9. Time, mass and isotropic space

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We have shown that it is also possible to assume a continuously growing universe by adding new masses in constant steps at the edge of the universe. Also the proton mass may not be the same everywhere, but the amount depends on where or at which time it arise. Thus a movement in R_U-direction, with an energy increase or decrease of the particle, would be exactly balanced. The elementary particles themselves are two parallel planes. The distance between the planes is related to the mass in the form $\frac{d_t}{R_e}=\sqrt{\frac{m_e}{m_t}}$. The electron mass and the electron radius in it are fixed sizes, so that the plane distance is inversely proportional to the root of the mass. The thickness of a plane should be in the range of $\delta=10^{-57}m$. A change can only take place at a minimum of δ steps.

Further we have a connection between the potential of a particle on its universe shell, to the gravitational whole and to the typical plane distance, which are in equilibrium to each other, if one understands this distance electrically.

The plane distance can be changed by motion. According to Lorentz, the distance contracts with increasing speed to $d_p=d_{P_0}\sqrt{1-\frac{v^2}{c^2}}$. The distance of the two planes can decrease with increasing speed only by integer δ-steps, so that $d_P=(d_P-n\delta)\sqrt{1-\frac{v^2}{c^2}}$ follows from it. Transformed is then $1-2\frac{n\delta}{d_p}+\frac{n^2\delta^2}{d_p{}^2}=1-\frac{v^2}{c^2}$ and since δ is very small, we get as good approximation: $v=c\sqrt{\frac{2n\delta}{d_P}}$.

Thus we have a connection between the gradual change of the plane distance and a minimum possible speed increase of $v=1{,}7\cdot10^{-12}m/s$, for a proton. On the one hand every speed change is recorded and on the other hand there is a smallest step for it. Furthermore there is a connection between speed, mass increase and plane distance. Already the original mass is

determined by the corresponding plane distance. This should be our heavy mass. It determines the energy content via $E= mc^2$ and changes with every movement in R_U direction. Afterwards we are today, at this proton mass, at a distance of about 300 million years from the centre. The heavy mass is therefore many times smaller than when it was formed. It has lost energy and gained potential, but has also become increasingly networked. For what increases continuously with age, i.e. time, is the number of connections to other particles, which makes a particle increasingly sluggish. Every contact exchange also causes a continuous, small shift in the plane distance, in order to always maintain a δ step away from each other. We have, due to the meanwhile large number of connections, an attraction to other particles. This is in equilibrium with an electrically repulsive plane pressure in the particles and a time delay of a change of motion. We perceive it as inert mass, which is the greater the further the two planes stand to each other. The delta shift stores the number of compounds and the number of compounds is reflected in the blurriness of the particles.

This inertia was zero at the beginning and increased continuously with the number of compounds. It is the actual time quantity, the process time or our physical time. It is the number that indicates how many events can take place per time unit. At the very beginning, inertia was still zero, particles had no connection. Nothing happened between a time intervals until it came to contacts with other particles. The first movements were almost still inertia-free close to the speed of light.

Now we have to distinguish between the motion of the centre of gravity and how fast the elementary particles move. According to our ideas, they always do this with c like the light quanta. The number determines how often they change their positions and directions in an area, their blurriness in place, which now suggests us a completely different average speed. This inertial velocity is a velocity that we formally impose on the particle. It results from our measurement time and thus from our complex networked world. We therefore have a heavy mass that describes the energy content and gravitational forces to other particles and we have the inertial mass that gives us our time system and the networked composition. This, however, is not position-dependent, but is essentially influenced only by the age of the particles. The uncertainty of the proton, related to its actual motion at the speed of

light, then says something about the degree of cross-linking and allows conclusions to be drawn about the actual position of origin in the universe. And it must be located much closer to the centre; otherwise the universe would not show itself so isotropic in any directions.

The uncertainty relation to Heisenberg is $\Delta p_y \Delta y \geq \mathrm{h}$. Thereby is the impulse $\Delta p_y = m_t \Delta v_y$. Thus, in the elementary region of the atoms, the mass is assumed to be sharp, so that it depends on the interaction of Δy and Δv_y. If we look at the electron in a stable atom, the smallest possible energy path is $a_0 = 0.5 \cdot 10^{-10} m$, which corresponds to a velocity blur of $\Delta v_e = 2,2 \cdot 10^6 m/s$. If the mass increases, the spatial blur decreases, but not the orbital velocity $v_n = \frac{Ze^2}{2\varepsilon_0 h} \frac{1}{n}$, which is independent of the mass and is only determined by the orbit and the charge. This reduces the residence blur for the proton by 1836 to $s = 2,7 \cdot 10^{-14} m$.

Actually the electron or the proton moves according to our ideas, like a quantum, always at the speed of light. It appears to us only as if it has a finite much smaller velocity than c, because the number of pulses establishes the connections to other particles and these determine our relation to reality. The number of connections thus results in the value $n' = \frac{c}{a_0}$. The electron travels a distance of a_0 at the speed of light before it has a connection to another particle, which overturns the direction and speed again. From the orbit radius and c results for the electron we get $n_e' = 6 \cdot 10^{18}$ pulses/s and for the proton $n_P' = 1,1 \cdot 10^{22}$ pulses/s. The proton thus has considerably more connections and therefore only covers a smaller distance.

If we assume that every contact leads to a shift of the planes around a δ, which also corresponds to the plane thickness of $\delta = 10^{-57} m$, then the total accumulated pulses of the proton since its arise are of about $n_P = 1,1 \cdot 10^{22} P/s \cdot 13,4 \cdot 10^9 a = 4,9 \cdot 10^{39} P$. This leads to a shift of the levels to $s_P = 4,9 \cdot 10^{39} \cdot 10^{-57} m = 4,8 \cdot 10^{-18} m$.

The proton plane distance is thus $d_P = 4{,}8 \cdot 10^{-18} m$. This can be converted with $\frac{d_t}{R_e} = \sqrt{\frac{m_e}{m_t}}$ to a corresponding matter. This mass no longer corresponds to our measured proton mass, but to the mass of the particle from its original position. The result is $m_t = 3 \cdot 10^{-25} kg$ which is 187 times larger than the measured heavy proton mass. Such a mass originated at a time, about 2 million years after the beginning.

Our actual position and thus our correct time behaviour, which should not change with distance, correspond to the time lapse, like 2 million years after the beginning. Thus our matter belongs to the oldest and has the highest process time, i.e. the time that indicates how many connections to other atoms exist and thus determines how much experience we can have per time interval.

The process time changes with speed. The higher the speed, the slower the time passes, but if particles move slower again, so the process time increases again.

As with light, we have two different views. Already with photons we noticed that the light particle is assigned a position, the quantum passes through space, because we feel a finite world and an elapsing time. However, the quantum itself neither perceives this space and the time in between, nor is it altered by it. The quantum emits and is absorbed at the same moment at the target. The end was known at the beginning, without time delay and without having passed through a space in between. Everything is seen from the quantum's point of view. We complex matter bodies have a completely different perception of time and space, which is determined by the endless connections between the elementary particles. We observe the mean values of time- and spaceless contacts, which in their interaction lead to a spatial impression and to a manageable flow of time. For us, the movements are slow and inert. But also protons or electrons change their position, just like quanta, by leaps and bounds at the speed of light. Here, too, the particles remain as long disappeared in space for us, as they have no connection to other particles, only with the big difference that matter particles have much more often contacts, which must be redeemed. So the particles appear much more often at certain positions, where they pick up a quantum and change the plane distance and direction. This leads to a residence area, which we define according to

Heisenberg with the spatial blur. Nevertheless, the short intermediate phases are space- and timeless, because they occur at the speed of light.

This is unthinkable in our Newtonian world view. Here the mass must always be inert and consequently elementary particles must also move at finite speed. The uncertainty relation now creates a connection to the macroscopic conception of mass by not looking at the velocity in isolation, but by assigning a constant value to the product of velocity and spatial uncertainty.

Then the electron in the atom can be in a certain range, which it travels through with a certain, seemingly finite speed.

According to our ideas, the movement is limited by the number of connections to other particles and the electron, just like the proton, moves between them at the speed of light. Then the number of connections to other particles can be deduced from the measured uncertainty a_0 of an electron in the hydrogen atom. The same applies to the proton, except that the number of connections is much larger. The distance that a proton travels per unit of time is thus smaller in the same ratio than that of an electron. We interpret this from our macroscopic world experience in such a way, that the mass of the proton is much larger than that of the electron. The higher number of compounds is shown in a smaller distance of the planes or can also be called particle mass.

By the relation a_0 gives us a value for the connection number of the proton to other particles. From this we determine approximately the momentary plane distance and assign a mass to it again. The particle mass we obtain for the proton is much larger than the proton mass resulting from its energy content. In a figurative sense, it is the mass the particle had when it was formed. It leads us to the value of 2 million years after the beginning or our beginning lies only two million light years away from the centre. According to this, our protons were formed very shortly after the beginning. The exchange with the other particles determines the process time, but it is only a time quantity that has nothing to do with the energy content of a mass. If we change the position of the particles in R_U direction, we change the energy value that is also in a particle. This opens up the possibility not only of moving within the blur, but also of completely changing the centre of gravity in space and thus leaving its initial position. For this, time connections are cut off and the

distance between planes is changed, but this is not a progressive process like the process time. If the centre of gravity movement of the bodies decelerates again, the number of connections increases accordingly.

If the particle eventually approaches the origin, the plane distance changes backwards. The particle becomes heavier, it draws internal energy from the potential and the mass resulting from the process time approaches the momentary mass again.

The energetic mass mainly affects the immediate environment, the system of the particle. The process time is a sequence, which like the physical time, has something unstoppable and shows itself macroscopically in the fact that the universe constantly grows. Or that with new particles, at the edge of the universe, the plane distance increases continuously in delta steps. The process time is something global, superordinate, which cannot simply be changed. It creates the connection to the whole and it steadily decreases towards the outside in the universe, because there is a succession of mass formation. The further outside we are, the younger the particles, the shorter the process time, i.e. the number of connections to other particles. Since our world belongs to the oldest part and this is roughly independent of the current position, we see only red shifted galaxies around us, Galaxies with particles whose process time is shorter than ours.

This process should be reversed at some point, because our universe should not get significance for eternity, but must remain a closed area in the continuum of abstract infinities.

We had already established that the turning point is reached when the new mass of a particle equals the mass of an electron. So far, we had no idea how the masses could free themselves from the gravitational trap and how the inner particles could know that the universe contracts again when the expansion takes place with speed of light. The information would have to be passed on at the speed of superlight or jump directly into the interior so that the particles can separate again from each other in time. But how should this happen in detail?

Due to the inner process time we now have a possibility to reverse the time lapse locally in the universe. We have found that, apart from local changes, the planes continuously move away from each other in small delta steps. This can continue

until the number of connections has reached its maximum and then this number multiplied by the age and the delta steps arrives R_e exactly at $n \cdot \delta = R_e$. Then the process will also be reversed here and instead of moving away with each step, the layers will now approach one after the other. In this way every movement is successively reversed, every stored movement reverses towards each other instead of away from each other. This increasingly weakens gravity until the particles leave the masses and slowly flow back to their origin.

This closes the circle.

After about 1000 billion years, the first of all particles, then as the last particle of this universe, can dissolve in a final step, at the end, in the continuum of infinity.