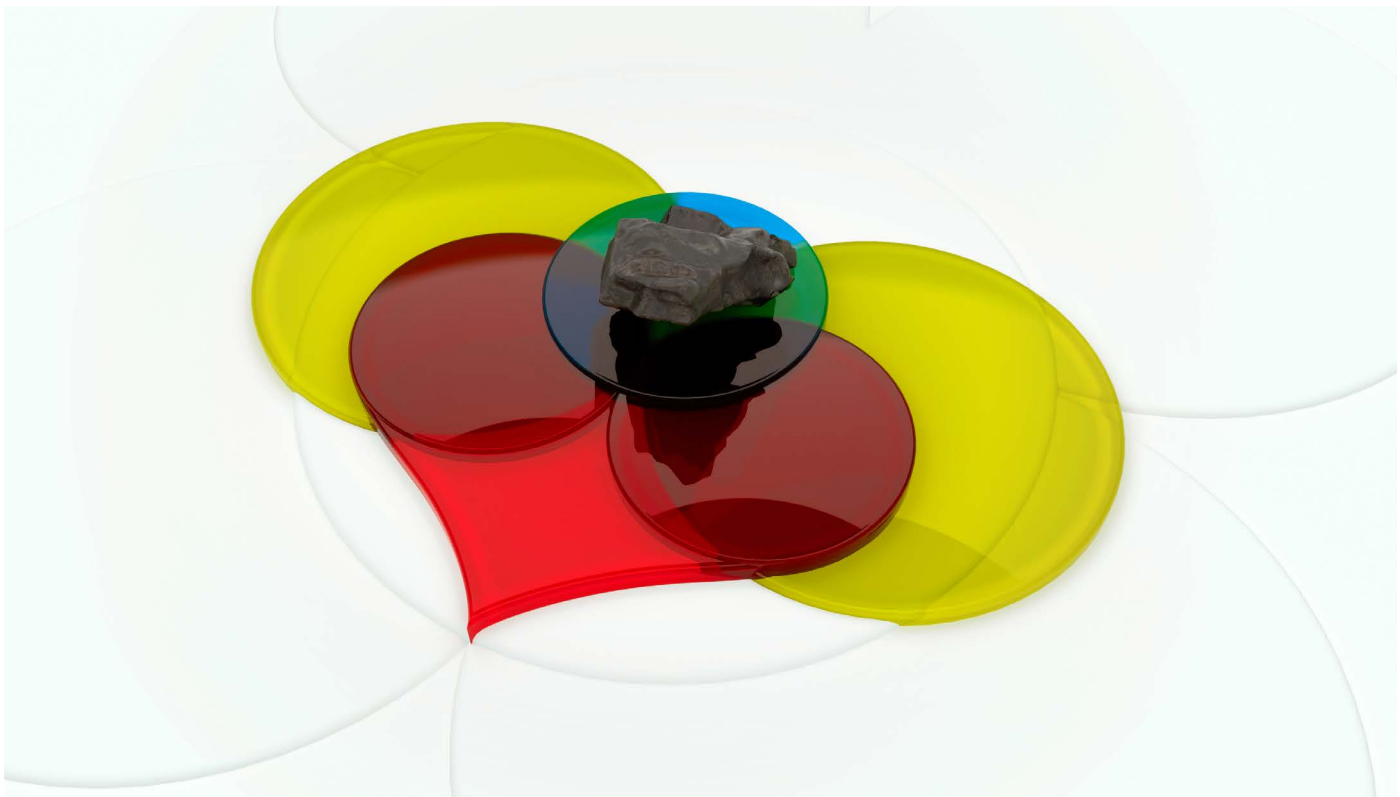
Futures

Calculating the speed of heartbreak

It all adds up. **By Wendy Nikel**



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Theorem 1.1: The long-distance theorem

If the formula for speed is $s = d/t$ — speed equals distance travelled divided by time elapsed — and the speed of heartbreak is constant, then it follows that long-distance relationships produce the longest (yet still inevitable) heartbreaks.

Proof. Suppose you're the sorry, lovesick sap who tells Flynn Goodwin (yes, now-*Commander* Flynn Goodwin) that you'll wait for him, knowing that his work on the lunar base Selene will keep the two of you hundreds of thousands of miles apart for an interval of four years. Suppose you wait by the phone and video feed all that time, tracing the Moon's orbit each night, so that by the time you realize that something about the relationship is not adding up, the days have dragged out like a bell curve's tail.

You can do the maths. If you've ever thought there might be something meaningful between you two, his choice to remain there even longer — indefinitely, he says in his apologetic, static-crackled message — is proof of impossibility enough.

Theorem 1.2: The rebound theorem

If $s = d/t$ and the speed of heartbreak is still constant, then it follows that, as the distance between two people decreases, the time until heartbreak will decrease as well.

Proof. Suppose you've just hung up on the someday-Commander Goodwin when your neighbour from 2A with the perfectly symmetrical smile just happens to drop by to see what the shouting's about. Suppose you let him convince you to take you out, to show you a good time, to drag you onto the dance floor until your feet ache and your heart feels lighter, so that when you call him the next day with stomach-butterflies looping in non-Euclidean paths, there's a non-zero moment when you think this proximity-motivated fling might work. That the line of your love life might be a ray, continuing past the endpoint of Flynn Goodwin.

The phrase "I just don't think of you like that" proves the butterflies' fallacy.

Theorem 1.3: The central limit theorem

If the normalized sum of independent random variables tends towards a normal distribution, even if the variables themselves are not normally distributed, and s still $= d/t$, then it follows that the results of dating Internet randos has no significant chance of success.

Proof. Suppose you've tried every remotely reputable dating app, swiping right for anyone remotely corresponding to your 'type', and all it gets you is one normally distributed break-up after another. Even the outliers don't add up to anything but another number to block on your phone, another conversation with your mother about how, "No, it didn't work out," increasing the probability of her greatest common response: "Whatever happened to that nice astronaut boy?"

You watch the night sky and you wonder.

Theorem 1.4: The ex-boyfriend theorem

If $s = d/t$, then it follows that, although absence can make the heart grow fonder, and maybe it wasn't entirely his fault, even with a vast change in distance and time values, the chance of heartache is still non-zero.

Proof. Suppose the proof shows up on your doorstep, after so many years you've lost count, and when you invite the now-decorated Commander in for coffee, he still makes your lips form positive parabolic curves. Suppose he explains what he could never say before: that he's been working on a classified project, studying an asteroid on a path intersecting that of Earth. He's spent the years in the range from then to now trying over and over to solve for x (with x being a way out of this mess), but there was no answer to be found. Time is approaching zero. The president will make a statement in the morning.

You tell him you need time to think. To do some calculations.

Theorem 1.5: The end-of-the-world theorem

If $s = d/t$, then it follows that, as time becomes zero, the answer becomes undefined. Meaningless. Indeterminate. Complex. With no time remaining, there's nothing to lose, and as the indefinite future looms, the negatives of the past become null and void, losing any real, lasting meaning.

Proof. We must suppose this is not the answer you want, but it's the one that was there all along. For as long as time is a finite set, all things on Earth must end, be it by calculated break-up or slow disaffection or the sudden interruption of death.

But suppose, just *suppose*, you've been looking at this wrongly, trying to solve backwards something with far too many variables, forgetting to factor in things like walks along the beach and quiet night-time drives. Things like shared laughter and overlapping Venn diagrams of the things that bring you joy. Like comfort and contentment and love and the way that, even now, with the end inevitably approaching, you still feel safe in his presence.

Suppose you let him take your hand. Share a coffee. Just talk. Suppose you forget to watch the news or sky or worry about falling integers of time.

Suppose it's been the wrong equation altogether. That what you're looking for is something simpler: more like 1 plus 1 plus something else (with a positive absolute value) will always equal something greater than 2. Something closer to the infinite.

Wendy Nikel is a speculative-fiction author with a degree in elementary education, a fondness for road trips and a terrible habit of forgetting where she's left her cup of tea. For more info, visit wendynikel.com.