MORE THAN DREAMT OF IN OUR PHILOSOPHY

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A well-known property of $\mathbb{R}$ is that it is an uncountable set (or, that it has cardinality $\aleph_1$). We couple this fact with three philosophical axioms:

1. The number of human beings who have lived on planet Earth is finite.

2. The number of human beings who will exist as some point in the future (at least in this universe) will be finite.

3. The number of elements of $\mathbb{R}$ that each human being can think of in a lifetime is finite.

We may then consider the set of real numbers that each person has thought of during their lifetime; if we then take the union of all such sets (indexed by the set of humans who have lived, are living, or will ever exist), naive set theory states that the resulting set, which we call *T*, is finite.

It follows that $\mathbb{R}/T$ is uncountable; or, there exists a homeomorphism between $\mathbb{R}$ (or any other set with cardinality of $\aleph_1$) and the set of numbers that have not been nor ever will be thought of by humanity before it no longer inhabits this universe.

Furthermore, the size of $\mathbb{R}/T$ is invariant with regard to the consequence of this result being known: no amount of work done because or in spite of this result will reduce its size.

If through circumstances beyond the scope of our imagination, humanity obtains the ability to consider the whole of the set $\mathbb{N}$ (and we relax that above axioms accordingly), the size of $\mathbb{R}/T$ again remains invariant.

Similar arguments may be made regarding other familiar sets such as $\mathbb{C}$ and by considering elements from appropriate function spaces to show that an uncountable set of mathematical objects exist that will never be known.