

14. Compare the scattering branches between the whorls with those in the whorls. Account for the difference in size.

15. Give the ages, successively, of the several parts of the stem between the whorls of branches, that is, tell the year in which the terminal bud from which each part or joint came grew out into a continuation of the stem.

16. How many years old, then, is that part of the main stem below the lowest whorl of branches?

17. Compare the number of rings of wood you can see in this part, where it was cut in two, with the age in years, of this part of the stem, as shown by the number of whorls of branches above it. Account for the equality of the two numbers.

18. How could you tell the age of a living spruce tree in the fields, by the number of whorls of branches?

19. How could you tell the age of a spruce tree after it was cut down, by the number of rings of wood to be seen where it was cut off.

(Save the tree-tops for use in Lesson II.)

The Heavens in December.

The close of the nineteenth century is marked by no celestial pageant. Indeed, the heavens are more than usually bare, for all the outer planets, except Neptune, are hidden behind the sun, and the inner ones are all three morning stars. So on the last evening of the century we shall see those silent and eternal stars alone which present the same aspect to us that they did to the sages of the East more than thirty centuries ago—Orion and Pleiades, familiar to star-gazers when the Book of Job was yet unwritten, even as in present times, and seeming even more inconceivably far beyond our reach to us than to them.

To the fixed stars, therefore, must our attention be chiefly directed, when, as our custom is, we survey the evening skies. At 9 p. m. on December 15, the Milky Way extends in a broad span across the sky from east to west, passing a little north of the zenith. It is much brighter in the west than in the east, and also much more irregular in form and brilliancy.

Following its line from west to east, and noting the principal constellations, we come at first to Cygnus, a great cross of stars standing erect right along the centre of the Galaxy, and close above the western horizon. Some distance higher up, and nearly overhead, is Cassiopeia, marked by a zigzag line of bright stars; and the next group to the east is Perseus.

Still following the Milky Way down toward the east, we next reach Auriga, whose brightest star, Capella, considerably surpasses any that we have so far passed. Below is Gemini, containing the conspicuous pair Castor and Pollux, both of which are almost of the first magnitude. Their line continued downward points out a little hazy spot of light which is the cluster Praesepe, in Cancer, the most characteristic feature of the constel-

lation. The separate stars of this cluster cannot be separated by the naked eye, but are clearly seen with a fieldglass.

To the right of Cancer is Canis Minor, whose only conspicuous star is the brilliant Procyon. Further on in the same direction is Sirius, which, even at its present low altitude, is beyond comparison the brightest star in sight. The lower part of Canis Major—to which constellation it belongs—has not yet risen.

Above Sirius is Orion, which is too familiar to need description here, and high above him again is Taurus. Aldebaran, Sirius, and the two brightest in Orion, Rigel and Betelgeuse, form a remarkably perfect parallelogram.

Below and to the right of Orion is the little constellation Lepus, the Hare, which between the hunter Orion and his Great and Little Dogs must be pretty hard pressed.

The almost equally irregular and extensive shape of Cetus and Pisces similarly occupy the southwest. Above is Aries, a little south of the zenith, below which to the west is Andromeda, with the great square of Pegasus further down and standing on one corner.

In the northern heavens we may note that the Little Dipper hangs directly down from the Pole Star, and that Draco lies below it. The Great Dipper is on the right, the last star of its handle out of sight near the horizon, and the head and paws of the Great Bear extend from it toward Gemini and Cancer.

Among the planets—Mercury is morning star, and so is Venus, which is diminishing in brightness, but yet, as always, the brightest of the planets. Mars will be a brilliant object by the end of the month, rising about 10 p. m. He is in the constellation Leo. Jupiter and Saturn are in conjunction with the sun during the month.

At 1 a. m. on the morning of the 22nd the sun enters the sign of Capricorn, and, according to the almanacs, "winter begins." And with the stroke of midnight on the 31st the nineteenth century closes.—*Condensed from Scientific American.*

For the REVIEW.]

French at High Schools.

It is not unknown for a high school in New Brunswick to send a pupil to the University to be examined in French for entrance, while the pupil has not been taught the French verb, for instance, or mayhap some other part of the course as laid down in the College calendar. The pupil cannot pass the examination, probably fails at the supplemental examination, and has to go in for senior entrance in every subject, having lost his year—a depressing beginning.

It is a great injustice to send pupils up, with some sort of notion that what is laid down may perhaps not be exacted. They have little reason to thank any school leaving such a false notion in their minds.

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