



Whence Hallowe'en?

AT LEAST three distinct major sources have contributed to the popular celebration of Hallowe'en: pagan European, Christian and American Indian.

Christianity contributed the name, but apparently very little else. Hallowe'en is a colloquial English contraction for All Hallow's Even, since the date is, according to the church calendar, the eve or vigil of the Feast of All Saints. Like all the vigils of the principal feasts, it is supposed by Church custom and rule to be observed as a day of fasting and spiritual preparation, rather than of merrymaking. Thus, formally at least, the Church turns her shoulder on Hallowe'en.

The general atmosphere of festivity, of minor license, of practical jokes, apparently traces back to the harvest-home festivals of the ancient pagan world, especially to the Roman Saturnalia. According to the Mediterranean mythology, the ancient reign of Saturn, father of the gods, was a golden age. Nobody had to work too hard, there were neither kings nor commons, masters nor slaves, and there were always plenty of good things to eat and wine to drink. Then Saturn was deposed by

his son Jupiter, and the hard "modern" world began.

But once a year, when the harvest was safely in, a sunset reminiscence of Saturn's kindly rule was allowed to return to earth. There were feasts for the poor, and a night of liberty for the slaves. Nobody could be held accountable next day for anything that had happened the night before, so a good deal was likely to happen.

Farther north, in the Rhine country, an ancient race of gods, deposed to under-earth demonhood, returned to the summit of the mountain known as the Blocksberg, and there held revel. Thither their servants, the witches and warlocks, could also resort, riding through the air on broomsticks or black goats. With fiery faces they danced and reveled the night through.

Thinned down to mere folk-customs (though with a shuddery persisting belief in the actuality of witchcraft) fragments of these ancient pagan observances were transplanted to the New World by English, Dutch and German settlers. And as they adapted to their own everyday uses the things they found in the hands of the red-skinned natives, so they made use of them also in their celebration of the old transformed Saturnalia. What better basis for a fiery-headed spook than one of the Indians' pumpkins, hollowed out, endowed with whittled features, and fitted with a candle-end? What more available sleet-rattling missiles to fling at your neighbor's window than a handful of Indian corn? And what better nerve-steadier while you sat telling ghost stories than a pipeful of Indian tobacco?

Thus, with many accretions, has our popular autumn celebration come from many lands and grafted itself onto native roots here.

Science News Letter, October 27, 1934

ASTRONOMY

Perpetual Ice Age May Grip the Outer Planets

RIGIDLY gripped in the ice of a glacial age such as the earth has never known, the giant outer planets, Jupiter, Saturn, Uranus and Neptune may be rolling forever through space as enormous ice-covered balls.

This suggestion is made by Prof. R. Wildt, astronomer of Göttingen University in Germany (*Nature, Sept. 15*). Prof. Wildt has taken the known masses of the great planets, and by a mathematical parcelling-out has constructed hypothetical models of them that are in accordance with the widely accepted geochemical ideas of the well-known British scientist, Prof. H. Jeffreys. At the same time, he says, his theory accounts for the low average densities of the planets which have caused so much difficulty to astronomers.

As pictured by Prof. Wildt, each of the four giant outer planets has an internal core with a density or specific gravity of 5.5, similar in general to our "home" planet, the earth. Over that is a thick layer of never-thawing ice. Finally, there is a deep outer envelope of gaseous atmosphere, largely hydrogen, though containing also the great quantities of ammonia and methane lately detected in the planetary atmospheres by the American astronomers, Drs. A. Adel and V. M. Slipher.

Prof. Wildt scouts the suggestion, made in some quarters, that these giant planets are still red hot. If they were he points out, the ammonia and methane would be quickly converted into other compounds, since they can not exist as such at red-heat temperatures.

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