

By Daniel J. Bressler, MD

Natural Laws

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Sunflowers grow in Fibonacci
Bee hives build in hexagons
Rivers branch in slender fractals
Symmetries and paragons

The tides return in rhythmic patterns
Novae swirl and planets spin
Strong and weak the binding forces
Apply the same: without, within

Heart cells twitch in tight precision
Enzymes order: "how do this"
The cytoplasmic plot progresses
Proteins flex and solutes fizz

Squared sides of a right triangle
Sum to squared hypotenuse
 $2\pi r$ attains circumference
No excesses, no excuse

Amidst this seeming mindless matter
Of graceless rocks and random plants
Each mote a perfect demonstration
Of this: the natural cosmic dance

Tweak a universal constant?
Edit out a decimal place?
A false economy would enter
And send us hurtling into space

When humankind seems bent on chaos
And life's momentum all seems wrong
The laws of nature stun me humble
The Uni-Verse sings this: One Song



The Anthropic Principle was first coined in the early '70s by astrophysicist Brandon Carter to address certain "coincidences" regarding fundamental properties of the universe. Why is it that the density of matter is such to allow planetary systems such as ours to exist? Why is it that the age of the sun happens to result in a level of temperature on our little planet that allows the development and survival of carbon-based life forms, including human beings?

The Anthropic Principle offers an explanation that is at once tautological (true as in, a Homer Simpson "duh") and provocative (as in, late one night, gazing up at the stars, scratching your head and saying to yourself, "Gee, I never thought about that before ..."). The Principle claims that the physical qualities of our universe are "ideal" for the existence of human beings, who can ponder those qualities. At a fundamental level, the universe is "friendly" or, perhaps more accurately, "permissive" to

our existence. The Anthropic Principle is neither religious nor anti-religious, although its variations and interpretations have been used by both creationists and atheists to champion their cause.

"Natural Laws" was written in response to a rash of global bad news: famine, flood, pestilence, war, hatred, greed, injustice, and economic meltdown. In the microcosm of my garden, from the embedded stones marking the walking path, to flowers following mathematical growth cycles, to the branches of the Jacaranda tree pointing toward the late afternoon sun, there was a reminder of a deeper order, one that I like to believe is ultimately benevolent. **SDP**

{ABOUT THE AUTHOR}

Dr. Bressler, SDCMS-CMA member since 1988 and board-certified in internal medicine, is a longtime contributor to *San Diego Physician*.