21 / 06 / 2005

STEPS IN TIME

The William Tifft Quantized Redshifts

1 --------1024

72 m/sec 7 A° / sec^2

```
1-----1024
      1-----1024
            1-----1024
                  1-----1024
```


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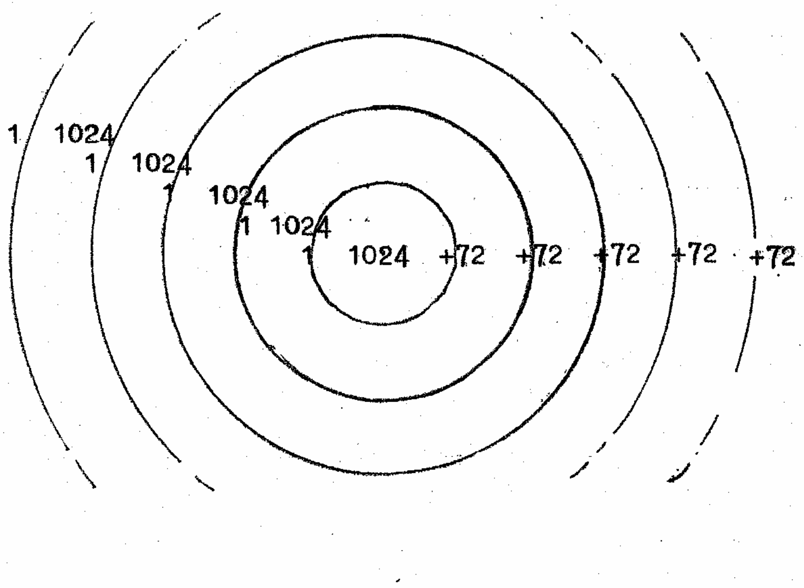
Page 7 ! $\frac{1.5 \times 10^9}{6224} = .00024 \times 10^9$

&. (other pages, some?? questions?)

STEPS IN TIME 21/06/2005

The William Tifft Quantized Redshifts

(1) The light is folding up under deceleration.
(2) The light is maintaining frequency.
(3) The light is coming from a point in space which has a particular recession velocity relative to lollo.
(4) These 72m/sec clusterings form a series of stages or "great foldings". The first clustering we will call "Station A".
(5) The light arriving from Station A has folded while coming in. In such a way that 1024 pieces havebeen produced from the one piece that left Station A.
(6) This gives .024 more units per piece.
(7) Now the 1000 (+24) pieces were formed in 10 folds.
This entails 1000/10 = 100 "operations".
Thus the extra .024 is per 100 operations, i.e. .024% or .00024 per operation.
(8) The light reaching us from each Station; A,B, C, D, etc, has:
(i) a "recession velocity" proportional to its position to lollo.
(ii) a clustering "signature" of .024% .



The Anomalous Sunward Acceleration of
Deep-Space Probes. (A.S.A.)

The A.S.A. of deep-space probes is an effect of deceleration of light speed. (A tiny "drift")

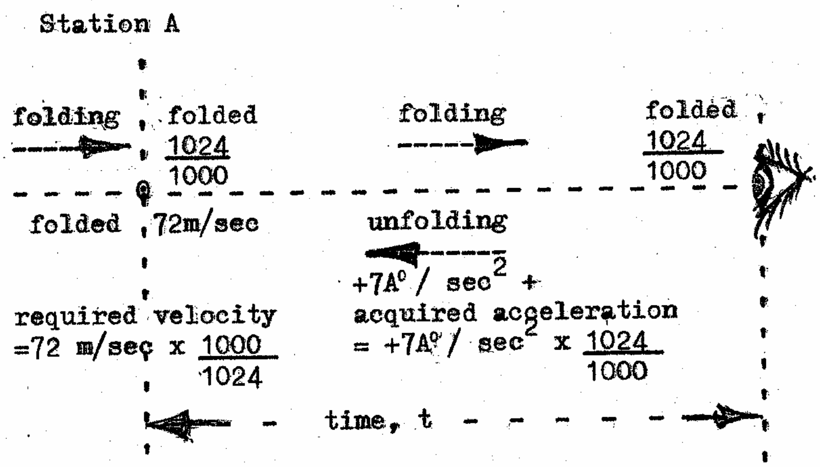
The "light" (radio) leaves the probe faster than it arrives here. The slightly faster time is being taken to mean the probe is nearer than expected. Thus a sunward acceleration. However, this is a residual dk of -7A°/ sec/sec.

Looking back in time to when light left Station A, how long would it take to achieve 72m/sec, at +7A°/ sec/sec?

The 72m/sec is increased by a factor of $\frac{1024}{1000}$

We need only achieve $72 \times \frac{1000}{1024}$ m/sec
for look-back calculations.

The +7A°/sec/sec is enhanced by "unfolding", looking back. Thus $7 \times \frac{1024}{1000}$ can be used.



Let us now calculate the time to reach 72m/sec, at the tiny 7A°/ sec^2 acceleration. We will use the folded and folding factors for the look-back calculation.

$$v = a \cdot t$$
$$t = v / a$$
$$t = \frac{72 \text{ m/sec} \times 1000/1024}{7 \times 10^{-10} \text{m/sec}^2 \times 1024/1000}$$
$$= 72/7 \times (1/1.024)^2 \times 10^{10} \text{ seconds}$$
$$= 9.8092212 \times 10^{10} \text{ seconds}$$

Allow 3.1536×10^7 seconds/year,
from Page 1, "Shape of the Universe"

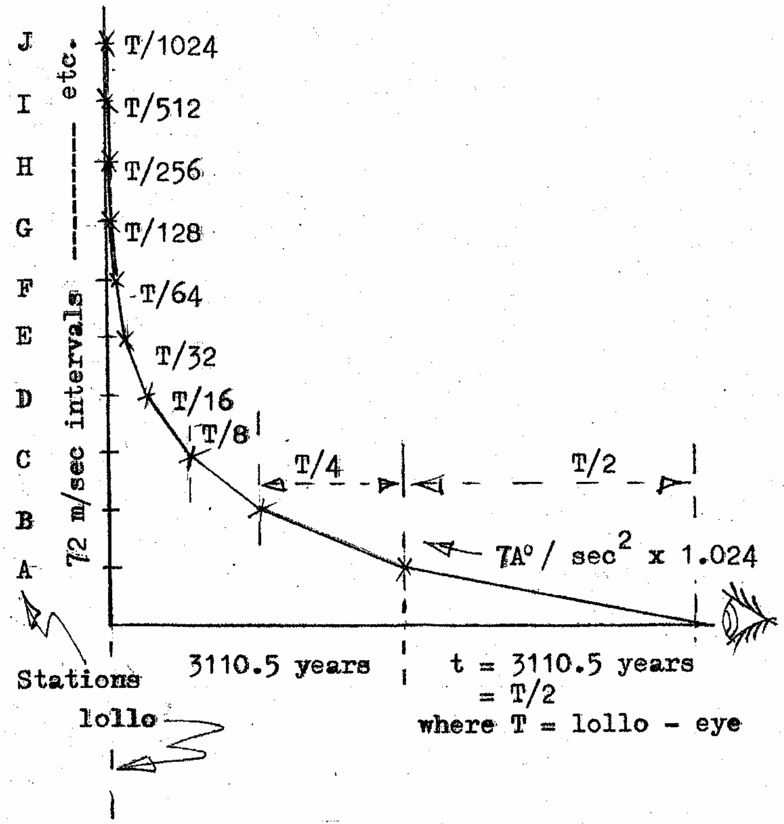
$$t \doteq 3.11048 \times 10^3 \text{ years}$$
$$\doteq 3110.5 \text{ years.}$$

This is close to one half of "lollo" time.

Does this have any significance as a "halving"?

Recall that the .024% signature is from a halving process, like folding paper 10x to produce 1024 pieces.

Cam we graph the 3110.5 years as the last in a series of "great halvings"?



Let us suppose that Station A is a point of "great halving" (or doubling) and that the next 72m/sec shift is achieved in t/2 or T/4.

The "motive force" is doubled from Station A to Station B, looking back.

The curve is effected by simple acceleration, and drawn with a straight ruler.

The curve looks like the cdk curve.

The number of Stations is finite.

There is a limit to the look-back time.

The red-shift boundary is about 6221years back.

THE HUBBLE CONSTANT.

Please note that the value 72m/sec on the graph on page 4 is derived from the Hubble constant, which is determined by the assumed size of the universe.

The currently favoured value of the Hubble constant is

$$\frac{72 \text{ km / sec}}{\text{Megaparsec}}$$

(One Megaparsec = 3.26×10^6 light-years)

This gives a size for the universe of

13.7×10^9 light years.

But the graph on page 4 should work for <u>any</u> assigned value of H_o, because all the figures from H_o will then change, to still give 3110.5 years. (Because c is a constant in $H_o = c/r$)

Now Hubble himself observed a figure of some

$H_o = 500$ km . sec^{-1} / Mpc

This, however, only gave a "radius" for the universe of :

$H_{o \text{ limits}} = c/r_{\text{ limits}}$

$\therefore \quad r = c/500$ Mpc

$= 3 \times 10^5 / 500$

$= 6 \times 10^2$ Megaparsecs

$= 6 \times 10^2 \times 3.26 \times 10^6$ light-years

$= 1.956 \times 10^9$ light-years.

This small size for the universe has been thought to be unacceptable.
Some confusion of lollo image and "object" may have occurred with better instruments than Hubble had. Thus a corroboration of 13.7 b.l.y. by H_o = 72 "readings".

However, Hubble's observed H = 500, or a size of some 1.9 x 10^9 light-years may be vindicated.
Because the "lollo" limit is 1.5 x 10^9 light years.
And the image recession velocity at "lollo" is c.

THUS:

$$H_{o\ \text{limits}\ (\text{lollo})} = c \,/\, r_{(\text{lollo})}$$

$$= \frac{3 \times 10^5 \text{ km / sec}}{\dfrac{1.5 \times 10^9 \text{ l.y.}}{3.26 \times 10^6 \text{ l.y./ Megaparsec}}}$$

$$= 650 \text{ km / sec / Mpc.}$$

This compares well to Hubble's observed 500 .

And the "lollo" limit does not assign a size to the universe. Just a limit to the distance that light has been able to travel since cdk.

"<u>0.00024</u>"

Can "lollo" explain the 0.00024 "signature" proposed to be from folding of light under cdk processes?

The "compression ratio" of folding up can be expressed thus:

$$\frac{1.5 \times 10^9 \text{ (light) years (travel)}}{6223 \text{ years (of cdk)}}$$

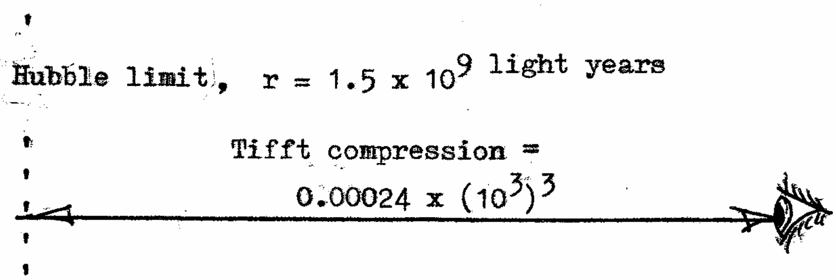
$$= 0.00024 \times 1000 \times 1000 \times 1000$$

The "lollo" limit is a result of the mechanism of cdk.
The compression factors of 1000 and the signature of 0.00024 are revealed in the figures above.

The value $0.00024 \times (10^3)^3$ is the folding compression value, and this determines r_{limits}.

Hubble's observed $H_o = 500$ is "ballpark" for

$$r_{limits} = 1.5 \times 10^9 \text{ l.y.}$$



REDSHIFTS.... 6 / 01 / 2006

Now we can do some calculations.
There are 10^9 divisions of ".00024" to "lollo".
Thus there are 1.5 light-years represented
by each ".00024", to "lollo" at 1.5×10^9 light- yrs out.
"Lollo" is receding at the speed of light. (Page 3, "Steps")
Note that the galaxies*are not receding; just the
"limit of last light out". (Page 3, "Shape")

$$c = 3 \times 10^8 \text{ m/sec}$$

OR

$$0.3 \times 10^9 \text{ m/sec}$$

So each ".00024" represents.....

0.3 m/sec of "recession velocity".

And this is per 1.5 light-years.

* There is certainly actual movement of the galaxies: but the "recession velocity" component is a "trick of the light", resulting from cdk.

The following quantities are of interest.
Because the redshift is towards the red end of the colour spectrum, let us consider certain values for red light of 7200×10^{-10} metres wavelength.

Consider that the first indication of the start of cdk was a halving. Note that the half "lollo" time on page 3 of "Steps" is approx:

$$100 \times 10^9 \text{ seconds.}$$

Let us now calculate light speed in red wavelengths / second. (λ / sec)

$$c = 0.3 \times 10^{9} \text{ m / sec}$$

$$c = \frac{0.3 \times 10^{9}}{7200 \times 10^{-10}} \; \lambda \text{ / sec}$$

$$c = \frac{100 \times 10^{9}}{.00024} \; \lambda \text{ / sec}$$

Compare this value with the half "lollo" time,

100×10^{9} seconds,

shown at the bottom of the previous page.
This is an interesting result!

Now let us calculate the ".00024" recession velocity in wavelengths per second.
It is, of course, just:

$$\frac{c}{10^{9}} = \frac{100}{.00024} \; \lambda \text{ / sec}$$

Because there are a billion steps in:

$$\frac{1.5 \times 10^9}{6224 \text{ (at 2006 A.D.)}} = 0.00024 \times 10^9 ,$$

the compression ratio of folding up is:

$$.00024 \times 1000 \times 1000 \times 1000 \ : \ 1$$

i.e. in 3 lots of 1000's.

Now the ".00024" bit won't fold any more.

Only $\frac{100}{.00024}$ λ/ sec are represented.

There are no more thousands to fold up!

Thus the $\frac{100}{.00024}$ λ/ sec is QUANTIZED, <u>and can fold no further.</u>

Another way the value can be expressed is:

.00024 seconds / 100 wavelengths

OR .024 %

Are these little "steps in time" the Tifft quantized redshifts?

<u>$c \times 10^{10}$??</u>

The question remains: what is the .00024?
It is proposed to be a "dumping" of 24 / 1000 pieces from the folding up of light as a piece of paper.
Ten folds give:

2, 4, 8, 16, 32, 64, 128, 256, 512, 1024

What has folded to give the value .00024 ?

If light speed was $c \times 10^{10}$ in the past, and frequency has been maintained, then the wavelength in the past was 10^{10} times as long.

Thus, 10,000,000,000 folded by $(1000)^3$ might give:

240

.240

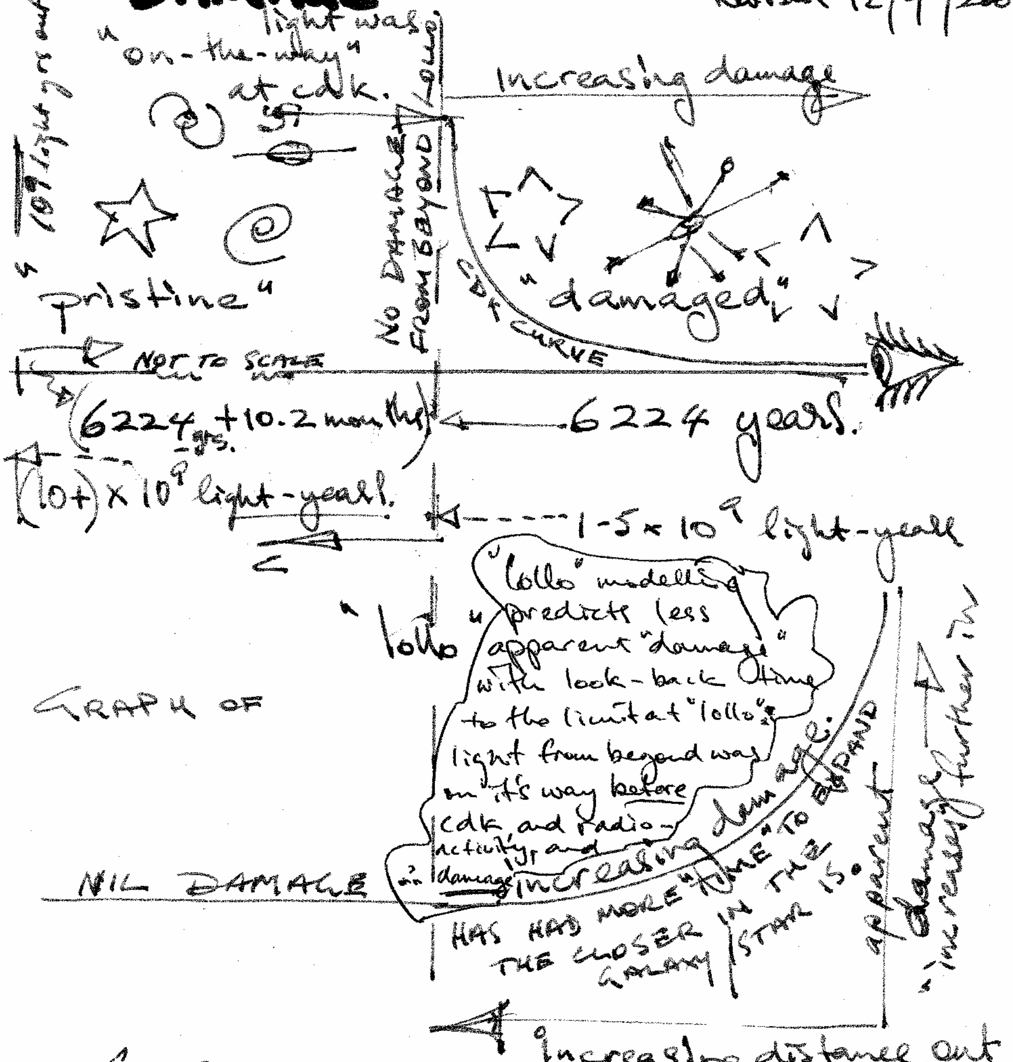
.00024

This suggests $c \times 10^{10}$ in the past

Notes to "Steps In Time" Page 1, Notes to Steps 12/10/2005.

Revised 12/9/2006.

"DAMAGE"



The further the distance, the less expansion from "explosion" by radio-activity at cdk commencement.