

The Paradox of Identical Events

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Suppose two totally identical events.

John comes at night and turns on his flashlight to my room for a second, after he turns it off and turns it on again from the same angle and from the same position for another second, in an infinitesimal time so small that our eye is not able to detect this lapse of time.

For John exist two events of 1 second period and each one with a frequency of 1Hz

However, I have perceived the same light for two seconds, since my eye has not perceived the lapse of time in which John turns off the flashlight and returns it to power. Therefore from my point of view only one event of period 2 seconds and frequency $1/2$ (Hz) has occurred.

For us they would be indistinguishable if two equal but independent events occurred or a single event of double period.

Let's imagine that you have gone on vacation

and at the end of the summer another totally similar summer begins. We can consider that the summer has lasted twice as we repeat every moment twice. Or we can also see it as two independent but identical events.