NO EQUAL DAYLIGHT ON THE EQUINOX

It is a common belief that, on the day of either of the two Equinoxes, the length of the daylight period and the length of the period of darkness are equal. This belief is mistaken. Every equinox will have more daylight than dark—that is, the length of time from sunrise to sunset will be more than twelve hours.

This discrepancy is caused by the fact the sun appears in the sky as a disc, not a point. It takes a few minutes for the sun to completely rise in the morning and to completely set at night. Sunrise occurs when the upper edge (not the middle) of the solar disc first appears above the true horizon, and sunset does not occur until that same upper edge disappears below the true horizon. The actual length of time it takes the solar disc to transit the true horizon depends upon your latitude and the time of year.

The twenty-four hour period that most closely approximates conditions of equal daylight and dark will occur (here in the northern hemisphere) a few days before the March equinox, and a few days after the September equinox. It is very, very rare for this division be to exactly twelve hours each. Check the times of sunrise and sunset in your local paper and see for yourself!

Moreover, each equinox occurs at a specific instant in astronomic time which will be interpreted as different clock times and calendar dates depending upon your time zone, how close the current year is to a leap year, and on the precession of the equinoxes.

For instance, in 1996, the March equinox occurred at 8:03 AM on March 20th in London. That same instant in time was recognized as three minutes past midnight in the early morning of that date here in California, but was seen as 10:03 PM on the 19th of March in Honolulu.

Most people don't realize that any particular instant in time will be seen as occurring on two different calendar dates on different parts of the Earth's surface, and at more than thirty different clock times (some countries have time zones that are a half-hour different than their neighbors).

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