

# Einstein's Bogus Deflection of Starlight by the Sun's Gravity

by James Carter

*The gravitational deflection of starlight as it passes near the edge of the Sun was predicted by both Newton and Einstein but a careful analysis of this effect reveals it to be an optical illusion and not the physical event of a photon's path curving when it interacts with Einstein's invention of a four-dimensional spacetime continuum aether. The measured angle of the effect results from the expansion of Earth relative to the sun in the time it takes for the photons to travel between the sun and Earth.*

In 1919, Arthur Eddington discovered that when starlight passes near the edge of the Sun, its path appears to curve inward. This made it possible to observe stars that would otherwise be hidden behind the edge of the Sun's disk. Eddington made this discovery by photographing the stars surrounding the Sun during a total eclipse of the Sun and then aligning the photographs with ones taken of the same field of stars when the Sun wasn't near. This comparison showed that the stars surrounding the Sun were proportionately closer to it than stars that were farther away. The closer a star was to the Sun's center, the more its photons appeared to be deflected inward toward it.

Actually, the effect that Eddington was trying to measure was less than the level of uncertainty in his small telescopes and poor viewing conditions. While he was unable to accurately measure its angle, he did establish at least a general positive inward deflection of the starlight as it passed the Sun. The most important aspect of this discovered deflection was that it made it possible that Einstein's otherwise counter intuitive equivalence principle could be considered as a possible fundamental constant of nature.

Prior to this experimental result, all of the gravity theories had either predicted this effect or had a ready explanation for it. However, Einstein's theory was set apart from the other theories because the Equivalence Principle required a precise value for the deflection. The other attraction and pushing theories of gravity do not specifically require any interaction between photons and the mass of the Sun. Any such interactions would require ad hoc assumptions to be added to these theories. With the Equivalence Principle, there is only one possible value for the deflection that results from the relationship between the photons and the space through which they travel that has been curved by the presence of the Sun's mass. This is not a physical interaction between the photons and the Sun because the photons are not altered in any way from their inertial paths through curved spacetime.

The problem with all other theoretical solutions to this deflection is that they completely violate electrodynamics and the way that photons interact with matter. A photon's path cannot be bent. The only experimental way its path can be changed is in the Compton effect where an

atom absorbs a photon and then instantly re-emits another photon in a different direction. A lens can bend the path of starlight but the photons that come out of the lens are countless generations of photons removed from the photons that entered the lens. Each photon creates a perfect chain reaction wave of absorption and emission that passes through the lens from one quartz atom to the next. Photons can only be absorbed or emitted by atoms. No one but Einstein has ever presented a plausible mechanism for an interaction between photons and a gravitational field that does not violate electrodynamics without additional ad hoc metaphysical assumptions. Einstein claimed that a photon is not effected in any way as it passes through the curved space proposed by his equivalence principle.

In Newton's theory of gravitational attraction, the photons, or corpuscles as he called them, were simply attracted toward the Sun like any other particles of matter. This was a general explanation and said nothing of the actual electrodynamics of how the photons interacted with the gravitational field. Newton had experimented with optics but he had little real understanding of electrodynamics and the mechanisms by which his corpuscles actually interacted with matter. To explain the deflection, he would have just assumed that they had mass and were attracted toward other mass just like any other particles. However, any such general effect of individual photons being deflected to different degrees by gravitational fields would probably make astronomy impossible by defusing starlight and turning the night sky into a very weakly glowing fog of random photons.

### **The Einstein Solar Deflection Angle**

*Equivalence was Einstein's invention of a conceptual scheme of smoke and mirrors. It is the mirror image of measured motion and hides it behind the smoky dichotomy of push and pull. He used the smoke and mirrors of equivalence to create the illusion that the vectors of starlight photons were physically curved when they passed near the sun.*

Several years before Eddington's discovery, Einstein had used his newly developed General Relativity theory to predict that the solar deflection of starlight should be twice the amount calculated by Newton's gravitational attraction theory. In Einstein's theory, the photons were not "attracted" toward the sun. Instead he proposed the metaphysical Principle of Equivalence that caused matter to generate a space-like aether that he called a four-dimensional spacetime continuum. This substance replaced the flat inertial space through which photons traveled with a non-Euclidian space that was curved by the presence of mass but was equivalent to inertial space in every other way. Einstein believed that the actual paths of the photons were not deflected. Rather, his equivalent inertial space through which they moved was curved by the Sun's mass. Einstein's idea was able to explain Eddington's measurement but only at the expense of assuming a somewhat preposterous and otherwise undetectable mechanism to make it all work. He wanted to change the universe

from Newton's mixture of the moving mechanical bodies of atoms and photons into a magical witch's brew of an aether continuum containing numerous fields, dimensions and dynamic non-local interactions.

When Eddington announced the results of his experiments to the media, he fudged his measurements to match Einstein's prediction and then claimed that General Relativity had been experimentally validated. Other scientists jumped on the bandwagon and claimed that Einstein's theory and calculations predicted an experimental result more accurately than Newton's centuries old calculations of gravitational attraction. This caused a great stir among both scientists and the general public alike and soon Einstein became well known as a very clever fellow, even though no one but accomplished mathematicians ever claimed to understand just how Einstein's new gravity theory of curving spacetime really worked.

Even to this day, Eddington's discovery of solar starlight deflection is proclaimed by establishment physicists as a primary validation of General Relativity theory. However, subsequent examinations of Eddington's experiment and the many other attempts to measure Einstein's predicted deflection angle have only been able to verify the effect in a general way. None of these measurements has been accurate enough to show that Einstein's precise predicted value is superior to the general values of deflection predicted by other gravity theories.

In Einstein's calculation of the angle, he used the Sun and stars as a group of fixed points and both the earth's size and its mean orbital radius as constants. He then calculated the angle made from 8 minutes of the gravitational acceleration as it is measured here on Earth. All of his measurements of solar values were extrapolated from three-dimensional measurements of Earth's gravity and two-dimensional measurements of its orbit. By using the equivalence principle, Einstein canceled and then reversed the measured changes in motion caused by gravitational acceleration. This allowed him to calculate the correct value for the deflection angle without being able to illustrate the actual physical mechanics of the event that he was calculating other than to indicate that it was a non-intuitive mathematical effect caused by the smoke and mirrors of curving spacetime. What Einstein actually determined was the opposite of what he thought he was calculating and that is why he was able to get the correct value for the angle.

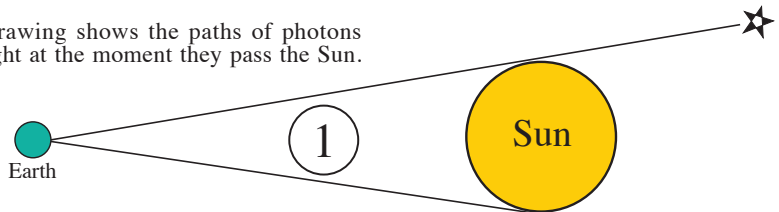
If we simply cancel the Equivalence Principle and view motion directly as measured instead of through the equivalence mirror, we will arrive at the same value for the apparent deflection of starlight. This non-effect is caused by the changing geometry of expanding matter and not by the curving geometry of spacetime. If the Sun, Earth and Earth's orbital radius were to all expand proportionally, then there would be no apparent deflection of starlight. This is not what we measure. Using just the inertial motion caused by the measured upward acceleration at Earth's surface, we can calculate the changing motions of the Sun's surface and the Earth's orbit.

The gravitational expansion of Earth's and the Sun's matter is exactly proportional but Earth's orbital radius expands at a much slower rate. It is this difference in the expansion rates between

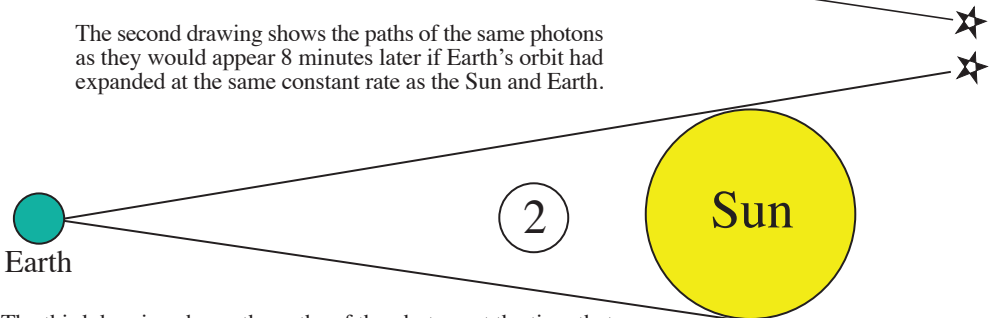
# The Solar Bending of Starlight

**The apparent deflection of starlight as it passes the Sun is caused by the gravitational motion of mass, space and time and not the curving of Einstein's four dimensional spacetime aether or the attraction of Newton's gravitation.**

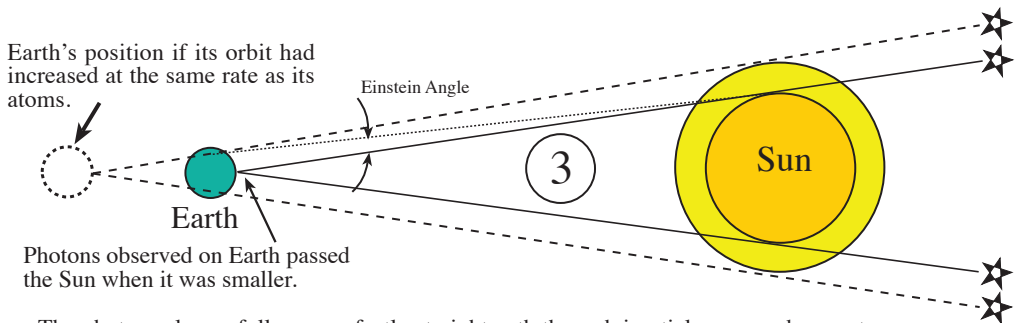
The first drawing shows the paths of photons from starlight at the moment they pass the Sun.



The second drawing shows the paths of the same photons as they would appear 8 minutes later if Earth's orbit had expanded at the same constant rate as the Sun and Earth.



The third drawing shows the paths of the photons at the time that they are measured on Earth. Because the radius of Earth's orbit expands at a slower rate than the Sun and Earth's radii, it is possible to see stars that would otherwise be hidden behind the Sun's disk. The observed photons passed the Sun when it was 8 minutes smaller than it is when the photons were photographed.



Photons observed on Earth passed the Sun when it was smaller.

The photons always follow a perfectly straight path through inertial space and are not effected in any way by the gravity of the Sun. The apparent deflection of the Einstein angle is an optical illusion caused by Earth's orbit expanding at a slower rate than the atoms of the Sun and Earth. Starlight does not curve as it passes the Sun. The gravitational expansion of mass, space and time just makes it appear to curve. The measured Einstein angle is the difference in vectors between the photons being measured (the solid line) and photons passing the sun at that moment (the dotted line).

the Sun's radius and Earth's orbit that allows us to see stars that should be hidden behind the edge of the Sun. When we photograph the Sun we get a photo of its size 8 minutes ago when it was smaller than it is now. Because the Sun expands faster than Earth's orbit, we are able to view the sun when it was smaller in relation to the stars than it is now. This effect causes the same but much smaller apparent deflections in stars located far from the Sun's surface. There is no actual bending of starlight in this effect. The paths of the photons remain perfectly straight through inertial space. The apparent deflection of light is not the result of the curved space through which it travels. It is merely an optical illusion caused by the curving space occupied by expanding atoms that has no effect on the photons.

The deflection of starlight as it passes the Sun is not an effect that requires any theory to explain its value because there is no physical interaction between the photons and the Sun. The measured angle is just an optical illusion that results solely from the changing geometry of the difference in the measured motions between the expanding Sun and Earth's orbit. The gravities of the theory of General Relativity and the Principle of Gravitational Expansion are both explained by the changing geometries of mass, space and time. The only difference is that in General Relativity, gravity and inertia are just equivalent to one another and in gravitational expansion they are absolutely equal. Because of this, General Relativity and gravitational expansion are opposite geometrical explanations of gravitational motion that predict the same results for most experimental measurements of gravity.

The philosophical differences between these two explanations are that General Relativity relies on metaphysical assumptions to describe experimental results and gravitational expansion makes no such assumptions and is based solely on accepting experimental measurements at face value and not attributing them to undetectable attractions or curvatures of spacetime.