



we get the most. In the southern hemisphere, of course, the effect is reversed. Then the sun travels across the northern sky each day, so it is low in June and high in December.

In view of this it might be thought that June 21 would mark the middle of summer rather than the beginning. In England St. John the Baptist's day, June 24, approximately the date of the summer solstice, is actually called Midsummer Day. It is one of the "quarter" days, marking the dates at which rents, etc., which are due quarterly are to be paid. The others are Christmas, March 25 and Michaelmas Day, Sept. 29.

Probably these are survivals of the time when the new year began not on Jan. 1, but at the beginning of spring about March 25. With June 25 the middle of summer rather than the beginning, that season covers the whole time of year when the sun is highest in the sky. With the system we use of beginning summer on June 21, we have the curious condition that on the last day of summer, Sept. 22, the height of the sun is about the same as on March 20, the last day of winter.

### Logic to Solstice Theory

However, it is an undeniable fact that the warmest weather of the year comes well after the summer solstice, and that the season from this date to Sept. 22 covers roughly the hottest time of year. This is because the earth itself acts as a reservoir for the heat that the sun gives it.

For some weeks after June 21 the ground each day will take in more heat than it gives off in the same period. Temperatures therefore rise. Finally toward the end of July, income and outgo become equal and after that the loss of heat each day becomes greater than the gain. Therefore it gets cooler.

Similarly, because it is not until well into January that the daily gain exceeds the loss, the coldest weather of the year comes a month or so after the winter solstice. Thus, there is really some logic to the custom of taking June 21 as the first rather than the middle of summer!

### Time Table for June

June	EST	
6	11:37 a.m.	Moon passes Jupiter
7	6:35 a.m.	Moon in last quarter
9	10:00 p.m.	Mercury farthest west of sun
12	1:00 a.m.	Moon farthest, distance 252,200 miles
	2:47 a.m.	Moon passes Venus
15	10:53 a.m.	New moon
21	5:43 p.m.	Moon passes Saturn
	6:37 p.m.	Sun farthest north, summer commences
23	12:12 a.m.	Moon in first quarter
	6:29 a.m.	Moon passes Mars
27	4:00 p.m.	Moon nearest, distance 224,900 miles
29	2:58 p.m.	Full moon

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

Science News Letter, May 27, 1950

### AERONAUTICS

## Cheap Wind Tunnel for Supersonic Studies

➤ A "SHOCK tube" type of wind tunnel for studies in supersonic air velocities, under construction at the University of Illinois, is inexpensive in cost when compared with giant tunnels now in use but is effective in studying behavior in speeds up to 1.8 times the speed of sound.

This tunnel will cost \$25,000, instead of \$500,000 for a comparable standard wind tunnel. The tube, made of 1.75-inch thick aluminum, is 35 feet long, four inches wide and 15 inches high. It is modeled on the pioneer device of this sort which is at Princeton University in New Jersey.

The shock tube, as described by University scientists, will operate something like the result of sticking a pin into a balloon. A thin sheet of tough plastic will be stretched across inside the tube six feet from one end. Air pressure will be increased in the short part of the tube behind this sheet while in the rest of the tube the pressure will be lowered.

Then a pin will prick the plastic, making it split in all directions like a burst balloon.

A shock wave will then rush the length of the tube. Inside the tube, near the low pressure end, will be a model of an airplane wing or other object. Shock wave photographs will be taken to show the air movements over the model during the very short period of the high-speed blast.

Science News Letter, May 27, 1950

### DENTISTRY

## Teeth Anesthetics Made to Last for Week

➤ THE local anesthetic effects of the procaine, or novocaine, that dentists inject before painful drilling and tooth pulling, can be made to last more than a week instead of the usual two to four hours, Drs. Samuel Monash and Alvo Guiducci of New York reported at the meeting of the Medical Society of the State of New York.

The longer lasting effect is achieved by a special method of preparing a suspension of procaine base in water.

Science News Letter, May 27, 1950

**TRIPLE CHECK ON RADIOACTIVITY WITH RADIAC'S DG-2**

**\$98.50**  
Postpaid

**COMPARE THESE FEATURES:**

- Triple check on radioactivity with meter, earphones and neon flasher.
- Three ranges of sensitivity: 0-.2, 0-2, 0-20 mr/hr.
- Can be used underwater, completely tropicalized, and fungus proofed.
- Compact—weighs only 4 1/2 lbs., economical to operate with easily obtainable batteries.

**GEIGER COUNTERS FOR EVERY APPLICATION AND PURPOSE FROM \$37.50 TO \$750.00**

**The RADIAC Co.**  
Dept. GM-1  
489 5th Ave.  
New York 17, N. Y.