

Appearance of matter - discretion vs. Continuity

There is an appearance of matter in probabilistic areas. Aristotle believed that matter was continuous, possible to divide into smaller and smaller bits. Democritus held the matter was inherently grainy and everything was made up of numbers of various forms of atoms.

The true could be common for Aristotle and Democritus (like the question about the origin of the light) – in quantum foam with fluctuations there are grainy parts in form of probabilistic areas of appearances. Such appearances are called particles. Matter like a probabilistic area of appearance of peaks which were arised by multiplying shapes of chaotic quantum foam. Every peak gravitationally attracts another peak. But these peaks after a while disappear. Nearly at the same place appear new peaks which after a while disappear again, etc. The process is repeated. Some peaks like photons, gravitons, etc. travells nearly in one direction like waves (electromagnetics, gravitational). There is no rest mass. And other peaks have their appearance nearly at the same place – particles with rest mass like electrons, protons resp. quarks, etc.

The velocity of light (and other waves like gravitational) is tightly connected to process of an appearance and disappearance of peaks (shapes). In other words such constant like the velocity of light is given by the process inside quantum foam - creation - annihilation - creation, etc. There is also an explanation why electric charge constant is very different from gravity constant. **All basic characteristics of physical constants arise from the quantum vacuum field full of fluctuations.**

Anyway, there is a lot of another possibilities how to create different universes. To write - infinity possibilities how to choose Planck' constant or the velocity of light. The discretion is imaginary - modulated on Continuity - see line spectra of light. There are no two identical wavelenghts. But all wavelenghts are cumulated to each other in the area of probabilistic distribution. They infinitesimally differ to each other. Wavalengts are arbitrary, but in box of Planck constant.

See balls in a Galton board (or quincunx). Each ball falls arbitrarily, unrepeteable, but into discreetly repeating lower boxes. And the minimal distance between such lower boxes we could call the Planck distance.

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