

The Expansion of Space itself is a Balloon Myth

There is a very popular demonstration of the Expansion of Space itself, which is frequently put forward to show how such a phenomenon would have all stars and galaxies moving away from each other in an apparent direct contradiction of the supposed universal attraction of Gravity.

The demonstration involves an inflated balloon with galaxies marked upon its surface, which is then continuously further inflated, so that the balloon gets bigger and bigger. And this causes the galaxies to all apparently move away from each other, as the surface of the balloon gets larger.

Now, this is invariably used to explain that in the same way, the space between galaxies in the Universe is expanding, giving the same universal “moving away” effect.

It, of course, involves a switch from a curved 2D surface in a 3D Space, to a 3D environment, but the analogy is considered sound anyway.

BUT, it is a much better analogy for us to consider with respect to an expanding Shell Universe occurring in 3D space!

If the result of a Big Bang of *finite duration* is an expanding shell (as it must be in such circumstances), then the same balloon can accurately represent that thin Shell Universe, at least laterally to the direction of movement, though not at all in radial directions, as these will be carrying on at constant physical expansion speed that must have been imparted during the initial Event itself.

But, though the drawn-on galaxies move apart as before, we can and must also add, and indeed answer, “Why?”

From a point origin, with all being ejected only along purely radial paths, these are naturally all at different angles all stemming from that central point, and thus can ONLY be laterally moving away from one another within that narrow shell of the Universe as it moves outwards.

BUT, we are then immediately countered with, “*Where is the unavoidable central void around the point of origin, AND where is the external void immediately beyond the thin shell? They have never been detected, so your idea must be incorrect!*”

But, such critics forget Totally Internal Reflection!

If the interior of the Big Bang Universe is not mostly totally empty Space, but filled with some all-pervading medium, while outwith this internal volume there *really* is Empty Space, then all light from stars and galaxies will not escape from the thickness of the shell: they will be “totally internally reflected” at the boundaries (but in this special case it will apply to ALL light, and not merely that approaching the boundary at large angles.

And this will have a remarkable effect!

In addition to the real stars and galaxies, *seen directly*, there will also be innumerable illusory images of them, both outside the Shell, and even within the central void. And these will “fill-up” these voids with these illusory replications.

Indeed, the whole volume comprising the central void, the shell itself and a considerable surrounding sphere, will appear as “one Continuous Universe”, and, significantly, it will appear to be very evenly spread. The multiplicity and even availability of all possible angles of reflection at the boundaries, for any light emitting sources, will ensure this apparent evenness.

Thus Inflation is also revealed as a fictitious invention too!

Now, the guaranteed chorus of criticism is NOT the way to scupper this alternative theory.

If it is untrue, it could be demonstrated as such by Observation. Reflections could be matched up with their real sources, for they would look the same (but be mirror images), and be at the same distances away from the observer, though in different, but relatable, directions.

Though to facilitate such an exercise, the internal and external boundaries would need to be located! (Or alternatively such an investigation might be the best way of finding them.)

There is, as you may have guessed, a problem!

Some totally internal reflections may well involve multiple reflections in such a thin Universe, and this would complicate the issue considerably.

Indeed, when the Shell Universe was very young (and small) it is even likely that some trajectories of totally internally reflected light will have gone right round the shell (indeed maybe more than once), and each circuit would be in an ever bigger shell. The same galaxy could then be multiply-seen by an observer at different times in its life, and at illusory different distances and positions in the Universe.

They would, of course, be interpreted as quite different galaxies, and not for a second considered to be the same sources seen after viewing paths of very different lengths and hence at apparently very different ages and appearances of the same source.

But such an alternative is also much more concrete than an expansion of Space itself. It merely needs a Big Bang. What would make Space itself expand? What would be the cause?

And surely such an expansion would be opposed by Gravity and hence energy would be involved?

Final Note: Imagine light cycling around an expanding Shell Universe for literally billions of years, all the time encountering many, many electrons, and by Compton Scattering, its light being re-emitted, shifted towards the red end of the spectrum. You might find many, many galaxies with significant red shifts, implying that they were moving away, when what could have happened was caused by a very different accumulating process.

(900 words)