas is primarily a religious festival, but reminders of it lurk at every turn, to take us unawares.

A careful and worried conservationism, a generation or so ago, used to warn us to shun all use of Christmas trees, because our forests were vanishing, and these little trees were needed to replace the timber. Such a materialistic pang need not detract from our Christmas celebration now, the U. S. Forest Service declares. Unless the Christmas tree marketer strips an area quite clean of little trees, he is doing the forest a service rather than an injury, because only a fraction of the saplings in a given stand can grow anyway, and the rest are doomed to death by crowding. In a well-managed forest, such as any of the national or state forests, the proper officials indicate what trees may be cut and what must be left standing, and these thinnings are the trees that find their way to the Christmas market. Their sale not only adds to the gayety of the season but, at the other end, helps to pay the wages of the foresters.

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ASTRONOMY

Milky Way May Actually Be Only Average-Sized Nebula

THE DISTINCTION of living in the midst of the largest aggregation of stars in the universe was probably snatched from earth dwellers by Dr. Frederick H. Seares, assistant director of the Mount Wilson Observatory, when he reported to the Carnegie Institution of Washington that clouds of dust and gas in our galaxy dim the light of the star clusters and thus astronomers were misled in thinking that they were farther away than they really are.

Instead of the stellar system in which our sun is a minor star being some five times the size of the largest spiral nebulae in the heavens, Dr. Seares believes that a correction for the absorption of light by interstellar gas and dust clouds will narrow down this difference, perhaps even showing that the galaxy around us is quite ordinary in size.

The portion of the universe in which the earth and mankind happen to be located loses again a claim to distinction among the millions of other galaxies or "island universes" that telescopes reveal as dotting the heavens in all directions.

Present estimates that it takes light 200,000 years to travel across the diameter of our stellar system depend upon determinations of the distances of the globular star clusters, Dr. Seares explained. In these clusters of stars there are stars whose light waxes and wanes in regular periods. Some years ago it was discovered that the time of these stellar light variations was the key to the true brightness of the variable star. By comparing the real brightness and the luminosity of the star as it appears from earth, the astronomers were able to find its distance.

By obscuring the light from these distant stars used as measuring sticks, Dr. Seares is fearful that the clouds of nebulosity in the plane of the Milky Way have so shortened the standard of length that it has given too high values.

Aside from its supposed larger size, the galaxy around us is so typical of the spirals that, Dr. Seares explained, "study of the spirals helps us to understand the galaxy." If we could look at the Milky Way and the rest of our galaxy from a point a million light years out in space it would look something like the great nebula in Andromeda or the famous Messier 33 nebula. It would have a great watch-shaped contour, stars scattered within, and great stellar aggregations, luminous nebulae and dark obscuring clouds located in the central plane of the galaxy.

Proof of Dr. Seares' inference that obscuring clouds are widespread over the central plane of the galaxy was aided by photographs made at the Mount Wilson Observatory by Dr. F. E. Ross of Yerkes Observatory.

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