Can anything other than the expansion of the universe explain the redshift?

It is not the case that all scientists firmly believe in the Big Bang. Even Vincent Icke, astrophysicist, visual artist and publicist, has his doubts [see here], just like Erik Verlinde [see here]. That does not mean that they are right, but there is reasonable doubt.
[An Open Letter to the Scientific Community]
[The Top 30 Problems with the Big Bang Theory]

And yes there are indeed other explanations for the redshift.

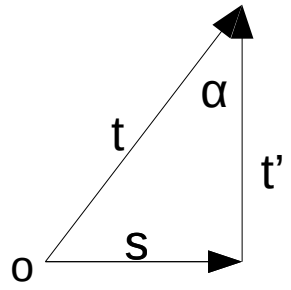
If an object **o** moves in the inertial system of the observer **w**, then that object moves not only through the space but also through time of that inertial system.

After all, the theory of relativity teaches us that $t' = t\sqrt{1-\frac{v^2}{c^2}}$.

You can also write this as $t^2 = t'^2 + \frac{s^2}{c^2}$

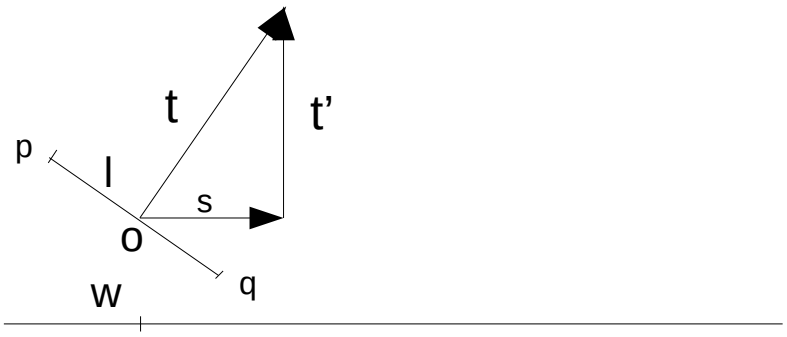
If we express s in light seconds then it says here $t^2 = t'^2 + s^2$.

An observer **w** then sees the object pass by along a time path that makes an angle with its time.



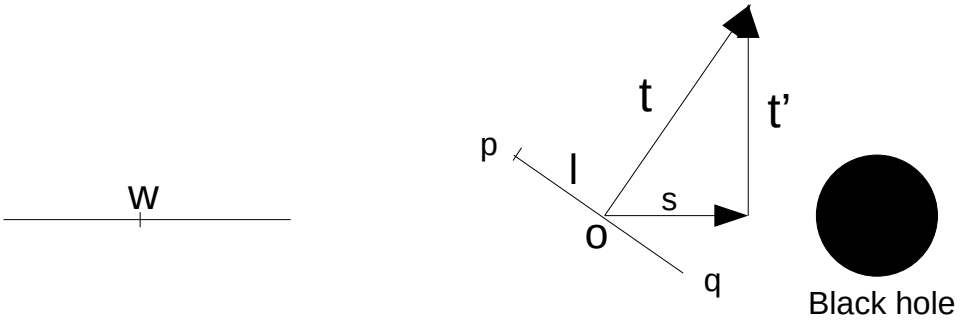
t' is the time the object requires to bridge the distance **s** in the inertial system of the observer **w**.

For the sake of convenience, if we omit two of the three space coordinates, the graphical representation is as follows:



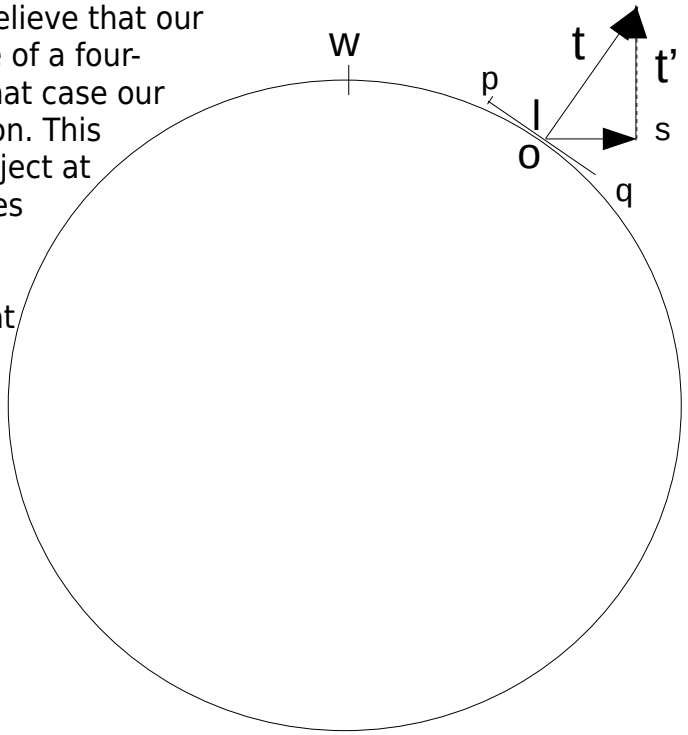
s is the distance that the object travels and is therefore a measure of the speed and the redshift. The degree is determined by the angle that the inertial system **o** makes with the system of **w**.

If the object does not move relative to the observer **w** , and the object is between a black hole and the observer and in the neighborhood of that black hole, the inertial system of the object makes also a certain angle with the system of the observer. This is because the black hole curves the space-time.



For the observer, it now appears that the object is moving toward the black hole. Even if the object moves to the black hole, for the observer it will never reach the black hole's event horizon. Here too the angle which the inertial system of **o** makes with the inertial system of **w** determines the apparent speed and redshift of **o**.

There are a number of scientists who believe that our universe exists on the spherical surface of a four-dimensional black hole [See here]. In that case our universe is round in the fourth dimension. This means that the inertial system of an object at a great distance from an observer makes an angle with that of the observer.



In the example alongside it appears that the object is moving away from the observer at a certain speed. Here too the angle determines the apparent speed and therefore also the redshift.

Also see:
The special theory of relativity for dummies.
Calculating with relativistic quantities can be a lot easier.