Exponential Reference Class

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An exponential reference class is a system where an observer is among many other similar observers, where the initial state doubles number of observers over time.

	State 0	**State 1**	**State 2**	**State 3**	**State 4**	**State 5**
Time 0	1	0	0	0	0	0
Time 1	2	1	0	0	0	0
Time 2	4	2	1	0	0	0
Time 3	8	4	2	1	0	0
Time 4	16	8	4	2	1	0
Time 5	32	16	18	4	2	1

All observers experience time. The state of the observer is correlated with time.

An observer means something that changes state over time.

From the table above, there are two ways to interpret which time-state the observer is likely to have:

- State-slice (the state is likely to be at a late time)
- Time-slice (the time is likely to be in an early state)

These two interpretations might seem to contradict each other. However, one must make a distinction between what is being observed and the observer experience. Something being observed is likely to be later than sooner, since there are many observers coming. The observer is likely to be experiencing earlier states, since most observers exist in an early state.

When we describe the observer experience, we need to use time to describe time. This means that the time-slice is the correct interpretation to use. The experience of any observer is mapped to the observer experience of the reasoner. Thus, we are moving from Time 0 to Time 5 in the table above, imagining that we are looking at all the observers at once.

In an exponential reference class, it happens that for any time-slice, the same phenomena is true: The most likely state is the earliest one.

When something happens in space and time, it can not happen again. This means that the likeliest path through space and time is through the earliest state, then the second earliest state and so on.

One can think of a state as having a position in space-time. If two states are identical except for their translation in time, then the earliest time of the state is most likely. This means that there must be a sufficient set of data such that the two sets can reasonably be thought of as the same thing. If one imagines a real-world event taking place in earlier time, there must be a reason it can not be so.