

Re: hypothetical Yangshao calendar (early China)

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The wedjat eye of ancient Egypt was the lunar eye of Horus as restored by Thoth, Lord of Time and Reckoner of the Year. It is composed of six parts which also serve as unit fractions: eye-white between iris and nose $1/2$, iris $1/4$, eyebrow $1/8$, remaining part of eye-white $1/16$, oblique sign under the eye $1/32$, vertical sign under the eye $1/64$.

The wedjat eye was called "the whole one." However, the fractions $1/2 + 1/4 + 1/8 + 1/16 + 1/32 + 1/64$ do not add up to 1, a small part is missing, namely another $1/64$.

What, then, does "the whole one" mean? I propose the following answer. The wedjat eye represents a lunation, a month of 30 days multiplied by the Horus Eye series. $30 \text{ days} \times (1/2 + 1/4 + 1/8 + 1/16 + 1/32 + 1/64)$ yield 29 $2/32$ days (with a small mistake of less than one minute).

Paul: you are right in saying that the Horus Eye series was also used for dividing the hekat. 1 cubic cubit equals 30 hekat. 1 hekat equals 320 ro. The Horus Eye divisions of the hekat yield 160 80 40 20 10 5 ro.

There is another measure of capacity called dja. One Tanja Pommerening, a pharmacologist, solved the problem of the dja by reading the medical papyri of ancient Egypt and asking herself what would make sense for a dja if one actually prepares medicines according to recipes in those papyri? A dja, she found, equals 5 ro, which is one 64 th of a hekat, and must have served as the basic measure of capacity in Egyptian medicine. (Readers in German may look up Tanja Pommerening's paper via Google scholar).

We have here an interesting parallel: when Thoth was healing the lunar eye of Horus, one 64 th of a month was missing, while another 64 th, now of a hekat, was the basic measure of capacity in Egyptian medicine ...

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Regards Franz Gnaedinger www.seshat.ch
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- > *The Maya combined a Solar Year of 365 days, 18 x 20*
- > *days plus 5 "unlucky days" with a Sacred Calendar of*
- > *of 260 days. A Calendar Round lasted 73 Sacred Cycles*
- > *or 52 Solar Years or 18,980 days, allowing to calculate*
- > *and name dates for thousands and millions of years ahead*
- > *or back in time. In Quirigua near Copan the cosmic order*
- > *was based on a fictive date which lies 90 millions of*
- > *years in the past.*
- >
- > *The cycle of 260 days was called tzolkin by the Maya,*
- > *tonalpohualli by the Aztecs, and is believed to have*
- > *had only ritual purposes. Really? I checked the number*
- > *260 and found the following relations:*
- >
- > *46 tzolkin equal 405 lunations*
- >
- > *1 lunation equals $46 \times 260 / 405$ days*
- >
- > *mistake less than 24 seconds*
- >
- > *59 tzolkin equal 42 years*
- >
- > *1 year equals $59 \times 260 / 42$ days*
- >
- > *mistake less than 6 minutes*
- >
- > *I checked alternative numbers for the tzolkin, 240 250*
- > *270 280 253 255 180 200 160 days, but none provided such*
- > *a good double – both lunar and solar – solution as does*
- > *the given number 260. So I assume that the tzolkin served*
- > *not only for ritual purposes but was a lunar and a solar*
- > *calendar, with a mistake of less than one day in some*
- > *240 years.*
- >
- > *Actually I should check all the numbers, say, from 21*
- > *to 364 or so, but I leave this task to an expert on Maya*
- > *astronomy, mathematics and calendar cycles. If you wish*
- > *to try yourself you may use the following numbers, modern*
- > *values from 1988:*
- >
- > *1 lunation 29 days 12 hours 44 minutes 2.9 seconds*
- >
- > *1 solar year 365.24219879 days*
- > —
- > *Regards Franz Gnaedinger www.seshat.ch*
- > —
- >

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> > *No electricity at home, a short-circuit somewhere,
> > so I couldn't print out my prepared message on Sumer
> > and China, and will have to improvise.*
> >
> > *Let me tell you about two marvellous Babylonian values
> > for the lunation of 29 days 12 hours 44 minutes 2.9
> > seconds, or 29.53058912 days.*
> >
> > *Naburi' Annu, by the end of the third millennium BC,
> > used the value 29.530641 days, mistake less than five
> > seconds. Kidinnu, in around 380 BC, used a value of
> > 29.530594 days, mistake less than half a second!*
> >
> > *How can we possibly explain these very fine values?
> > Have a look at the following fractions and try to
> > find the generating rule before reading on:*
> >
> > *59/2 443/15 502/17 945/32 1447/49 2392/81*
> >
> > *2 lunations are about 59 days, 15 lunation about 443
> > days. Add the numbers and you obtain the next value:
> > 2 plus 15 are 17 lunations, and they equal 59 plus 443
> > yielding 502 days. And so on. The value 1447/49 has
> > a mistake of only two seconds. The value by Naburi'
> > Annu lies in between that fraction and the next one,
> > closer to 1447/49 than to 2392/81.*
> >
> > *Now let us go for another sequence. Begin with 502/17
> > and add repeatedly 1447 in the numerator, and 49 in
> > the denominator:*
> >
> > *502/17 (plus 1447/49) 1949/66 3396/115 4843/164*
> >
> > *and so on 32336/1095 33783/1144*
> >
> > *The value of Kidinnu lies between the last fractions.
> > Add the numerators and demoninators and you obtain
> > 66119/2239 or 29.53059402... days.*
> > -
> > *Regards Franz Gnaedinger www.seshat.ch*