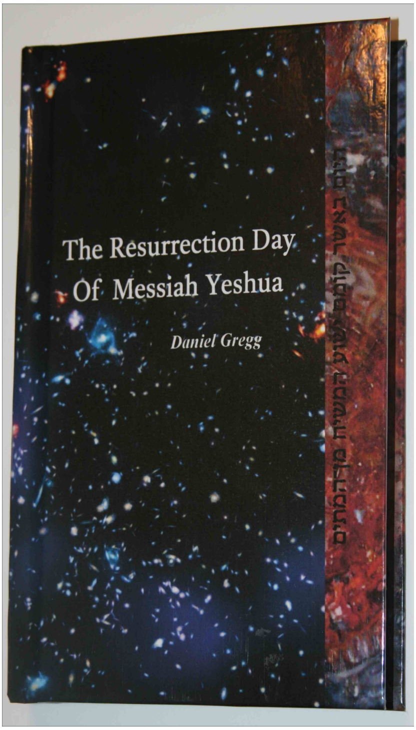
הַיּוֹם בַּאֲשֶׁר קוֹמַם יֵשׁוּעַ הַמָּשִׁיחַ מִן־הַמֵּתִים



The Resurrection Day

Of Messiah Yeshua

When It Happened

According To The Original Texts

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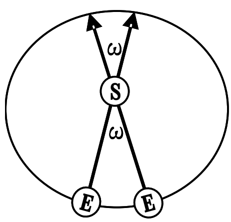
gives us **TDT$_1$ = –20+30.5 T^2 – 43,200 –UT$_1$**. –12 hours is converted to **43200** seconds. Calculating **TDT$_2$** at time **E$_2$** and **TDT$_1$** at time **E$_1$** is the same as saying earth's rotation stopped for 12 hours. There is a hitch however, and that is the fixed relation between hours and degrees of rotation with respect to the stars. Stopping the earth for 12 hours causes **G$_2$** to end up at σ, or put another way corrects the location of **G$_1$** to σ along the dashed red line. We need **G$_2$** to end up at **G$_0$**, and thus it is clear that the earth's rotation cannot completely stop with respect to the stars. In the 12 hours **G$_0$** must move through angle ω_2 against the blue arrow toward σ (when at Time **TDT$_2$**, **G$_0$** arrives at **G$_2$**). So while **TDT$_1$ = –20+30.5 T^2 – 43,200 –UT$_1$** is correct for a stopped rotation through an orbital distance of 12 hours (ω_0), it cannot be further modified because the proportion between time and degrees rotated is fixed. Therefore, since **G$_1$** is moved to σ, we have to rotate **G$_1$** through the blue angle, ω_2, to **G$_0$**. This is done by deducting angle ω_2 from the longitude of **G$_2$** when it is at σ, so that it is now correctly at **G$_0$**. This is done in place so that the dynamical time stays fixed.



What remains is the value of ω to be computed. Cartes Du Ciel shows that the hour angle of σ is 2 min 5 sec. The hour angle of **G$_0$** is equal to 0.

$$\omega = \left(2\ \text{min} + 5\ \text{sec} * \frac{\text{min}}{60\ \text{sec}}\right) * \frac{\text{hr}}{60\ \text{min}} * \frac{15\ \text{deg}}{\text{hr}}$$

ω = **0.520833°**. This is the correction we apply to the longitude, and represents the exact amount of turning from **G$_0$** to **G$_2$** that is necessary to keep the longitude of Gibeon under the sun for 12 hours. It is the same turning as if the earth were a giant pendulum with the cable connected at Gibeon. Thus the sun "stood" over Gibeon a perfect day.

To calculate back to the end of Joshua's long day, I simply calculate when the sun is in transit (high noon) on July 26, 1592 b.c. for the longitude of Gibeon[397] without the 12 hour correction. So I use the

[397] Gibeon at end of long day, Lat: **31° 50' 46" N**, Long: **35° 11' 07"**. Corrected Longitude for beginning of long day = **–0.520833°** = **–(31' 15")** = **34° 39' 52"**. The latitude is unchanged.

shorter equation **ΔT = -20+30.5 T^2, T=34.104 centuries**. This comes to **ΔT = 35,454 sec** to set in the "more options"→ "Use another DT-UT value" (DT means "Dynamical Time" and UT "Universal Time"). The time is set at **9h 39m 10s** (GMT), **July 26, 1592 B.C**, and location set to the coordinates of Gibeon, as specified in the figure. This will represent the situation at the end of the long day with the hour angle at 0. The positions of the sun and moon are:

	Azimuth	Altitude	Time
Sun	**+180° 00' 10"**	**80° 46' 20"**	**9h 39m 10s**
Moon	**+265° 59' 59"**	**40° 32' 17"**	**9h 39m 10s**

Now to calculate for the start of Joshua's Long day we need to transpose Gibeon's location by **ω = 0.520833°**.[398]

So now at the start of Joshua's long day, the positions are as follows. The **UT** being the same (noon) means that:

$$\mathbf{TDT_1 = -20+30.5\,T^2 - 43{,}200 - UT_1}$$
$$\underline{\mathbf{TDT_2 = -20+30.5\,T^2 \qquad\qquad - UT_2}}$$
$$\mathbf{TDT_1 - TDT_2 = 0 - 43{,}200,\ i.e.\ TDT_2 = TDT_1 + 12\ hours.}$$

	Azimuth	Altitude	Time
Sun	**+180° 00' 28"**	**80° 50' 16"**	**9h 39m 10s**
Moon	**+267° 11' 43"**	**34° 10' 45"**	**9h 39m 10s**

The azimuth figures for the sun represent the closest Cartes du Ciel will calculate to the nearest second (for noon transit). To target the value of 180° 0' 0" for the sun exactly would require fractions of a second, and the program does not allow entering fractions of a second. However, the sun's location has changed by 4' arc in altitude. This is because the daily motion of the sun was arrested on the meridian, but not the yearly motion.[398]

The moon has moved by 6°21'32" (6.4°) in altitude and 1° 11' 44" in Azimuth, i.e. 6.47° total (using Pythagorus). From Joshua's

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[398] In its yearly motion the sun moves north 23.5° and then south by the same amount. Since it is after the summer solstice, the sun continuously moves south in latitude. From the start of Joshua's long day to the end, it moves 4' lower in altitude. This movement is only 4'/31.8's of the sun's size, i.e. 1/8th.

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