



the opposite part of the sky, toward the southern constellation of Columba, the dove, seem to be gathering together.

Furthermore, the stars all around the sky in a great circle at right angles to the direction of these groups show a marked tendency to be moving from Hercules toward Columba. The spectroscope shows whether a star is moving towards us or away from us, and it has been found that the stars in the direction of Hercules are approaching, while those toward Columba show a general recession.

All these effects could be explained if the sun and its attendant planets were fixed in space, and all the other stars were rushing past us. However, this is in the class of "everybody's out of step but Johnny," so it is much more reasonable to assume, as astronomers have done, that the solar system is moving through space, towards Hercules, at a speed of about 12 miles per second.

Thus while the earth revolves about the

sun in an orbit that is nearly circular, the fact the sun itself is moving at the same time means that our movement is actually that of a helix, like the thread of a screw, or the wire in a spring.

Celestial Timetable for September

Sept.	EST	
3	1:00 a.m.	Moon nearest; distance 222,700 miles.
	10:19 p.m.	Full moon.
8	9:51 p.m.	Moon passes Jupiter.
10	9:36 p.m.	Moon in last quarter.
15	2:00 p.m.	Moon farthest, distance 252,100 miles.
19	2:22 a.m.	New moon.
21	9:18 a.m.	Moon passes Venus.
22	9:24 p.m.	Equinox; autumn commences in northern hemisphere.
25	1:22 p.m.	Moon passes Mars.
26	3:31 p.m.	Moon in first quarter.

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

Science News Letter, August 30, 1952

HOW TO RETIRE SOONER

by earning a small income

Government figures prove you need much less money if you retire to the country, and now a new book shows over and over again how to make the money you do need, whether you retire with or without a lot of money in the bank.

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TECHNOLOGY

Electronic Truck Scales

➤ **ELECTRONIC SCALES** buried under highways now can weigh trucks as fast as they speed by.

Often used to measure weights of moving railroad cars, the scales were adapted to highways by engineers of the U. S. Bureau of Public Roads. The scales may replace the costly and time-consuming process used at present.

The truck's gross weight, speed, axle weights and axle spacings all can be measured in a fraction of a second when a fast-moving truck rolls across an inconspicuous platform laid into the road.

Electric strain gages and an oscilloscope combine to produce patterns on a screen that reveal the data about the trucks.

Strain gages are lengths of wire of a known resistance which allow a certain amount of current to flow through them. When the wires are stretched or compressed, the resistance changes and so does the cur-

rent through them. That, in turn, is recorded on the screen of the oscilloscope.

The accuracy of the scales compares favorably to the accuracies of scales that weigh trucks standing still. Research engineers believe even more accuracy can be obtained in time.

At present, weighing trucks on the nation's highways requires about a six-man party equipped with portable loadometers. The party can weigh only about 200 trucks in eight hours, and a day's work costs about \$125. Truckers often take round-about routes to avoid being delayed at a weighing station.

By using the electronic scales, more trucks can be weighed without producing traffic tie-ups. Overloaded trucks can be spotted quickly and checked on conventional truck-weighing scales to obtain a more accurate weight.

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