

therefore, that without the adoption of the device of intercalation, no practical calendar can be constructed. The objects to be sought are the maximum of uniformity, symmetry and convenience. Our calendar is perhaps in no point so conspicuous as in the absence of all these qualities; besides, it gives no substantial advantages to offset the great irregularities which have been so gratuitously introduced. Of the time divisions just named, the day is already adjusted to all the others, and may, therefore, for the present be dismissed, excepting as a constituent of the other time divisions. The week has never been adjusted either to the month or to the year or its quarters. The month has been adjusted to the year, but in a most unsatisfactory manner, the months varying at present from 28 to 31 days in duration. It therefore appears that inasmuch as the day and the year are invariable and are already arranged by the Gregorian calendar, the week and the month only remain to be adjusted. But we have already concluded that the week must not be disturbed, hence any important change is precluded in any time division other than the month. It is very fortunate that this is the case, for the month has its origin in the phenomena of the night, and the Moon may be ignored far more conveniently than the Sun.

It is very clear that a Gregorian year cannot be secured without intercalation, we must, therefore, be prepared to accept the inevitable. At the same time we must secure what uniformity we can with the least possible inconvenience. It may be accepted as a principle that no change must be made unless it is warranted by clearly preponderating advantages.

Let us first examine the ordinary year of 365 days. We find the only measures of 365 to be 5 and 73, and therefore it is clearly a very inconvenient number of days to deal with, for a week of 5 days, or a month of 73 days which does not consist of a whole number of weeks, is out of the question. Let us lay aside another day with our Leap Year Day to be dealt with hereafter. We have 364 days left. Now the measures of 364 are 2, 4, 7, 13, 14, 28, 52, 91 and 182. Taking these factors into consideration and neglecting the smaller measures, we find that 28 is divisible by 2, 4, 7 and 14; 52 is divisible by 2, 4, 13 and 26; 91 is divisible by 7 and 13. The year of 364 days is, therefore, divisible into 2 half years or 4 quarters, or 13 months or 52 weeks, each of these quarters being exactly divisible into 13 weeks, and each month containing exactly four weeks. Such a year involves a change