

## A Prologue to (Re)<sup>2</sup>naissance

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**Abstract:** Having observed that modern rather mathematical theories of matter have begun to have difficulties, a visit to the origins is made. The by the so called Hermes revealed theory of matter has been underlined.

A theory of matter made up of infinitely hard, extremely tiny and with the speed of light moving classical particles is proposed and preliminaries of such a theory is investigated. Elementary particles are proposed to be handled as ordered bundles on random vacuum, oscillating either simultaneously or 180 degrees out of phase or as a mixture. This is proposed to be done under the constricton that phase and basic incremental motion is supposed to be quantized.

The coincidence between teaching of Hermes and Holy Books, especially the Quran has been brought to surface and the necessity of further research with the help of supercomputers at hand has, as under the observed conditions urgent, been proposed.

**Keywords:** *Hermes' atom, Democritus' atom, hatom or datom, a new ether concept, a new particle concept*

### 1. Introduction

We seem to be in need of a road map to our near future as our ancestors had all history along. The difference is that the need is urgent in our situation just because we may as well be on the verge of a possible doom which was previously not the case. To this end, we are certainly to adopt the scientific way as further as possible.

Prerenaissance societies made use of astrology based on prehistoric religions/beliefs and with renaissance began modern science to put light on the set of possible expectations and compromises due. The topologies were different though. The network topology of prerenaissance societies were central, whereas the modern adopted topology was distributed.

Neither one has brought the desired success up to now. Whoever in Heavens may be may have given us a picture. Based on this picture, via inductive reasoning, we tried to obtain the details. We lacked the means. With Renaissance we began to build up our means. Based on these, having some details, some local observations at hand, via deductive reasoning, we tried to obtain the whole picture. We could not, the point we came to seems to suggest that we do not live but dream.

One of the best pages that describes the transition period is given in [1] and [2]. An extremely important milestone on the way, regarding philosophy of physics and followingly chemistry is the philosophy of quantum mechanics, which is well summarized in [3] and [4]. The curves we seem to track within 1% are given in [5] and [6]. That the simulated date of collapse and the predictions of main religions are in accord is given in [7].

Prerenaissance science was rather philosophy, natural philosophy and the concept of atom took its place therein. Both Bacon and Heisenberg, the later as philosopher, seem to deal with Democritus' atoms which is described in [8]:

*"For the reaction (in) is arrest of progress (n). Wherefore, also, the errant spheres being moved contrary wise to that inerrant by the contrariant opposition, because of the very opposition (a), are moved amongst each other (b) by the stable (c). And it is impossible that it should be otherwise ; for those arctic (spheres) which thou seest neither setting nor rising, revolved about the same pointy dost thou think to be moved or to stand still"*

This probably means the source of these ideas was the Book of Hermes being chronologically the oldest. We made thoughts on who then Hermes, the smarter of all, may be and we published our thoughts in [9]. We will turn back to this later on.

A good deal of great minds seem to to have dealt with the problem of making matter with an immense

amount of these moving spheres establishing a dynamical order under certain circumstances. The tries of Bacon is seen in the cited references but even Newton seems to have given a try, since we know that he was involved in sphere packing problem. The aim of this interest can not be cannon ball packing which is made on a flat surface and a practical job. They, all including Newton, simply could not.

Progress is made though, regarding mechanics, kinematics, etc. excellent work was performed. So were continuum mechanics, hydrodynamics. We were almost bound to linear differential equations of first and second order but that posed no problem since they were almost enough.

In case of optics we attained success, but regarding the nature of light it was first said light consisted of particles, diffraction and interference forced us to accept the fact that it should be a wave. We ultimately claimed it were both. No theories making waves in a dense space of extremely swift moving particles describing all known properties of light could be constructed. It was simply impractical.

Regarding electricity it was hard to understand the dual character of the electric force; we reinvented "- sign" and bypassed the problem. The electromagnetic theory followed.

QM began as wave mechanics, Schroedinger thought all were waves. Copenhagen interpretation has altered the view bu it was also based on Schroedinger equation with lacking physics. The conceptual difficulties of QM are well mentioned in [10] and [11].

Here we propose a new scheme that will hopefully be simulated in extremely fast calculating computers. We also hope that during work on the results of discrete case calculations, build up of new improved senses will be developed and we will ultimately again be able to make use of newly developed analytical techniques. The problem is that it is pretty hard to fund our line of thinking further because of two reasons:

1. Even in case of success, accessing the details will be costly. The case is very likely to be similar to the statistical mechanics-thermodynamics case.
2. Time we have in front seems to be very limited; so will be the funds in the near future.

The principal author has got the idea about 50 years ago and gave up having seen the first. Renowned interest is due to the first part of the second. Here, below Figure 1, we explain:

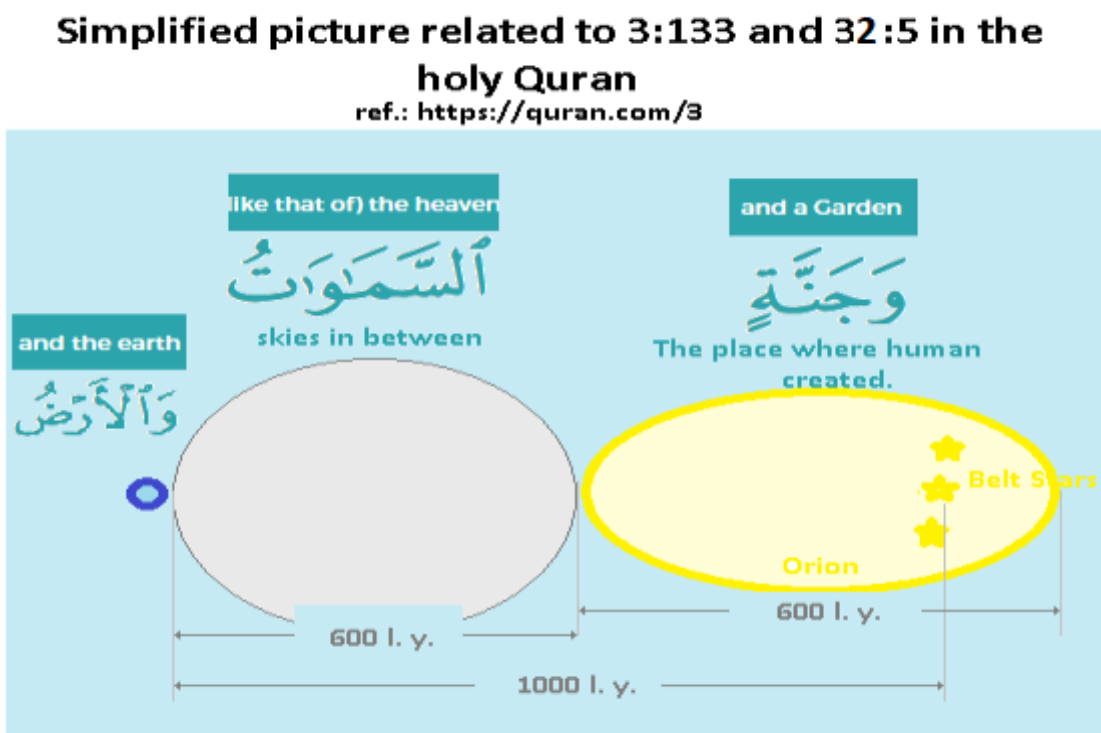


Figure 1: Approximate Earth to Orion distances. It is to be noted that the distances are coincident with the ones given in Quran in case we assume the information goes with speed of light.

Social sciences and theology has not shown the same amount of progress made in natural sciences, applied sciences and technology. Too late they began and they lacked the pressure of consumer expectations.

A good deal of academicians and their followers ended up with the conclusion that religions have had a spontaneous evolution and holy books are terrestrial. Many examples of psalms from holy books may be given indicating the opposite, the most powerful two of them are probably 3:133 and 32:5 from holy Quran. They namely give as two celestial facts well known today. This is done in a very interesting and certainly peculiar manner not likely to be known around 600 A.C. Figure 1 above sketches the situation.

So we follow Bacon who seems to have followed Hermes Trismegistus the E.T.: "From this perspective, the punishment of mankind on account of the very first disobedience by Adam and Eve can be seen in a different light from that of theological interpretations. In Bacon's view, this disobedience and its consequences can be remedied in two ways: (1) by religion and moral imperatives, and (2) by advancement in the arts and sciences: "the purpose in advancing arts and sciences is the glory of God and the relief of man's estate" (Wormald 1993, 82)."

## 2. Preliminaries of our work.

To introduce our work we repeat the abstract of our foremost work here below [12]:

**“Abstract:** Two well known scientific assumptions, with some minor additions, are brought together to form a new understanding of matter at philosophical level.

The old assumptions are:

1. Matter is made up of indivisible particles, called atoms, moving continuously in space ( Democritus)
2. The upper speed limit for material bodies is the speed of light (Einstein).

And the new assumptions are:

- 1<sub>N</sub>. Matter is made up of uncreatable and undestructible infinitely hard tiny microspheres moving in space with a constant speed which is equal to the speed of light.
- 2<sub>N</sub>. During collisions the motion of the center of mass is conserved. In case of collisions with stationary center of mass, angles of incidence (the angle between the direction of incidence and the tangent plane to the point of collision) and reflection (the angle between the tangent plane to the point of collision and the direction of reflection) are equal.

It is shown at the philosophical level that it is possible to merge the classical theory, quantum theory, and the theory of special relativity with these two new assumptions.”

In vacuum which is defined to be a room containing huge amount of datoms and every direction of travel is equally probable we find that only stationary center of mass collisions produce a change and the directional new probabillites after such a collision, as given below:

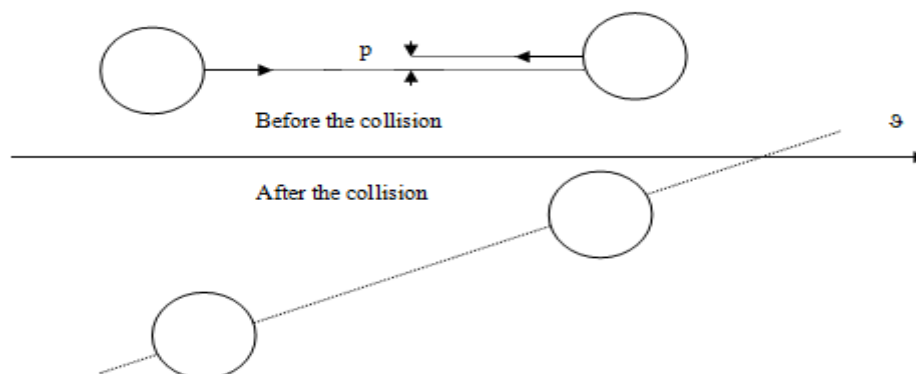


Figure 2. The case of 0-momentum collisions in two dimensional space.  $p$  is the impact parameter and the velocity vectors after the collision are not shown, but they are in direction  $\Theta$ .

Because of the assumed vacuum properties, every impact parameter between 0 and the particle radius is equally probable. Then the probability of direction  $\Theta$  is governed by the following formula:

$$P(\Theta) \propto \sin(\Theta/2) + \cos(\Theta/2)$$

In our following work we tried Huygens' construction [13]. There we first compared the form of the Kirchoff's contribution to Huygens' obliquity factor vs. the scattering amplitudes given above. We got the following curves:

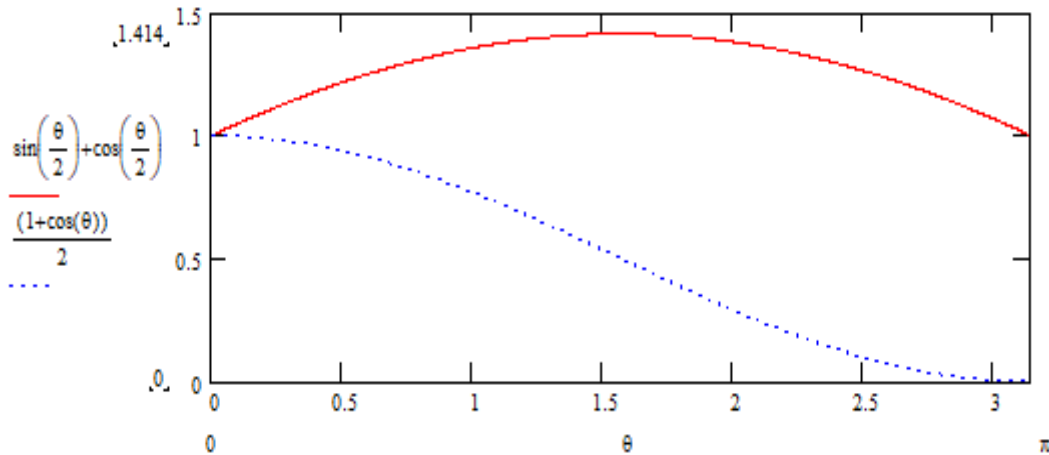


Figure 3: The probability of scattering angles after a zero momentum collision vs. obliquity factor. Note that the highest probability is to 90 degrees and it is about 1.4 times the lowest.

Then we considered 0-momentum collision probability on the way and calculated the results for constant 0-momentum collision probability, i.e. Exponential decay, vs. obliquity factor:

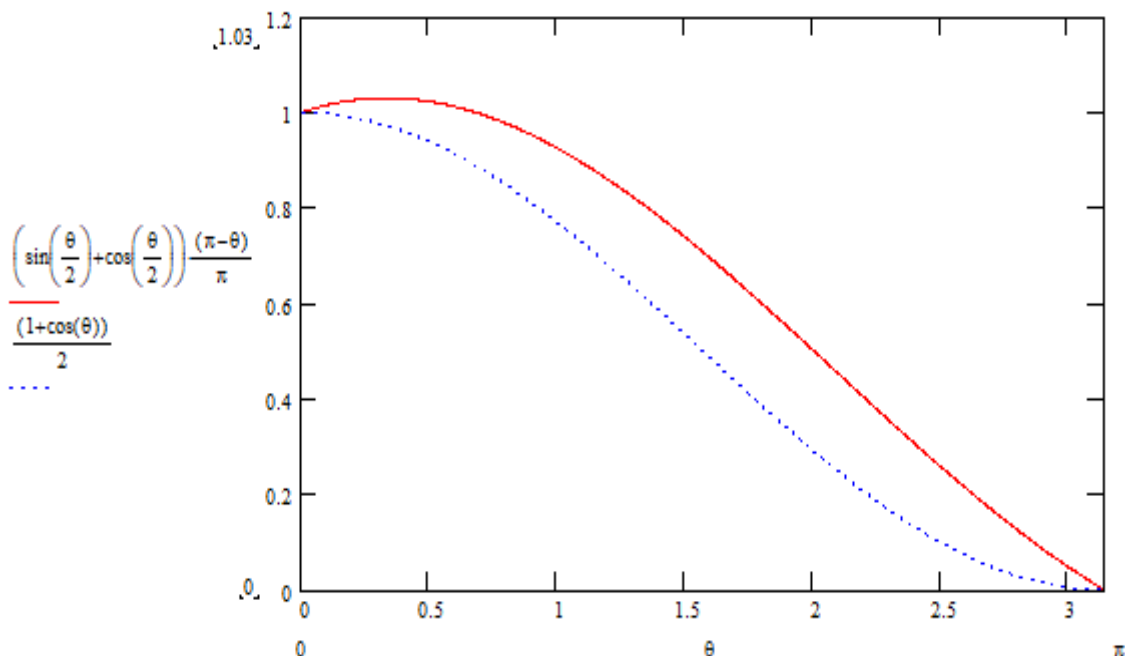


Figure 4: The angle dependent probability to find the particle at the last slice within  $d\Omega$  for the case of constant 0-mom. collision probability compared with Kirchoff's factor.

Changing the 0-p (momentum) collision probability to almost exponential decay as seen in the following figure, Figure 5, together with the linear, we get an almost perfect fit as seen in Figure 6.

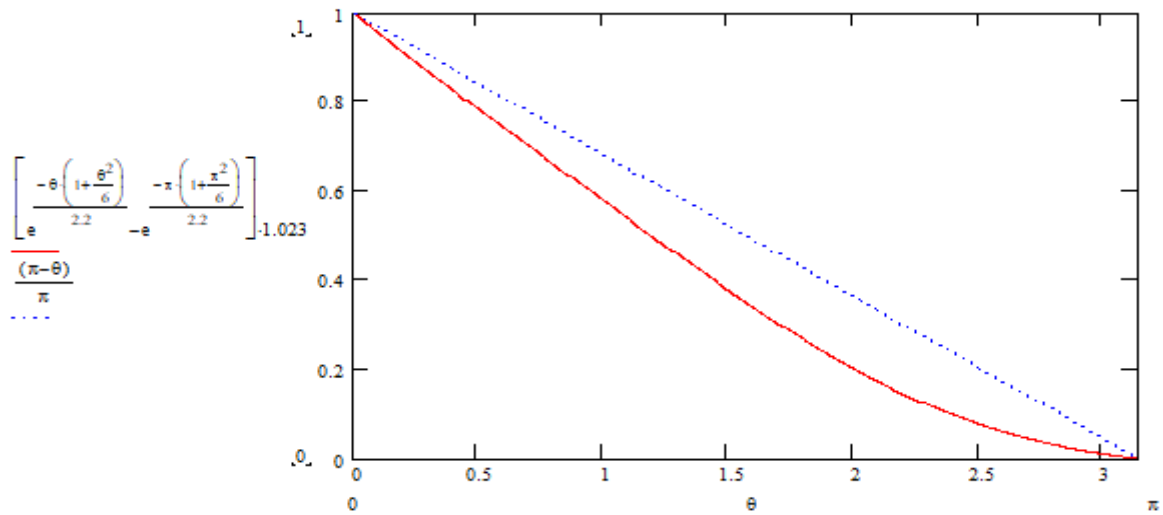


Figure 5. The previously used linear form and the new one introduced.

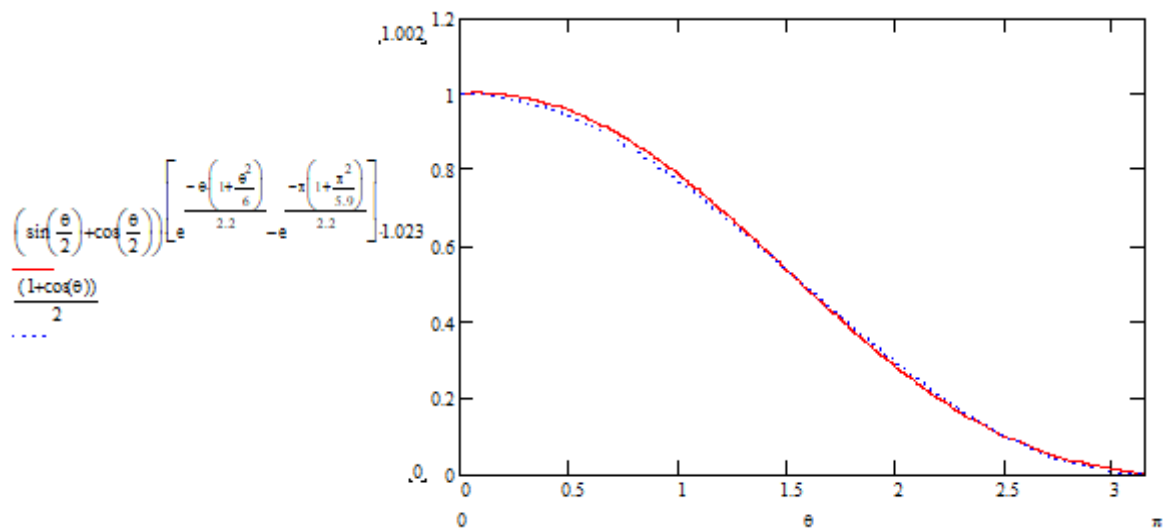


Figure 6. The result obtained via quasi-exponential 0-p probability and the Kirchoff's factor plotted together.

The difference of the curves plotted in Figure 6 is also of interest. This is given in Figure 7. The max deviation is about 1.7% and rms deviation is somewhat below 1%.

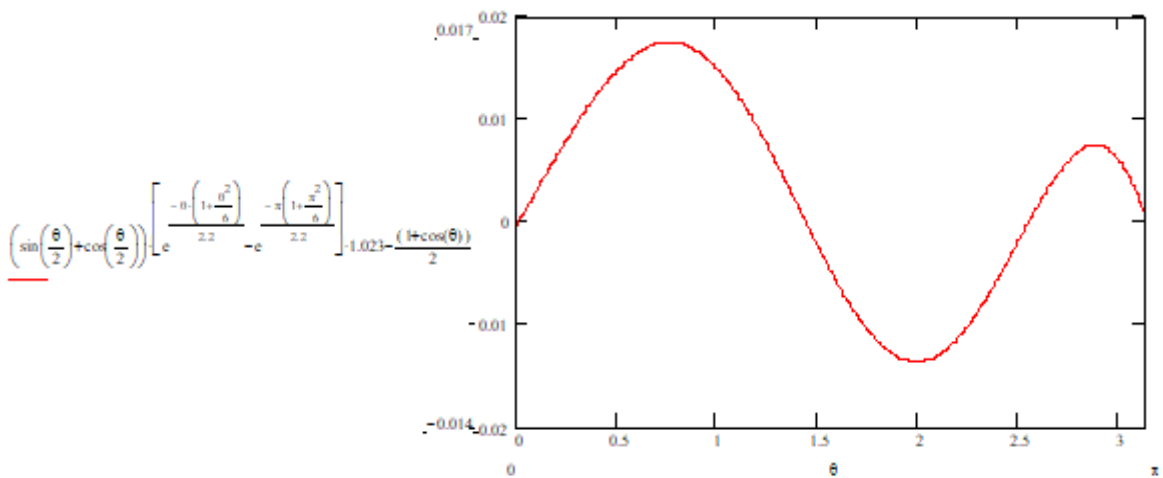


Figure 7: The difference

Here we were aware of the fact that the e-m wave was a disturbance in the medium and we needed to stimulate the results of a periodic motion radiating very many atoms in perpendicular direction but our means lacked.

### 3. Present Situation in our Work

We have pointed out to the necessity of exchange of particles moving with the speed of light to account for the electric force as is schemed in Quantum Electrodynamics and we criticized the QED for lacking a real physical picture in [9].

As an acceptable description we hypothesized in [14]:

- all particles are harmonic oscillators
- particles having the same charges vibrate synchronously
- particles of opposite charges have a phase difference of 180 degrees
- neutral particles are mixtures
- displacement due to electric force is quantized as phase is
- repulsive force exists because the wave from one hits the other
- attractive force exists because as the wavefront arrives the place where the other particle is supposed to be, the other one is annihilated, it becomes under the effect of backgoing wave and forms itself under the effect of this back wave

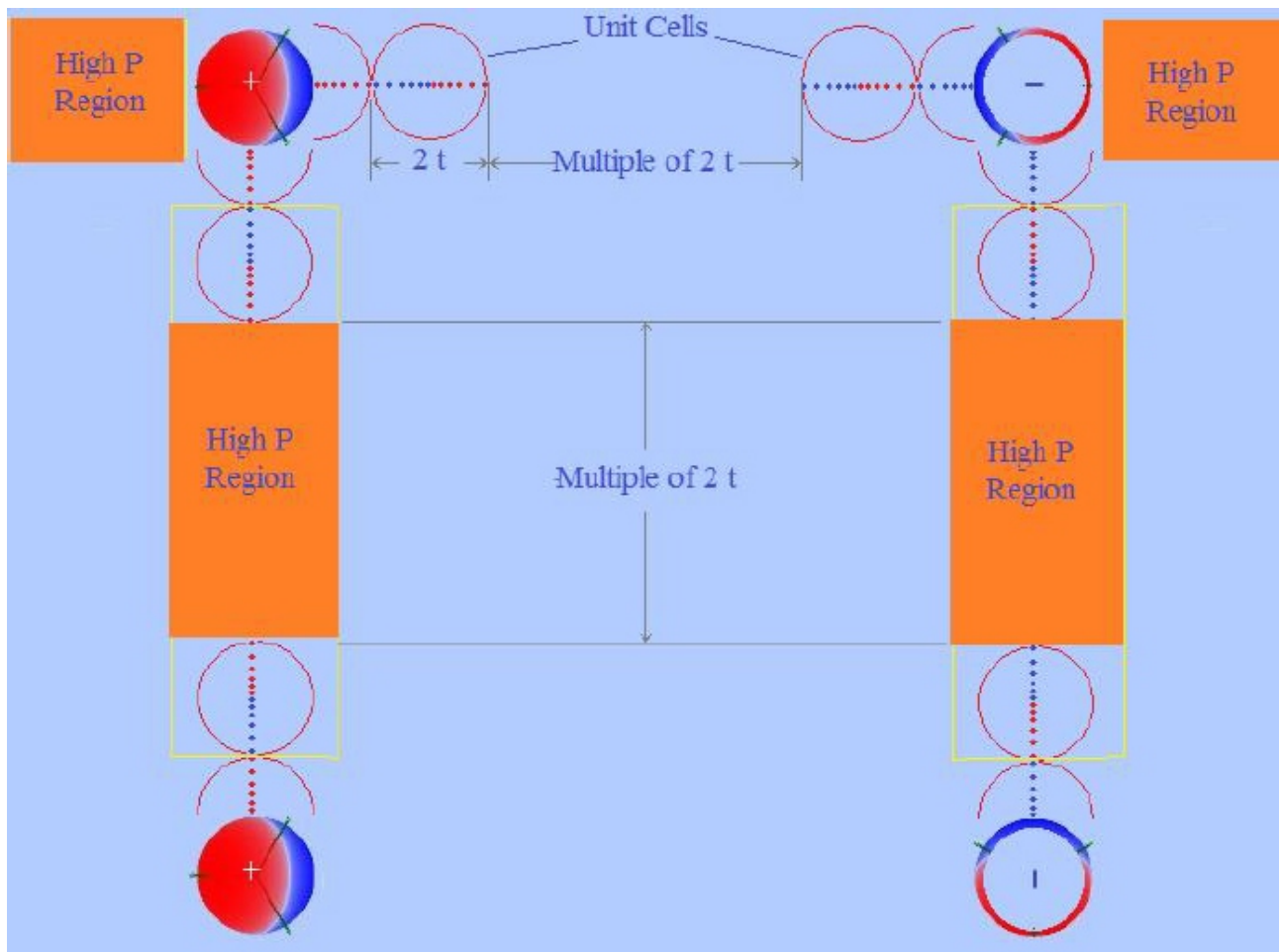


Figure 8: A possible scheme responsible for the dual character of the electric force. The "+" and "-" signed charges are on cells and do oscillate with 180 degrees phase difference.

We tried to give an analogical and easy to visualize picture for our scheme and gave the followings in [15]:

- We defined the unit cell as the circle in random vacuum where the datom will have made a 0-momentum collision for certain.
- For the cases of constant and with distance linearly increasing 0-momentum collision probabilities, we calculated the probabilities of a moving datom at any point within the unit cell with the help of a small python program.
- We gave the related Pyplot results.

Expectedly all Pyplot results are quite alike. We repeat here the picture we have got for the case of linearly increasing collision probability as Figure 9. Not to repeat is that, in this case, the probability of collision on any point is (almost) Gaussian.

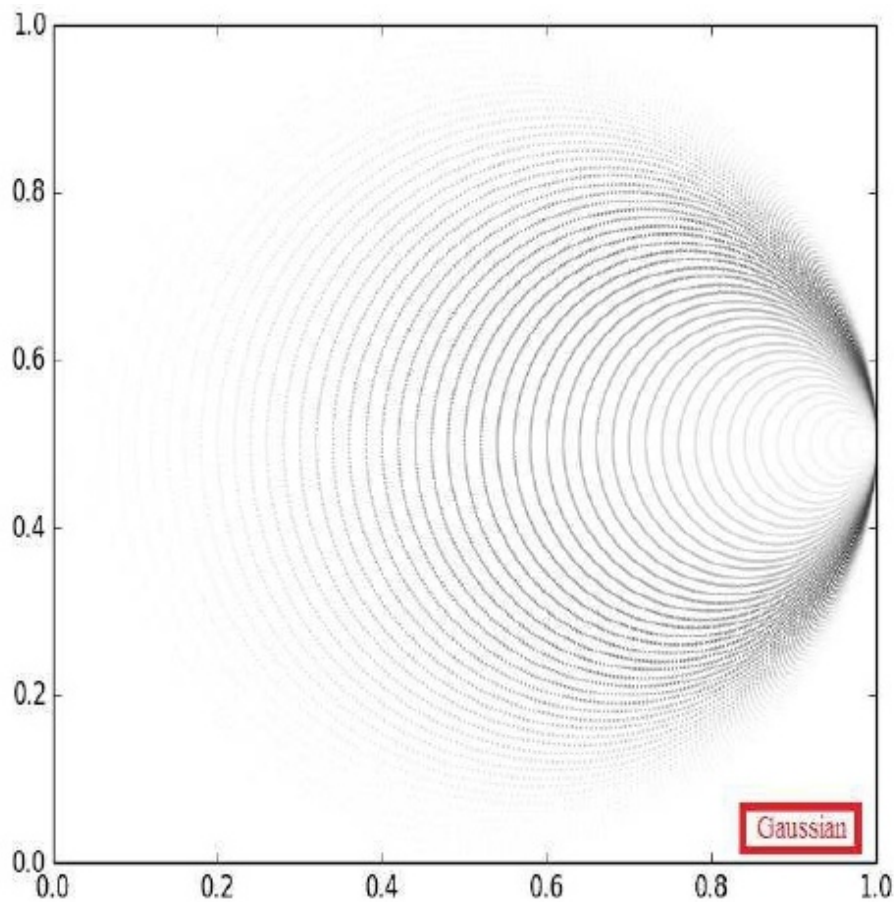


Figure 10. Pyplot result for the case of linearly increasing 0-momentum collision probability. Since any particle having made a collision will get scattered, the real/actual collision probability is Gaussian.

#### 4. Thoughts on Stability

In order to sustain stability the probability of backsacatter in each cell should be  $\frac{1}{2}$  if we consider the sum of the series  $\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \dots + \frac{1}{n}$  is equal to 1 as  $n$  approaches infinity. It seems that this will be provided since each previous 0-p collision will contribute to the overall sum and for each directly forward going particle, there will be a directly backscattered one due to 0-p. This claim needs better simulation though. We need to consider the totality of particles taking the desired direction after having been scattered into close vicinity of the forward and their probability of being rescattered backward and in phase.

#### 5. Discussion of the purpose and evaluation of the results of this work.

The purpose of this work is beyond its limited means, we indeed want to open a door to re<sup>2</sup>naissance because the Renaissance seems to have been unsatisfactory. To this and we revisit the origins.

At the beginning there may only be words, or this claim, as well as many other claims we will see later, may well be fiction and even falsification. Certain is that at the origins of science there was the concept of atom



which is defined to be the indivisible element of matter. Constructing this concept may be thought to be easy based on daily human observations but not to forget is that there is an even existing contraversional situation therein, which is to be observed in Internet [16]. This means coming to the idea of a unique, indistinguishable, spherical basic element was and is not that easy, Democritus' atom is often mixed with others and based on daily observations, this situation is understandable. In Heisenberg's work this is resolved and Democritus' atom is well defined, but no work in domain of physics was performed based on this resolution. By-passing was necessary.

Fact is that the introduction of the concept goes back to Hermes. Considering the totality of Hermes' teachings a great deal of which we are unable to really understand even today, we may call him "Hermes the E.T." This reminds us of Zoroaster whose supreme beings name is Ahuramazda or "Hurmuz" in Persian. The name may also have been derived from Harut-Marut. These so called fallen angels may even be the Zoroaster's self [17].

There are a good many deal of other peculiar coincidences related with teachings of Hermes. Just to name one we may consider Hopi Beliefs. They claim that humans are created in Orion and doom will be just after the appearance of a blue star which is somehow tied to Betelgeuse-Supernova [18]. Surprisingly the Quran says the same thing in 75:7-9. Considering the assessments on their origin, this coincidence may also be as a result of Hermes' teachings that would mean they are from the same source.

Keeping the section short, we may say that we have not been able to really assess the totality of partly fictitious ancient teachings including Holy Books and surprisingly kept the previously predicted path as we tried to construct our way to our heaven. In reality, though there is a consciously done misguidance in the Holy Books via the words used therein, they have never really mentioned about things the way we understood them. Just to name a few:

- a. They have never mentioned about God being the creator of the whole Universe, the creation of the God is restricted to Earth and Heaven(s), i.e. things between Earth and Orion. They should be specifically designed and altered since we need protection from outer space and were to be controlled.
- b. Regarding omnipotency the Quran is controversial. On the one and it claims omnipotency which we may understand as strict omnipotency but on the other hand there is 55:27. Both together imply that the Creator is not strictly omnipotent, He can not do much to prevent dispersion due to natural laws, though He is still to exist after dispersion having lost the body, remaining only as a "face".

So are the cases of omnipresence and omniscience and there are also a great deal of other contraversional issues to be resolved. We just skip them and stay with intelligently designed Earth and Heavens the designer of which have revealed us some of the related design factors. We need to bring them all together and understand the structure of the matter in such a way that the spirits, spirit-similar, extraordinary observed phenomena, etc. are within.

This work of humble means is somewhat built upon our previous work [12], [13]. There we wanted to introduce a kind of hidden variable theory based on classics which could only be calculated with the help of supercomputers. We could not publish the work and get the interest of physics community. The approach was sound to our mind, and we hoped it should be generally considered as sound especially if the objections of Feynman are reviewed [19]. Not to forget that Bohr has also shown interest in hidden variables for a certain epoch in his late life. It is to add that analytical approaches on that ground failed and fainted.

Our scheme should also be considered as noncausal. The real world may be causal but to make causal calculations the exact knowledge of all places and velocities (directions) of an infinite amount of atoms (Democritus' atoms) were necessary and this obviously is mission impossible. It would be equivalent to creation of a parallel universe for which there is no room and no means.

In addition to that, all we can see from our first basic scattering results was that if a charge, a mysteriously stable bundle of atoms, were to be shaken, a perturbation outgoing in the perpendicular direction was to



be expected and vice versa. The near field behaviour would also be nonlinear due to the fact that 0-momentum collision probability would not be a constant any more. That fact could make solitons possible but the problem of constructing a stable bundle was enormous. Analytical approaches would again be of no use.

There were a lot of properties of elementary particles to be described. Mass posed almost no problem if stability is there, but stability and charge were the firsts to be handled and they posed immense problems. To be stable they needed to be harmonic oscillators but there were two kind of charges and the only thing that could be altered was phase that posed problems if not quantized. Here we postulated quantized phase and minimal displacements. They are indeed to be hypothesized and derived from the basics.

Stability problem seems to require a connected "breathing" Universe but it may also be the case considering late QM experiments and astrophysics. There is anyway an huge amount of work to be done and it requires supercomputers. The case may be thought to be similar to space research which resulted a good deal of spin offs. In addition to the expected spin offs, we hope the resulting understanding of the Universe will make further research worth doing.

## 6. Conclusion

Scientists may have two reasons as they work: Utility and understanding. A good example may be Abdus Salam. The following sentence; "The job of theoretical physicists like Salam is to uncover nature's secrets at the very deepest level." is in [20]. It claims Salam preferred understanding vs. utility.

Tragedy is that using too much mathematics to understand, Salam has seen to have deviated from the classics, from the origin, too much. He is also said to have began his Nobel lecture with a psalm from the Quran which he seems not to have understood. He may have understood the meaning of the psalm, but not what is described in Quran generally.

In Quran Allah never speaks of creation from nothing, or creation from energy. He says he has created from fire (plasma), from light and from soil (solid). Book of Hermes also never speaks of the creation of its spheres, simply because they have never been created.

So we observe that classics and modern are pretty contradictory. Thinking the classical way and counting the Holy Books within classics due to the correlations in between, the followings seem to be valid:

- In our neighborhood there once once chaos due to the fact that density of datoms were not enough to support order, the face of the Creator as in the sense of 55:27 existed though. That is why "order ab chao" is in classics.
- Two or more dust clouds consisting of datoms came to this neighborhood, a collision occurred and density increased to a level supporting order, i.e. Elementary particles, atoms etc. That is why our Galaxy is spiral.
- Followingly the "face" had also a "body" and as a result and being intelligent He created us and reconstructed the room between us in such a way that our control would be possible.
- Every neighborhood we observe in the Universe is dense as our Galaxy is. Due to this denseness these neighborhoods all expand, and due to this expansion there is red-shift.
- The Earth is to explode in about a century. Not the way the moderns today claim as in [21] though. Much more probable, considering the classics including Hopi beliefs correlated with Quran, is that its nuclear activity will increase till explosion. This will occur just after the reach of heavy and extremely swift particles emitted by Betelguese the supernova and a sun eclipse.

We seem to urgently decide if the modern or the classics reflects the truth. That can only be via active research and we strongly propose further research in direction of our claims.

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