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quark  
2010

FEBRUARY 4-6

# Univirtual

The seeds of creative physics



A SAMPLE UNIVERSE

# Law 1 (the beginning)

This universe started with an infinite number of point-matter (indivisible particles) at random positions (just as ours started with the big bang)

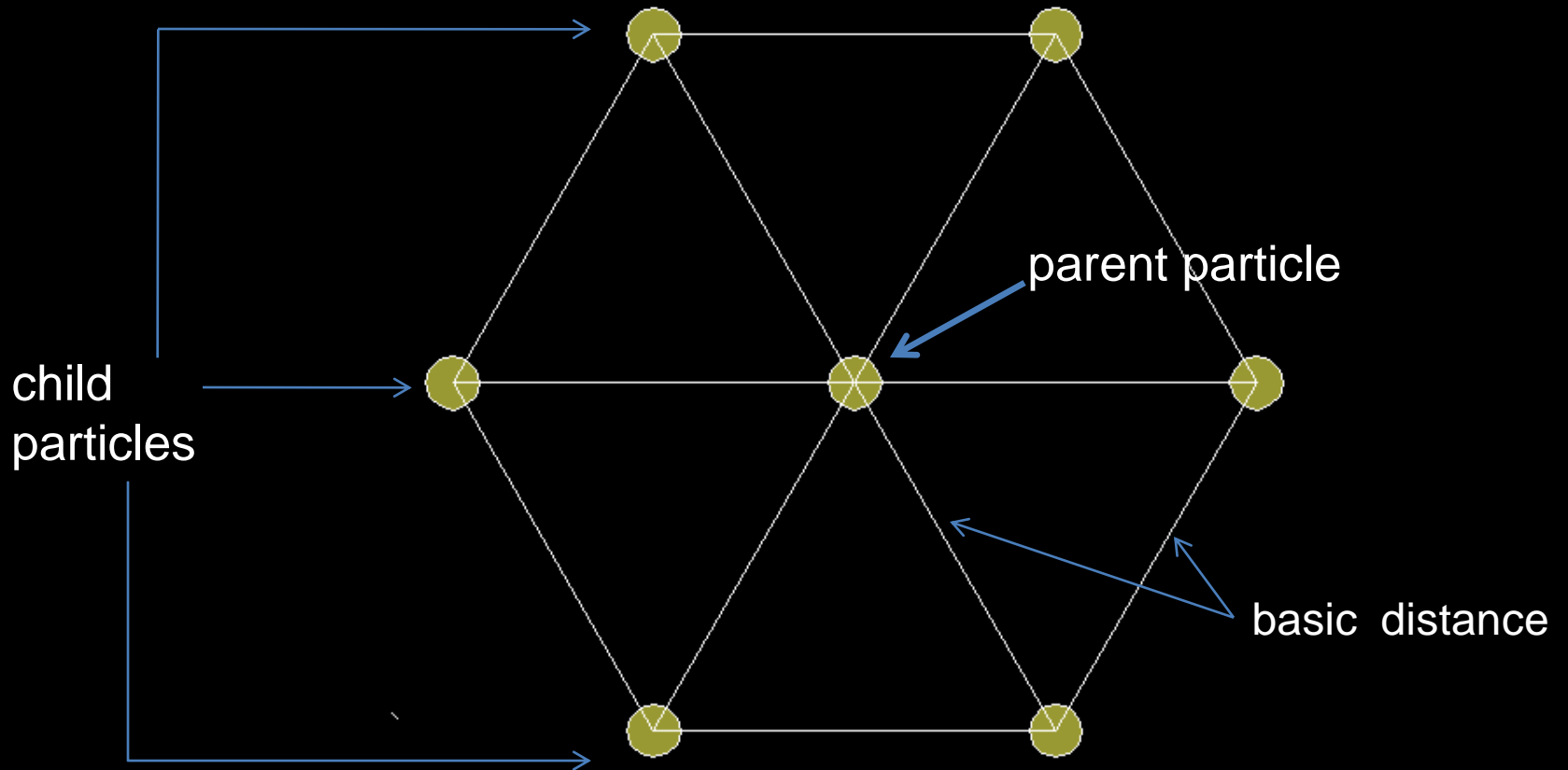


## Law 2 (creation of matter)

(a) Here matter is not conserved. Each particle can reproduce itself after a finite time-interval after its own birth. We name that time-interval as basic-time.

(b) The child particles are born at a finite distance from the parent-particle, which we shall call basic-distance. Also adjacent child particles are separated by the same basic distance. (c) Basic distance is proportional to basic time .

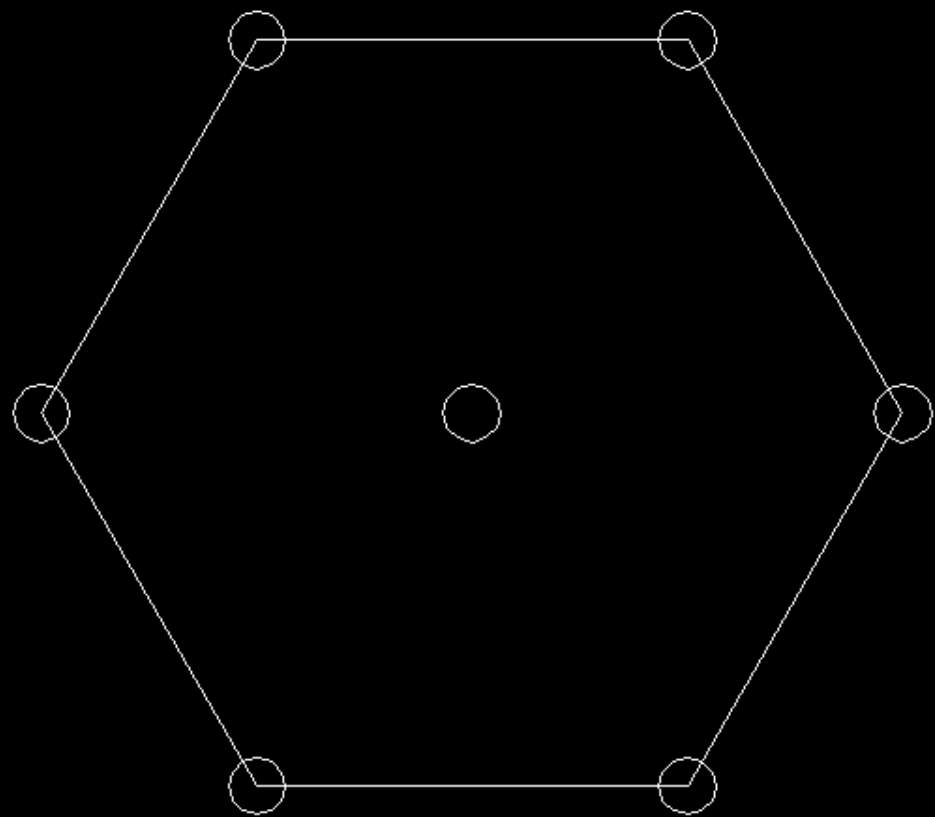
(d) A particle reproduces in a single plane.. And child particles of that particle reproduce in the same plane.

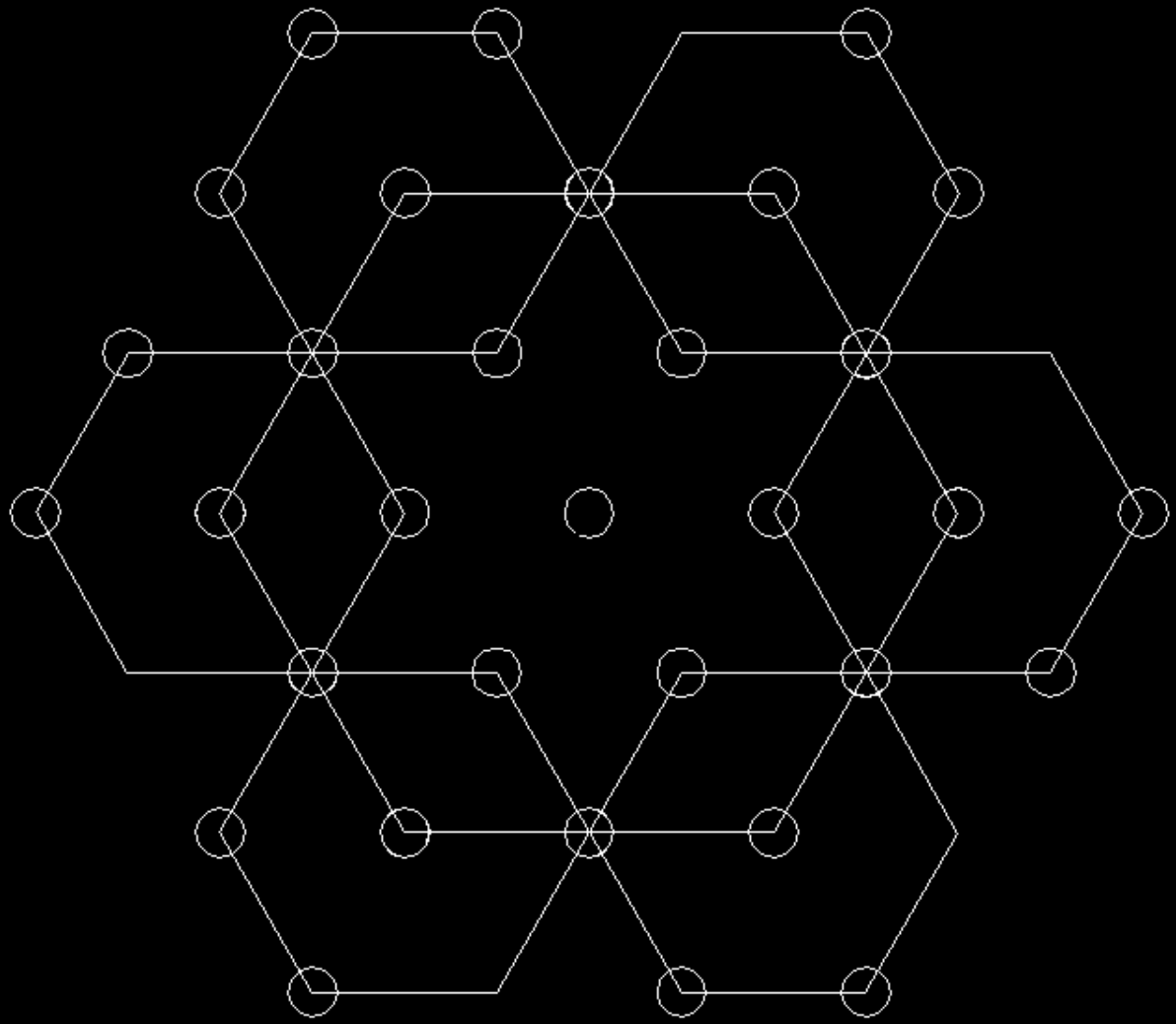


So , by geometry a maximum of 6 particles can be created as shown in the figure. All 6 gets created if their creation is not hindered by the presence of other objects in the vicinity .

(e) Each child particle reproduces just like the parent particle, but with half the basic distance and basic time of the parent.







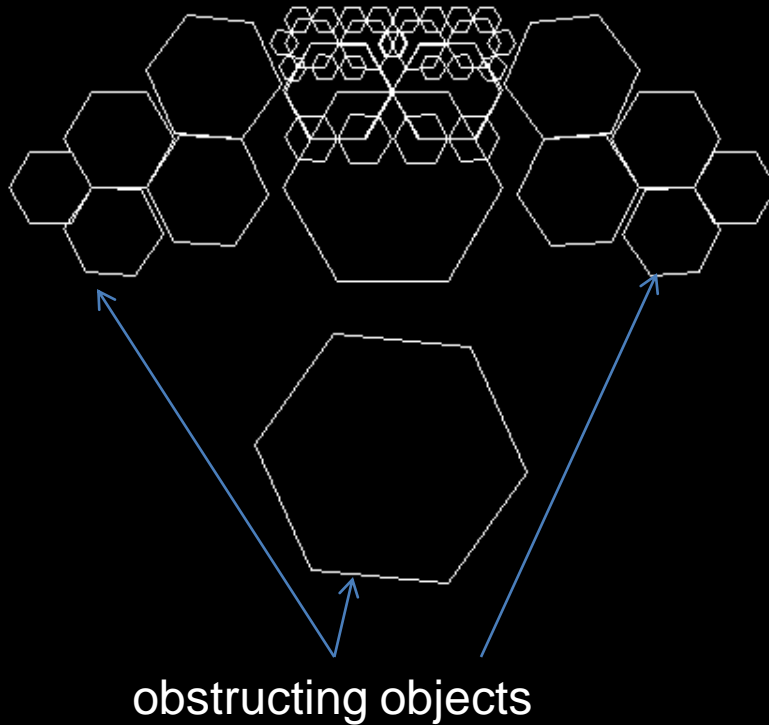
In this way, the density of the object increases as time progresses. Also, the external boundary spreads out further and further.

After two basic-times of the original (central) parent particle, infinite-density is attained (verify), and the particles in the object stop replicating. A complete object is thus created.

The size of the object thus depends on the basic-time of the 1st particle, and also the presence of obstructing objects in its vicinity. The shape of the object exclusively depends on the latter.

When this universe started, it had particles with various basic-times, from fraction of a sec, to millions of years. So, objects with different sizes are created.

if there is partial obstruction, some points can't reproduce, some others can.  
So, objects with different shapes are produced with suitable obstructions.



## Law 3 (definition of elements)

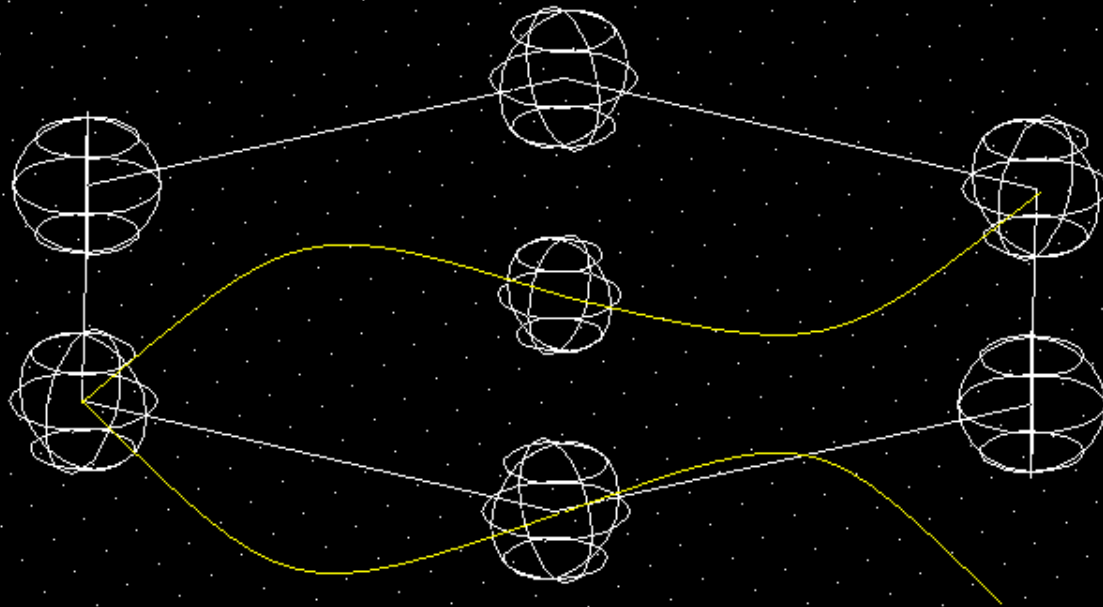
In this universe, each element is characterized by basic-distance/basic-time/particle density.

So, as time progresses, the element that makes up the also changes.

If there are internal obstruction in the parent child hexagon for a certain time, objects with multiple elements (say compounds or mixtures) are created.

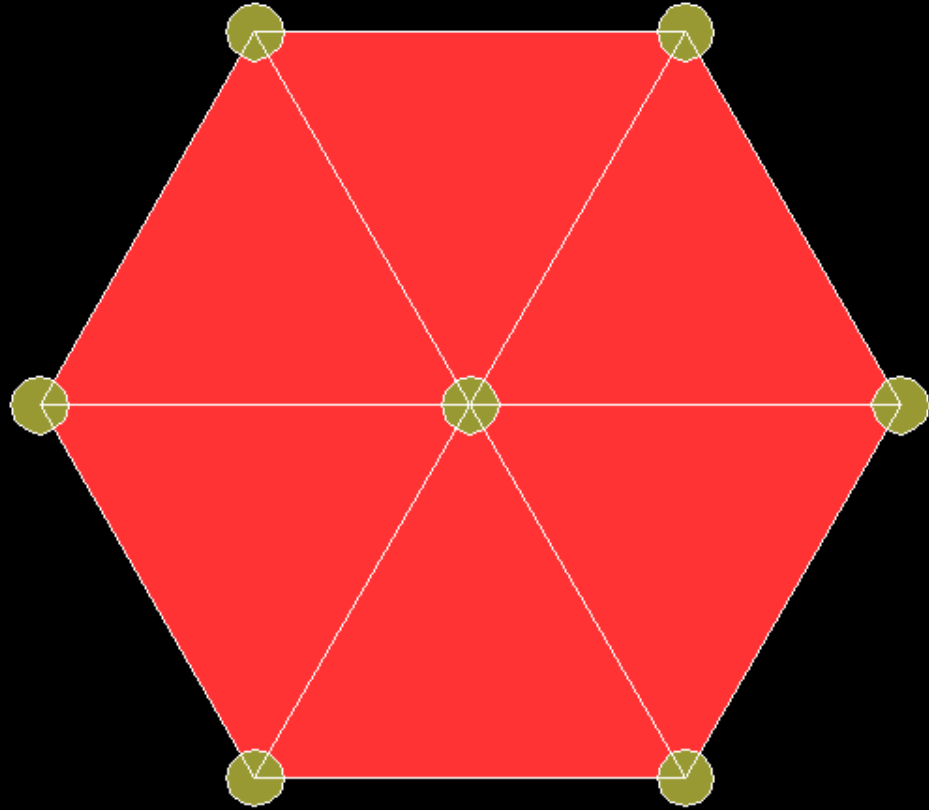
## Law 4(light emission and propagation)

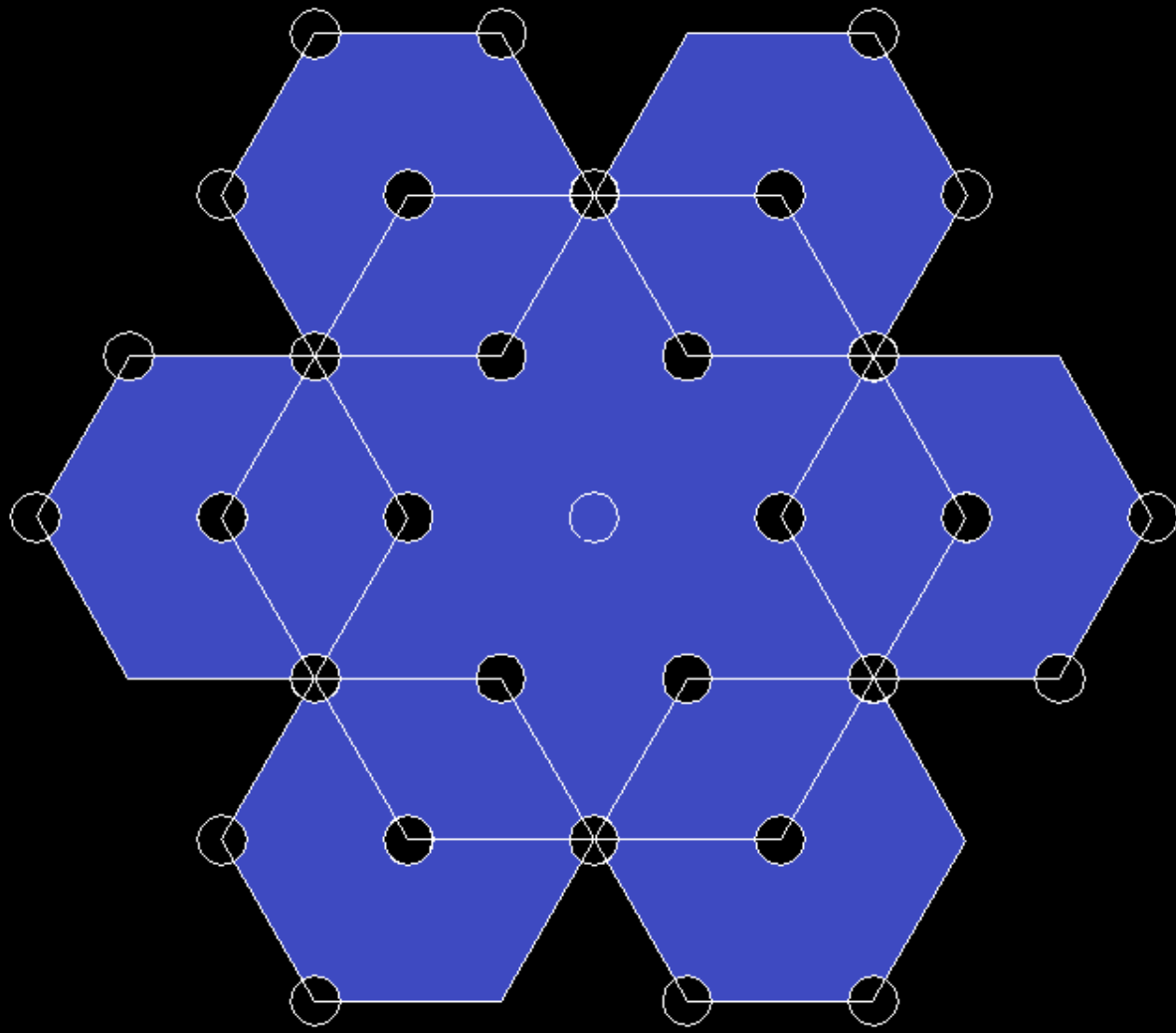
Light pulses are emitted continuously by the particles. The nodes of these light pulses must fit on some particle. This applies to transmission of external light-waves through the object also.



So, as time progresses, with density the wavelengths of light emitted and hence the color of the object also changes .

As, density increases, the range of wavelength that can pass through the object increases. At infinite density, the object can transmit any wavelength less than or equal to the maximum length of the object.





Color s change as density  
increases with time

## **Tips to make effective laws**

- a. Each law should serve a purpose, keep the purpose in mind while creating new laws.. for example, some laws may be used for creation of the universe, some to create variation in matter (eg size, shape, color, density etc.), some laws governing motion of objects, interaction between different types of objects etc. etc.
- b. Sometimes, even a simple new law can create a lot of changes in the behavior of the universe. So, one can change just a few laws of the present universe (keeping others unchanged) and see what changes occur in the behavior of the universe.
- c. Include properties like symmetry, minimization, maximization or conservation of some quantity.. Such properties sometimes give interesting results.

- With the help of the law 1, we created matter in the universe
- With law 2 we set its mode of expansion, density of objects and time required to create complete objects
- We added variation in matter by our definition of elements.
- We created different colors for different elements with law 4
- It can be further developed by adding motion of objects, interaction of one element with another, modes of joining two objects, binding of 2d object layers to create 3d ones, defining energy, adding sound laws, exploring the consequences of the light-law already given etc.