Death of the Globe Myth
Post Mortem
by Michael Heffron

Eulogy for the globe myth

Sadly, our dearly departed friend, the globe myth, didn't die peacefully. It passed away, kicking and screaming, desperately clinging to its fantasies of reality and the last vestiges of its tortured life.

As celestial theodolite data became increasingly accurate over the past seven months, the deception by my globe Earth (GE) friends became increasingly apparent. They tried lies, misrepresentations, logical fallacies, and as much obfuscation as possible. Their tactics backfired significantly, prompting me to dig deeper on my quest to uncover the truth.

The tautology $\theta_G = \theta_F - \theta_D$ ultimately became obvious, where θ_G is the angle from the observer's location to the true (unrefracted, uncorrected) location of any given background star, θ_F is the geometric angle to the occluding peak on a flat Earth (FE), and θ_D is the angle between the observer and the peak due to the alleged curvature of the GE (in other words, θ_D expresses distance as an angle).

One more angle is necessary, $\theta_A = \theta_G + \frac{1}{2}\theta_D$, where θ_A is the "apparent" angle to the occluding mountain peak that results from the "drop" due to the alleged curvature of the GE. My GE friends quickly began pointing out that it's essential to correct θ_A for "refraction" due to the effect of pressure and temperature on where an occluded star "appears" to be.

Refraction is so crucial for my GE friends because it's their only way to explain the anomalies their theory experiences near the horizon. There, stars appear to linger briefly rather than vanish beneath a GE.

It was their relentless pursuit to perfect θ_A that ultimately exposed $\frac{1}{2}\theta_D = \text{atan}(h/d) - \text{atan}([h-(d^2/2R)]/d)$ or $\frac{1}{2}\theta_D = 180°d/(2\pi R)$ as the "perfect" amount of refraction, where h is the rise of the mountain peak above the topographical plane of the observer, d is the distance from the peak to the observer, and R is the radius of the Earth. **In other words, the perfect amount of "refraction" is always precisely equal to half of the alleged curvature of the GE over the distance from the observer to the peak.** How on Earth does that happen?!?

Substituting θ_G from the equation $\theta_G = \theta_F - \theta_D$, the perfect $\theta_A = \theta_G + \frac{1}{2}\theta_D$ becomes $\theta_A = \theta_F - \frac{1}{2}\theta_D$. With those equivalences, the astute reader will notice that everything about the globe illusion is based on the curvature of the globe as adjustments to the FE angle θ_F.

In other words, the "uncorrected" GE angle from the observer's location to a background star occluded by the peak is $\theta_G = \theta_F - \theta_D$, and $\theta_A = \theta_F - \frac{1}{2}\theta_D$ is the "apparent" ("corrected") GE angle to the alleged "drop" of the occluding mountain peak. For maximum accuracy, don't forget to compensate for the measurement error $\Delta h = h - d^*\text{tan}(\theta_O)$, where h is the expected rise and θ_O is the corresponding observed angle.

Using the example of an observation from my sunroom of Pikes Peak occluding stars, when $\theta_A = 2°16'56.2"$ as GE predicts, then $\theta_F = \theta_A + \frac{1}{2}\theta_D$ (2°16'56.2"+ 0°13'40.7") = 2°30'36.9". **In other words, a straight line of sight from the observer to the peak to the star finds the star at the elevation predicted for the FE.** Also note that $\theta_G = \theta_A - \frac{1}{2}\theta_D$ (2°16'56.2" - 0°13'40.7") = 2°03'15.5".

The illusion of a GE doesn't exist apart from the equations $\theta_A = \theta_G + \frac{1}{2}\theta_D = \theta_F - \frac{1}{2}\theta_D$. Those relationships apply to EVERY peak and EVERY observer. In other words, every time θ_A is perfect for any observer, $\theta_F = \theta_A + \frac{1}{2}\theta_D$ is perfect at the peak, which means that $\theta_F = \theta_G + \theta_D$ is also perfect at the peak. Stellarium confirms all of those angles.

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During the day, a terrestrial theodolite measures an angle of $\theta_A = \theta_F - \frac{1}{2}\theta_D$ to a mountain peak. At night, the apparent angle to a star occluded by that mountain peak is $\theta_A = \theta_F - \frac{1}{2}\theta_D$. During both day and night, those apparent GE angles from the observer's location confirm the predicted FE angle $\theta_F = \theta_A + \frac{1}{2}\theta_D = \theta_G + \theta_D$ on the mountain peak. In all cases, $\frac{1}{2}\theta_D$ is more accurate than any method of calculating refraction.

Thus, the evidence suggests that the globe was bludgeoned to death by θ_F after mistaking $\frac{1}{2}\theta_D$ for refraction.