**Infinite Leap:**

**the case against infinity**

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It’s in part because of the arguments that some even apparently sane scientists make about the existence of infinities, and in part because of the philosophical problem of Zeno’s paradox which depends on the existence of infinity, that I want to put this argument.

Let’s start by distinguishing the concept of infinity from actual infinity. My argument is not against the concept of infinity. Quite obviously, the concept of infinity exists. It’s the notion that there is such an infinity in existence in the universe that my argument opposes.

What could be argued to have an infinite existence? Possibilities are infinite. But, by definition, possibilities have no actuality.

What else could be argued to have an infinite existence? Space and time. If there is not infinite space, no substance that has dimensions can be infinite in number or proportion, since it would run out of room. For infinite matter to exist, infinite space must exist.

Alternatively, it is conceivable that time is infinite. This means time goes backwards for an infinity, since time in the future hasn’t yet occurred.

Let’s put aside, for just a brief moment because we’ll come back to it, the idea that time has been infinite, for many contend that time started a bit less than 14 billion years ago. That leaves space. Might space be infinite?

Space, it is thought, is expanding. If space is finite now, could it ever become infinite? From being finite can space become infinite?

It can’t do so by stealth; that is to say, it can’t do so by increasing in speed. The speed of growth can be as fast as is conceivable, and this super speed can grow faster exponentially, and this growth can continue for any length of time imaginable – but space never reaches infinity. To get to infinity from being finite it has to make an impossible leap from finity (if I may call it such) to infinity. There’s no getting closer to infinity. If it isn’t infinite, that is to say, if it is finite, it is an infinite distance from infinity.

The leap from finity to infinity is one of infinite proportion, whatever the size – or speed – of the finity.

The question remains, how could something that has a finite speed suddenly become infinite? It is not possible. However fast the expansion of the universe is or becomes, it can never reach infinity.

The other alternative is that space is infinite, right now. That means that in any direction – or, at least – in one direction, it goes on for ever.

If time has not already been going on for infinity, then in one infinitely tiny moment it went from being finite to being infinite, and this is not conceivable.

Consider numbers for a moment. If you started counting now – or at any time in the finite past – and counted at any finite speed conceivable, how long would it take to get to infinity? You would never get there. Infinity would never be reached. It can’t happen, ever.

Let’s look at small numbers too. Zeno’s paradox is based on the idea that there are an infinite number of points between two places. But there aren’t. How big is an infinitely small point? It has no size. As soon as it has any size whatever it is not infinitely small. Of course you can keep dividing by half indefinitely, without limit. But you will never get to infinitely small. Consequently, there is no such thing as an infinitely small point.

There is no infinitely small; and there is no infinitely large – at least not if time has not already been going on for an infinite time (which would then allow for infinite expansion).

Could there then be infinite time? This would have to be backwards, of course.

Could time have existed for an infinity before the present? No, it couldn’t, because you can never reach infinity. We established this a moment ago when we considered that however long, however far, however fast, infinity cannot be reached. You can no more go backwards for an infinity than you can go forwards for an infinity. You can never reach infinity, as we have already established; therefore you cannot reach now from an infinite time in the past. There has not been an infinite time and there can never be an infinite time.

The only way infinity can exist is by making an infinite leap in an infinitely small moment from being finite to being infinite. Neither exist or are possible.

Time and space and everything in them are therefore finite. Infinity, like perfection, is merely a concept.