Looking forward to millennium celebrations

I was perturbed to read in Dr Wilkins’ article on the millennium that he considers 1 January 2000 to mark the instant when the new millennium begins as it is compatible with current international practice for communications and other activities wherein the year before 1 AD is designated 0 and other years BC have negative numbers.

I am sure he must realize that only a very small proportion of the population uses this system for professional reasons and for the rest of the great (Christian) world it is the modern civil calendar that prevails, in which 1 BC is followed by 1 AD. Ask anyone on any bus when Caesar invaded Britain and they will reply (if they know) 55 BC and 54 BC, not –54 and –53.

The sad truth is that far too many who should know better, including those in government, have become over-excited by all those noughts and, consequently, arranged celebrations a year too early.

Many would argue that this is not important, but surely it is. If we cannot maintain that numerical accuracy is an important skill to be properly practised, then we have no right to complain if children cannot count or spell. Essentially, we have duties and one of them is to insist that the addition of the years should be undertaken correctly no matter how prestigious or numerous are those who promote the celebrations no matter how prestigious or numerous are those who promote the celebrations a year too early.

Many would argue that this is not important, but surely it is. If we cannot maintain that numerical accuracy is an important skill to be properly practised, then we have no right to complain if children cannot count or spell. Essentially, we have duties and one of them is to insist that the addition of the years should be undertaken correctly no matter how prestigious or numerous are those who promote the opposite.

R H Chambers, Crayford Manor House Astronomical Society, Mayplace Road East, Crayford, Kent.

Sir Arthur Clarke CBE

In the dark

I am sure that many readers of the August 2000 issue of Astronomy & Geophysics will be as baffled as I am by the information that Pepys had a "scotoscope" – an instrument to see in the dark.


Sir Arthur Clarke CBE, Leslie’s House, Colombo 7, Sri Lanka.

Thorsteinn Saemundsson

The end of an era

I was interested to note that G A Wilkins’ latest contribution to the millennium debate (“The year without a number” A&G 40 2.8) contains several interesting historical facts, but the conclusions are based on a misunderstanding. Dr Wilkins believes that his “year without a number” (the year before 1 AD) should be regarded as the first year of the first century AD. According to Dr Wilkins, the Venerable Bede counted the years backwards as well as forwards from this year, much as Cassini did when he later introduced the astronomical numbering of years.

Wilkins goes on to state: “Cassini’s system passed unnoticed and now astronomers as well as historians believe that in counting ‘ab incarnatione domini nostri Jesu Christi’ Dionysius had intended that the year 1 should be regarded as the year of the birth of Christ, rather than as the year after this. False assumption is the origin of statements that the third millennium (sic) will not begin until 2001.”

Neither Wilkins nor anyone else has found solid evidence to settle the question whether the year that Dionysius numbered 1 was meant to be the year when Christ was born or the year following. Several historians and astronomers have ventured an opinion and, contrary to Wilkins’ claim, the majority has long favoured the year we now call 1 BC as the most likely year of birth in Dionysius’s scheme. This can be seen from recent books (Steel 2000, Richards 1998) as well as earlier ones (O’Neill 1975, Schroeter Fr, 1926). At the same time, the great majority of historians and astronomers has steadfastly maintained that the 21st century will not begin until 2001. The view that a new millennium will begin in 2001 is not based on any assumption about events that supposedly happened in the year 1 AD. The fact that the year was numbered 1, as the first of an era, is all that matters.

To illustrate why this is so, let us consider how the days of a month are numbered and take January as an example. January has 31 days. It is no secret that there is a day before 1 January. That day is 31 December. A person could argue that the days of January are really counted from 31 December. He might even find it convenient, as astronomers sometimes do, to call this day 0 January. But he would not be justified in claiming that this day actually belongs to January and, because January is supposed to have 31 days, the month must end on 30 January! Yet this is analogous to Dr Wilkins’ stance on the millennium issue. The only difference is that Dr Wilkins’ “year without a number” cannot be unambiguously assigned to any century, neither the first century AD nor the first century BC, because the starting point in Dr Wilkins’ (or Bede’s) scheme of counting is a whole year rather than an instant.

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David Wright

The scotoscope

I thank Sir Arthur for his interesting letter. Volume 5 of the Latham and Matthews (1971) edition of Pepys’ Diary identifies a scotoscope as a camera obscura.

Gerard LE Turner has described it as a "rectangular box ... with a lens at one end in an adjustable tube, and a mirror set at a 45° angle to reflect light onto a horizontal groundglass screen". The principle is the same as in a pinhole camera.

The instrument-makers of Pepys day called the device a scotoscope, using the prefix derived from the Greek skotos, meaning darkness. Scotopic vision is “vision which occurs at low illumination through the retinal rods” (Walker 1995).

David Wright, Caterham, Surrey.

References
Latham R and Matthews W eds 1971 The Diary of Samuel Pepys p240 G Bell and Sons.

A word from the Editor

As we approach the beginning of the third millennium (or the end of the beginning of the third millennium, depending on your point of view) I would like to draw this correspondence to a close. I am grateful to my indefatigable correspondents for their careful explanations and hope that they and other readers will continue to write to A&G. If you have further points concerning the millennium to make in this forum, please address them to me in good time for the December 2000 issue. I fully expect the correspondence to revive in the future, but we may possibly hope for a respite of a few centuries, while we see if the third millennium brings unanimity to the calendar.

The Editor would also like to draw readers’ attention to the purpose of these pages. Views is the place where readers of Astronomy & Geophysics and Fellows of the Royal Astronomical Society can present short scientific observations, in the form of notes or letters. Items of scientific correspondence for this section of A&G should be less than 1000 words long and accompanied, where appropriate, by a figure or illustration. Authors should send one copy to the Editor, preferably with an e-mail copy or disk.

Shorter communications are also welcome, on any item likely to be of interest to readers of A&G. Such topics include discussion of papers published in A&G or elsewhere, matters of concern among the astronomical and geophysical community in general, and issues worthy of such interest and comment.

Publication can be speedy, in order to focus on topical issues. Anyone interested in writing to A&G Views should contact the Editor directly at the Department of Physics and Astronomy, The University of Leeds, Leeds LS2 9JT.

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