

In the beginning there was... no beginning. However, there was a beginning... locally.

Within the context of reason, when considered a “default position” it isn’t just a belief or lack of a belief it’s an attempt to create a baseline understanding that needs as little definition as possible – preferably, no definition at all. This is the case with the concept of “infinite space”.

The concept of infinite space, as will be discussed herein, has no definition because concept of “infinite” is undefined. The word can be defined but the concept cannot. For this reason, when it comes to reasonably assessing the vastness of space, the default position is “infinite space”. Any other assessment that requires some form of contained space must define the container. Therefore, since an additional level of definition is required, such an assessment cannot be considered a better default position.

There is evidence that alludes infinite space and a fundamental understanding forces us to consider, if not outright reasonably accept, infinite space is the default position.

If the data concerning [cosmic microwave background](#) (CMB) radiation is accurate, and it appears to be, then we can make several important conclusions. First, at the frontier of expansion, the CMB is expanding into pre-existing space. We understand this because, fundamentally, motion requires space. Since expansion is motion, the CMB is expanding into space. This space must exist before the arrival of the CMB’s expansion; therefore, it is pre-existing.

This pre-existing space is either, as the evidence alludes to, infinite or generated by some unknown mechanism involved with the expansion of the CMB. However, if there is some causal mechanism, then this would – necessarily – require an interaction between the as yet unknown mechanism and non-existent space. This kind of interaction is impossible because the non-existent is non-existent. Another possibility would be the expansion of the CMB is contained within a larger contained space that has yet to become evident because the CMB hasn’t reach the limit of this larger contained space. But, again, that contained space would require definition and, thus, cannot be the default position concerning the vastness of space.

Therefore, and until otherwise demonstrated, the default position is the vastness of space is infinite and, thereby, has neither a beginning nor an end.

This understanding creates a conundrum. If space and time are intrinsically bound, then time must also exist outside of both the local expansion and the original inflation. If this is the case, then time must also be regarded, until otherwise demonstrated, as infinite. From there, the implications are many.

However, if space and time are not intrinsically bound, then a different set of implications emerge.