The Beginning of the Universe

There is one question which won't go away. What happened before the Big Bang? If we answer something, or some action, then the question would be, what happened before that? Eventually we are driven back to the answer, "nothing".

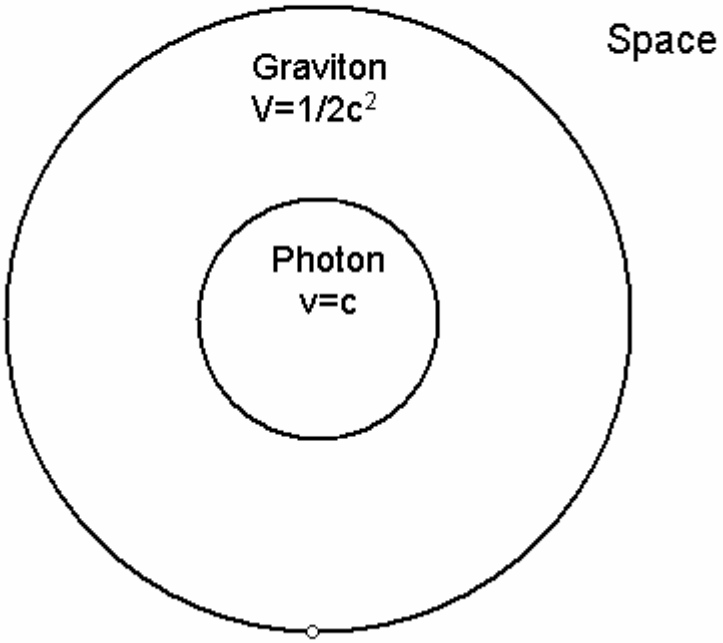
At first there was 'nothing'. It was empty and had no bounds. One could not identify coordinates of space, nor time.

Then the 'nothing' started to quiver. The quivers were in every direction but still there were no coordinates for direction or distance. The quivers were quivers in time and time could be called the first dimension.

The quivers grew until they were parcels of space moving in space, moving in every direction. They did not interact but passed freely through each other. We will call them gravitons. They would have no mass, no charge. At this stage there would be three dimensions of space and one of time. The velocity of the gravitons would be $\frac{1}{2}$ c^2.

The moving gravitons at some locations would induce electric charges in surrounding space. These charges would be taken up and carried by the gravitons. The charges have weight, represent mass. A graviton carrying a charge is a photon. The weight of the charge slows the velocity of the gravitons from $\frac{1}{2}$ c^2 to that of a photon v=c. The weight of the charge is always the same, defining a single velocity for photons. The length of the graviton carrying the charge varies, defining the length and frequency of the photon. The energy of a photon varies as the inverse of the wavelength and as the frequency. This amounts to the frequency that a discharge can be released by a photon. At that stage in the universe there would be four dimensions, three of space and one of time. The dimensions of space and time would be different between the gravitons and the photons because of their two velocities and their timescales.

Extent of Universe – Not to Scale



When gravitons, moving rapidly among each other induce electric charges, some of the charges would be taken up by the gravitons themselves. The burden of the charge slows the graviton from velocity $\frac{1}{2}$ c^2 to c and it becomes a photon. The moment of the production of photons was the Big Bang. Photons carried a charge, they had energy. In great numbers they were hot. In rapid motion they would induce new packets of energy. They would multiply without hindrance, expand in space as an inflation.

The multiplication of photons would result in great heat. At high temperatures electrons, muons, quarks, in fact, all objects and forces would be produced. They would fill space, hinder the passage of photons, and slow the multiplication of photons. The extremely high temperature would be lowered. Nuclei and electrons could join in units and space would be opened to the passage of photons. This region of action in space would continue and become the universe which we know, with its stars, galaxies, light and gravity.

Because of the presence of mass in the photons and because of the amalgamation of mass at and after the Big Bang the universe would become predominant in matter. I would call this era, the era of Newton.

In discussing the beginning of the universe the dimensions of time and space are mathematical contrivances and their relationship to reality is merely a mental attitude.

"Nothing" at the beginning seems a worthy thought. Humans seem to ever find "something" at the beginning. I find "nothing" much more reasonable. "Nothing" fits in with a limitless space no boundaries.

The matter of the velocity of gravitons I approached from the point of view of the velocity of photons. A photon carrying a charge has a velocity v=c. What would the velocity be if the photon was carrying no charge? This could be looked at from the formula velocity x mass = k ($v \times m = k$). If m is zero v is full, if m is large then v is near zero. For the graph below, I picked out masses - neutrino, charge for a photon, a muon, a proton, and the consistency inside a Black Hole, and placed their velocities as neutrino fastest, then a photon = c, then a muon, then, across to the other extent of the graph, a proton and then finally a Black Hole when v = 0. Gravitons carrying no load have v = $\frac{1}{2}c^2$. Also Einstein noted mc^2 indicates the maximum energy for matter.