

"Turtles, Turtles, Turtles ... All the Way Down!"

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Introduction

You may well have heard the theory that the Earth sits on the back of a giant turtle (or is it a tortoise?) And what does that turtle rest upon - another turtle. And that turtle? - it's "turtles, turtles, turtles ... all the way down!" Further discussion of this theory is beyond the scope of this essay.

Theory and Discussion

My theory contends that it's the same way with matter ... "all the way down!" As scientists we strive to discover and to know - in this case to hunt the "Basic Building Block(s)". B^3 , I'll call it (or them.) These B^3 have characteristics, (mass, size, shape, color?) and behaviors (response to stimuli, to forces?). This is a foundation (I almost said "building block") of physics and / or mechanics. *Nota Bene:* B^3 do *not* have personalities - except, of course, for the physicists who really love them.

Some thirty years ago in high school I learned that the B^3 was the atom. Soon my insight grew and I learned that there were three B^3 : Protons, Neutrons and Electrons. Each of which has a "physics" about it.

In the twenty-five plus years since I last opened a physics book (even as my eyesight has deteriorated and I now wear eyeglasses) our collective insight has continued to grow. This insight manifests itself in the identification of all sorts of potential B^3 , particles with exotic characteristics - and our physics has accommodated these discoveries.

Why the discoveries? Metaphorically, physicists have better eyesight. They can now "see" directly or indirectly smaller and more fleeting things. Concurrently, their ability to focus energy has increased. It seems that when you give something a good, swift kick, it may break apart or react somehow, in turn revealing other somethings, perhaps those B^3 of which I speak.

So that's the theory, " **B^3 ... all the way down**".

Afterthoughts and other trivia

I find the above theory rather comforting. That is, presuming that one can find solace from a theory. There will always be a new B^3 around the corner to be discovered. Also, I imagine it's the same way in other directions. It's turtles all the way across the table: There will always be another element, a little heavier, with yet a shorter half-life, etc. And it's probably turtles all the way up, too! We will someday go beyond stars, nebulae, star clusters, global clusters and galaxies - thank you, Merriam Webster for all those terms - as we discover more and more. Cleverly, on the way up, we've coined the word "universe" to mean "all the way up". By definition, we can't have multiple universes, can we?

Matter, does it matter anymore?