

## TWENTY-EIGHT DAY MONTH ADVOCATED BY WEATHER BUREAU CHIEF

A new arrangement of the calendar, embodying the ideas of Prof. Charles F. Marvin, chief of the U. S. Weather Bureau, was presented before the recent meeting of the International Geodetic and Geophysical Union at Madrid, Spain.

Prof. Marvin has long believed the present division of the year into twelve months of unequal length is awkward and should be changed. He likens the present calendar, in which the length of the months varies from twenty-eight to thirty-one days, to a confusing yardstick which would sometimes measure thirty-six inches and sometimes thirty-eight or thirty-nine. He believes that much convenience would be gained by both business and science if months were always of equal length and always began on the same day, and he has devised a calendar on that basis, which was presented before the meeting.

Prof. Marvin's calendar is very simple. The year is divided into thirteen months instead of twelve, and each month has exactly twenty-eight days. Each page of his calendar would look like this:

Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

There would never be any change. All months would have the same days on the same dates, forever.

This thirteen-month year would have one day, the 365th, left over. Prof. Marvin proposes to stick this odd day in somewhere between Christmas and New Year's, as an additional holiday. In leap years another day would be inserted between two midsummer months, as a midsummer holiday.

A number of advantages to business in the proposed arrangement are pointed out. The beginning of each month, and the beginning of the year, would always be also the beginning of a week - a considerable matter in the ordering of office routine. People who are paid by the month or semi-month would always have Saturday for payday. Legal holidays that now shift, like Christmas, New Year's, and July 4, would always come on the same day of the week.

Religious festivals that move about, like Easter, could be given a definite date. Authorities of the Roman Catholic, Eastern Orthodox and Anglican churches have agreed that a fixed date for Easter could be arranged.

The last calendar reform occurred in 1582, when Pope Gregory XIII revised the old Julian calendar, which had been in use since the time of Caesar. The Julian calendar had allowed too many leap years, and in the course of centuries an error amounting to eleven days had crept in. It took some time for Gregory's calendar to be adopted, but long before the beginning of the nineteenth century all western nations except Russia were using it.

Russia clung to the Julian calendar until 1923, when the Soviet government brought its dates into agreement with those of the rest of the world. The calendar adopted in Russia last year contains one very slight modification, designed to

offset a minor inaccuracy left in the reckoning by Gregory; but this is of interest only to astronomers since the change is not to take effect until the year 2000, and the error is so small that it will not amount to a full day until the year 4600.

The proposed new calendar is even more closely calculated than the latest Russian model. But one unescapable source of error still intrudes. It is known now that each year is shorter than the one preceding by a very small particle of time. The difference amounts to fifty-three one-hundredths of a second in a century. Prof. Marvin states that by the time this unavoidable error introduces a difference of one day in his method of reckoning, it will be the year 13,000 A.D.

#### MODERN SCIENCE BACKS ANCIENT HEBREW BELIEF

A sanitary regulation dating from the time of Moses has been shown to have a valid scientific foundation, by the investigations of Dr. David I. Macht and Dorothy S. Lubin, of the pharmacological laboratory of the Johns Hopkins University.

The ancient priestly laws of the Hebrew Pentateuch declare that women are "unclean" - "not kosher" - during the recurrent physiological crisis that comes once every lunar month. So stringent were the regulations, as given in Leviticus, chapter 14, verses 19 to 30, that any one who so much as touched them or any article of furniture used by them was declared unclean also.

Similar beliefs lie at the base of some of the "taboos" of present-day savages, and survivals of these primitive ideas still hold in rural parts of civilized nations. For instance, Dr. Macht points out that in the silkworm raising and perfume industries in France women are not permitted to work during the times of their malaise.

Such customs have come to be regarded as superstitions, but the work of the Johns Hopkins investigators shows that at such times women actually produce a powerfully poisonous substance in all parts of their bodies. They found that all the body fluids, saliva, blood, perspiration, even the tears and breath of menstruous women exert a toxic influence.

They made their tests by watering newly sprouted bean plants with very dilute solutions of these various fluids, and measuring their rates of growth as compared with check plants fed with ordinary culture solutions, and further checked their results by watering a third set of plants with fluids supplied by the same persons when they were in normal condition. It was found that the fluids supplied by their cooperators while they were "unclean" under the old Levitical law stunted the plants, in some cases slowing down the growth as much as forty per cent. Perspiration was especially strongly charged with the poison, for very small quantities washed from the skin into the culture solution had a marked effect. Perspiration of women in normal condition had little or no effect on the plants.

When women who were at their period held flowers in their hands for a few minutes they quickly wilted; but the flowers remained fresh when handled by normal women. The effect was notable on roses and carnations, and especially on sweet peas.

Another old belief is that at these times women should not make bread, for the dough will not rise. This was tested out by having women handle yeast, and