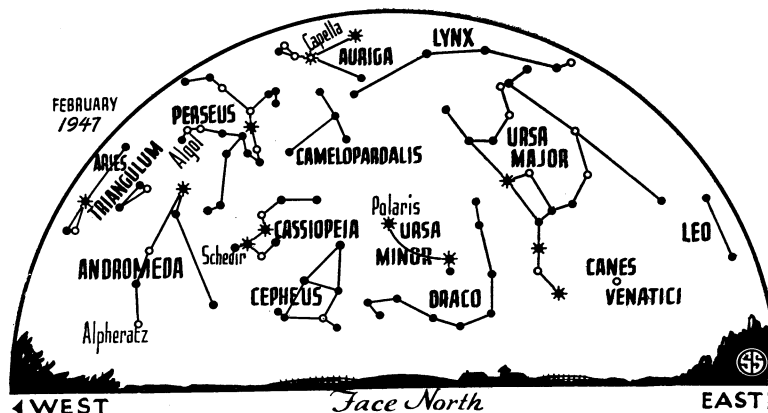


sky and we have summer. It so happens that when we have winter, the sun itself is in the direction of the scorpion, and that is why we cannot see it, though we can see Orion, which is in the opposite part of the sky. In June, when the sun is toward the part of the sky in which Orion stands, we cannot see him, but the scorpion is visible all night.

Precession Moves Pole

In about 12,000 years precession will have moved the pole through half of its circle. Then when the sun stands toward Orion, and the scorpion is visible at night, the north pole will tilt away from the sun, so that time of year will be winter. Summer will come, as now, when the north pole tilts sunward, but then Orion will be visible in the southern sky in the evening and the scorpion will be too nearly in the same direction to the sun to be seen.

Also, at that remote date, the winter scorpion will be as high in the evening sky as Orion is now, and that warrior, like Scorpio in 1947, will stand just above the horizon. That will permit people in the United States, or whatever nation occupies this part of the world, to appreciate the beauty of the scorpion. It is really a fine group that does not appear to us in its full glory because it is so low. If, in the summer, you travel



toward the equator, you can see it overhead in its full splendor.

Celestial Time Table for February

Feb.	EST	
3	6:00 p.m.	Moon nearest, 224,400 miles
4	3:07 p.m.	Moon passes Saturn
5	10:50 a.m.	Full moon
12	4:58 p.m.	Moon in last quarter
	10:44 p.m.	Moon passes Jupiter
15	4:00 p.m.	Moon farthest, distance 251,700 miles
16	5:58 p.m.	Moon passes Venus
17	4:37 a.m.	Algol (variable star in Perseus) at minimum
20	1:26 a.m.	Algol at minimum
	9:00 p.m.	New moon
	10:00 p.m.	Mercury farthest east of sun
22	10:16 p.m.	Algol at minimum
25	7:05 p.m.	Algol at minimum
28	4:12 a.m.	Moon in first quarter

Subtract one hour for CST, two hours for MST, and three for PST.

Science News Letter, January 25, 1947

or three decades preceding the war.

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ENGINEERING

Mammoth Steam Turbine Generators in Making

► MAMMOTH STEAM turbine generators for electric power companies, two in the 125,000-kilowatt class and two in the 100,000-kilowatt class, are under construction by General Electric Company. They are expected to have very high efficiency.

The two larger machines, with cross-compound turbines, will utilize steam at 2,000-pound pressure and 1,050 degrees Fahrenheit temperature. The high-pressure unit will operate at 3,600 revolutions per minute, and the low-pressure unit at 1,800 revolutions.

In the 100,000-kilowatt generators, one will operate at 1,500-pound pressure and 1,050 degrees temperature; the other at 1,250-pound pressure and 1,000 degrees temperature. Recent advances in seals and gas-purification methods will permit smaller hydrogen-cooled units in all four turbine-generators. Practically all turbine-generators of 15,000 kilowatts and over are now hydrogen-cooled.

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GEOGRAPHY

Strategic Spitzbergen

► THE IMPORTANCE of Spitzbergen in world strategy is emphasized again in the recent reported request of the Soviet Union to Norway for permission to use this northern island in the Arctic ocean for a military base. Hitler recognized its importance when he sent Nazi forces against it in 1943.

Spitzbergen is a group of bleak mountainous islands, possessions of Norway since 1925, that is located nearly half way from Norway itself to the North Pole, and some 300 miles east of Greenland. Military bases on one of them could play an important part in the control of shipping passing north of Norway to Finland and Russian ports, and perhaps offset military bases established by any other nation on Iceland. Spitzbergen also has value as location for a weather station, and it is on the Great Circle route by way of the North Pole from Europe to Alaska.

The Norwegians call the island group

Svalbard. Spitzbergen, or Svalbard, is applied usually to the main island of the archipelago. This island has some 25,000 square miles of area. It was once noted for the whale fishing in its vicinity, also for walrus fishing. In recent years its particular value has been its coal mines, from which about 700,000 tons have been taken each year.

Spitzbergen is too far north to produce foodstuffs. Its climate is not as severe as might be expected, however, as its western coast is warmed by the North Atlantic drift. It is less severe than the climate of corresponding Greenland. Vessels may approach the west coast during most of the year.

Amundsen and Byrd used a base on Spitzbergen in 1926 from which they took off to reach the North Pole. Wilkins used it in 1928 for his flight over the pole to Alaska. Scientific expeditions used the island for many exploratory trips in Arctic regions in the two

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