

“If you look up at the faint smudge in the night sky that is really the distant, huge Andromeda galaxy, you might see light that, from your point of view, took two million years to traverse that vast intergalactic distance before it was absorbed in your retina and registered as an image. For a beam of light itself, however, things look different. Instead of radiating from some star in the Andromeda galaxy and racing through space for two million years, every single photon sees itself, metaphorically speaking, as born and instantaneously absorbed in your eye. It is one simple jump that takes no time at all, according to the theory of special relativity. That’s because, in the reference frame of a particle traveling at the speed of light, all distances shrink to zero and all time collapses to nothing. From its own perspective, the photon of light leaps instantaneously from there to here because distance has no place in its existence. We can almost say that the photon was created because it had someplace to land and, in an instant, it jumped from there to here, even across two million light years of space from our perspective.”