

# Broken Symmetries as Evidence of Co-Located Multiverses

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[https://youtu.be/KVhqfZrVcDQ&lc=Ugx3iJV1lg5qEB1A\\_c94AaABAg](https://youtu.be/KVhqfZrVcDQ&lc=Ugx3iJV1lg5qEB1A_c94AaABAg)

A Comment on the [Dr. Brian Keating](#) (YouTube) post:

*Multiverse = Bad Science?* (Jul 30, 2023)

<https://youtu.be/KVhqfZrVcDQ>

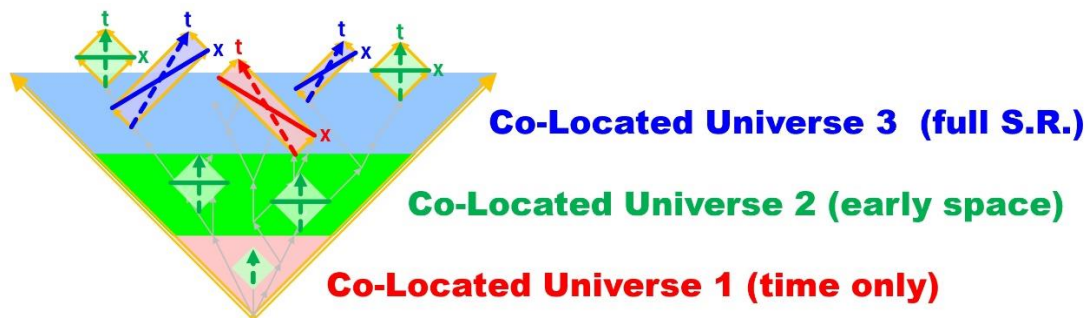
[4:11](#) RLK: "Some would say ... we should discard the multiverse because we cannot ... know whether it exists." The hidden assumption in this line of reasoning is that multiverses reside in an encompassing space much like the *xyzt* space that one inertial frame observer sees in *our* universe. Given that local *xyzt* frames lack universality even within our universe ([Fig. 1](#)), why should multiverses be that parochial?



**Figure 1.** Spacetime as we know it in our universe is inadequate for multiverses.

A simpler view is that multiverses stay co-located until they develop enough structure to make separations meaningful. This does not forbid universe-to-universe collisions, but it does require co-located universes first to build complexity in layers. Far from being experimentally inaccessible, these co-located multiverses would be so visible to each other that we would interpret them as parts of a single unit.

For over a century, broken symmetries have played a major role in physics theory, but are these many perplexing similarities and occasional sharp contrasts trying to tell us a deeper story? Are they fragments of a co-located multiverse ([Fig. 2](#)) whose layered complexity finally reached the point of enabling the separation of concepts we know as space and time?



**Figure 2.** Co-located universes add layered complexity and enable spacetime.