

Louis de Broglie was a quack.

I mean no disrespect towards the renowned researcher, theorist, and Nobel laureate. To be sure, Mr. de Broglie is largely responsible for our present-day understanding of electron orbitals, and his knowledge of the relationship between matter and energy is comparable to Einstein's. But when it comes to the dynamics of the human soul, he just didn't have a clue.

I allude to the de Broglie Wavelength Equation, perhaps Louis's most noteworthy contribution to quantum physics:

$$\lambda = \text{Planck's Constant} / (\text{mass} * \text{velocity})$$

The expression above is based upon the revolutionary concept that electromagnetic radiation exhibits matter-like properties and that particles, in turn, demonstrate wave-like characteristics. This paradox (also known as the particle-wave duality) has startling implications. For one thing, it suggests that all matter, from minute quarks and leptons to massive celestial bodies, can be described in terms of frequency, amplitude, period, and a host of other wave-related quantities. Supposedly, de Broglie's handy-dandy formula can be used to determine the wavelength of any moving particle.

But after performing a few calculations of my own, I've discovered a lapse in Louie's logic. Assuming my mass to be fifty kilograms and my hypothetical velocity to be one meter per second, my wavelength - according to our dear friend de Broglie - is an infinitesimal $1.33 * 10^{-35}$ meters. This computation implies that I am far more particle-like than wave-like in nature, when actually I am just the opposite.

To begin with, I diffract. Just as electromagnetic radiation seeps inexorably around barriers, reappearing on the other side a bit bent but by no means deterred, I too

am able to surmount daunting obstacles. For example, when I toppled unceremoniously off the stage during an orchestra concert, I mustered up the courage to resume my seat and continue playing Beethoven's Ninth, in spite of a slightly crooked bow and a badly bruised ego. Furthermore, I exhibit refraction, a phenomenon that involves the change in a wave's velocity as it passes from one medium to another. As the refractive index of water (1.333 at 20°C) reveals, light slogs through H₂O at three-fourths the speed with which it hurtles through air. My former swim instructor will readily verify that I, like a wave, am far more sluggish in the pool than on land. Moreover, I can be reflected. This wave-like characteristic of mine was painfully confirmed when I ran headlong into a particularly clean sliding glass door – and bounced back.

So take that, Mr. Smarty-Pants de Broglie. No matter how many fancy formulas you wield or how much empirical evidence you brandish, you cannot confine my essence to a particulate blob of atoms. Oh sure, I may experience moments of matter-like lethargy, but I will always be first and foremost a wave: hurtling towards my destiny at the speed of light, oscillating blithely through the void, held back by nothing save the occasional sliding glass door.