Introduction to

Theory of Everything by illusion

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Chapter 1

Preface

Introduction to Theory of Everything by illusion is intended for physicists and for advanced physics enthusiasts. This book introduces a new theory which replaces quantum mechanics, standard model for particles and Einstein's relativity theories. Concepts like dark matter and dark energy will be explained and calculated. Presented theory creates also the foundation for future large scale utilization of antimatter.

Main problem with the contemporary theoretical physics is its deviations and shortcomings from reality. We can see and experience surrounding things, solid objects, liquids, vapors, photons, electrons etc. Emitted and reflected photons create the picture into our brains through our senses. But when we study all those things more closely we kind of lose our track. We claim that there exist such things as massless particles, quantisized spin properties and four different force interactions.

All this historical package slows us down. Contemporary theoretical physics is living in an era which only slows down the progress of mankind. We are not stupid, we are just misled by our previous mistakes. When a paradigm gets born it has real staying power. Influential people and unfortunate misunderstandings have laid out the seeds of our scientific path in physics. Development of schooling system and development of our society in general has confirmed and supported our heading.

Going through contemporary physics education system doesn't help us to realize our previous mistakes. Young students don't have a chance, they study what lecturers teach to them and read books ordered them to read. And if they want a decent career in academics they must accept the current paradigm.

However, paradigms do change. Bit by bit, the amount of anomalous phenomena gets bigger and more problematic and pressure builds up for the change. Have we missed something along the way? Is something fundamentally wrong with our theories? Why can't we unite quantum mechanics and relativity theories? Some people call these conundrums as a crisis in physics, even though more proper description would be a catastrophe.

Sometimes it takes an outsider to resolve a problem. Physicists involved with these conundrums don't have a chance to figure them out. Their training prevents them to see the forest or, at least, prevents them to accept the obvious explanation. Theory of Everything by illusion is created by an outsider who has not the package of physics history to carry.

False turns in physics history are brutally pointed out and more proper way is presented. We should start our journey into the new physics paradigm from particles, what they really are, what kind of properties they have and how they interact with each other? How many different particles actually exist? What's the deal with antimatter? Current standard model for particles and quantum mechanics will be replaced with much more simple and elegant theory.

Proper theory of everything bonds subatomic phenomena naturally with classical physics phenomena. Answers to questions like, what is mass? what is time? how inertia emerges? what is energy? or what is gravitational interaction? comes for free and naturally, also many classical physics constants turn out to be calculable entities.

In later part of our journey, we'll discover how relativity emerges from underlying particle phenomena. After all said and done, we can conclude that Einstein's biggest dream has come true!

Caution, this book will blow your mind. Have a nice ride!

Part I

Foundation

Chapter 2

Let's go!

We shall start our journey from the most fundamental element existing, from particle. Everything is made from particles, even some particles are made from other particles. Is there something more fundamental than particle? We don't know, but after our journey we might conclude that there probably isn't more fundamental element than particle.

Hypotheses

Theory of Everything by illusion (ToEbi) has only two hypotheses. **First hypothesis: The beginning of universe provided spiked, spherical, objects (particles)**. Spherical object part feels quite natural and it has been also tested extensively with electrons. So far, no deviations found.

In order to effectively interact with other particles, ToEbi hypothesizes that those spherical objects have spikes. In a sense, it's quite reasonable hypothesis. Perfect, smooth, sphere is more like a mathematical concept than physical fact. Naturally, measuring out directly those spikes is very difficult or outright impossible. Error bars of those measurements would vanish those spikes easily.

However, indirect evidence for such spikes exists. Classical double slit experiment can be used as an evidence for those spikes, but more on that later.

Second hypothesis: Interactions between particles or system of particles are purely mechanical. In a way, second hypothesis is somewhat superfluous. Based on first hypothesis what other ways for interaction there could be? We should remember, at this point, we have only those particles previously hypothesized. On the other hand, we have to hypothesize that there are interactions between particles and that they have a mechanical basis.

Elementary Properties

What kind of elementrary properties particles have? Naturally, a particle has properties, it has radius, volume and cross section. These properties are fairly obvious. But it doesn't require a lot to figure out that particles can spin around some axis, what would prevent them from spinning? On the other hand, we can ask what makes them spin? Was there something at the beginning of our universe which made particles spin? Some kind of universal conservation of angular momentum?

How can we even measure particle spin frequency? There is no mark on a particle, a mark which we could somehow observe and count how many times it goes by in one second. No, we can't do that, at least directly. We can only say that according to ToEbi's hypotheses, particles can spin with some frequency. Developing theory with particles without spinning wouldn't be that fruitful, at least with ToEbi's hypotheses.

Where is particle mass? Shouldn't that be an elementary property? The answer is no, we shouldn't have elementary properties which can be derived from other properties and particle mass is such property. More on particle mass later.

Based on ToEbi's hypotheses, we can conclude that particle's elementary properties are its

- radius and
- spin vector.

We can define spin vector so that its magnitude equals the spin frequency and its direction equals the spin axis so that if we look at the spin vector above, particle is spinning counter-clockwise.

Elementary Particles?

How many elementary particles there are? Our universe holds various particles, photons, electrons, pro-

tons, neutrons, pions and so on. Elementary particle is something that can't be made from other particles, so composite particles are obviously out. Standard model contains 17 elementary particles plus their antiparticles. At this point, we need to name only three candidates for the category of elementary particles. Those three are

- electron
- photon and
- Force Transfer Ether Particle (**FTEP**).

First two particles are already familiar to us. Force transfer ether particle (FTEP) is the one which isn't discovered yet. Universe contains many different sized particles but this particular particle is smaller than photon. Nobody can say for sure that all those FTEPs have precisely the same size. In any case, FTEPs are smaller than photons. How much smaller? How can we measure particle size at the first place? Well, we can't, but we shouldn't care about that just now.

Observed similarity (e.g. particle mass) among other particles suggests that also FTEPs might be pretty much same sized, but we shouldn't take same size as granted, at least for now.

Particle Repulsion

What would happen if a larger particle, surrounded by smaller particles, starts to spin? Certainly surrounding smaller particles would experience the spin of a larger particle. They have to experience it, after all, they all have those spikes all over their surface and evidently particles interact with each other over the distance.

Spinning larger particle would generate a flux of smaller particles into the sea made of those smaller particles. It have to generate such a flux, it's required in order to generate repulsion between larger particles, at least in ToEbi. Without repulsion particles would eventually touch each other at the elementary level and that kind of touching would cause most likely particle annihilation. But obviously, and luckily, that doesn't happen too often.

How strong this repulsion between particles can be? We can't answer the question until we have defined few other things, like mass, distance, second, energy and force.

Decay

Bigger particles do decay and there are different ways (decay channels) for them to decay. At this point, the knowledge that bigger particles do decay is enough for us. When particle decays, that phenomenon is called also particle annihilation.

There has to be the end point for particle decay chain, something so elementary that it can't annihilate no more. One might suggest that photon is such end point, but it's not. For example, photon can get absorbed by atom or it might vanish during pair production. If photon vanishes, like in previous two examples, it has turn out to be something totally different than photon. Most likely it has annihilated to multiple FTEPs. Most likely doesn't sound very convincing, but there is supportive evidence for that claim.

We should postulate that **FTEP is the elementary particle which can't annihilate**. It's very intuitive idea, after all, FTEPs are the smallest particles provided by the beginning of our universe. Surviving extreme initial conditions proves that FTEPs can bear pretty much any condition.

Inverse Decay

If particles other than FTEPs can decay then the inverse process must be possible also, putting FTEPs together must create bigger particles. That is exactly what happens when photon is emitted from atom or when photon causes electron-positron pair production. Those are totally mechanical phenomena.

Photon absorption and emission phenomenon supports the idea that photon actually annihilates to multiple FTEPs.

There are few subtleties related to inverse decay phenomenon and those will be covered rigorously in sections related to photons and their interactions with other particles.

Elementary Particle

At this point we can answer to the question: How many elementary particles there are? There is **just one elementary particle, FTEP**. Every other particle is made of FTEPs, one way or the other. In next chapter, we'll go through all common particles, photons, electrons, quarks, neutrinos, protons, neutrons and their antiparticles. What they really are? How do they interact with each other? How particle evolution worked?

Chapter 3

Particle Genesis

Can we postdict various particle sizes from the size of FTEP? We have to remember that particle size and particle mass are different things. Particle mass will be defined when we need the concept for the first time.