10. Protons and Electrons in the Plane-Particle-Model

Christian Hermenau

In our construction of the world, there are only two types of elementary particles that are really stable: the electron and the proton. All other particles can be produced at short notice, but do not lead us further in the question of the stable connections of forces and masses in space and time. Further, we assume that particles do not have a spherical shape and that they are not, without expansion or of the order of strings. We had assumed the shape of the particles as two planes facing each other at a fixed distance, whose surface size has the secular scale of two electron radius R_e. Their thickness should be only of an extension which is far smaller than that of the tiny strings and lies in the range of $\delta = 10^{-57}$ m. These boundary conditions, which should also only be of abstract form, together with the plane distance determine the properties of our universe.

Planes that are thicker or thinner are not seen in our universe and have no influence. There could be countless worlds, which all have their own layer thicknesses, but remain unattainable for us. What is visible, however, are plane shifts in integer δ steps, as they happen through the interconnection of the particles. Then, the movements, the respective time sequences and what we imagine as mass changes. Movements and connections of particles with each other, but also the whole and the connection to the whole arise only by the fact that the distance of the planes can change. In addition, we also get an unambiguous spatial direction of the particles through the plane front. Particles whose normal vectors do not point directly at each other should not see each other. They would penetrate each other as if there were only emptiness. Even if they lie frontally to each other, they must have a distance that is a multiple of the plane distance, because otherwise they would not react to each other. So it seems almost impossible that two foreign particles have contact to each other. But this is precisely the reason why particles cannot be brought into a world of matter out of nowhere. From the very beginning, they must be in a fixed position to each other. They have to be at the right distance from each other and connect slowly to one another, which is then redeemed again and again in a fixed time sequence. None of the particles can be so fall out. They remain precisely connected to the rest with their individual plane spacing and have to exchange information again and again in a chronological sequence. Only this plane thickness with this plane spacing is perceived as solid and stable by those who themselves consist of these particles. There is no outside, no objectivity. Exactly in this is the energy and impulse conservation or the firmness of matter reasoned and in the exchange among each other the nature of the interaction forces. However, this also means that our world functions very finely meshed, but completely deterministically. The apparent statistical blur of the particle positions and the impulse probably reflect an aspect, we do not interpret correctly, because we are part of the system.

There are moments when an exchange of connections apparently disappears and at another point apparently reappears out of nowhere. The world seems to jump in the innermost, although we experience it as large bodies of matter, continuously. Particles or light quanta jump as unpredictably from one point to another without us being able to calculate it exactly. Therefor we introduced a blur for everything that exists. And yet it is rather our surrender to emptiness, which we imagine more to be infinitely fine, than infinitely unattainable. A quantum of light that detaches itself from one electron and arrives at another electron can at the same time be invisible for years, so as if it not exists, although in our world view the time in between continues to happen. It can arrive immediately at the same time, as a quantum itself experiences it. The space in between and our time sequences are much more abstract, much more unreal, more unspecific, as we imagine it after Newton. For us the world is orderly and firm. The quantum does not fall out. It must at a certain point in time at a certain space point react with the corresponding Electron. For the quantum this was immediate, but for us, there was a world in between. This world, as hard as it seems to us, is softer and more unreal and only for our subjective feeling so real.

Just as a world with a different thickness of planes knows nothing about us, our physical matter is also only so extremely real and solid through the interaction of the many. And yet it remains unreal, which shows itself in a quantum leap from the beginning to the simultaneous end. There is a time level, our worldly time, which is finite and at the same time there is a time level, which is infinite. A leap of the quantum makes our time from the view of the light quantum disappear.

But also single elementary particles get to see only a jumpy change of the time. They too, never have an overview and do not experience a continuous, coherent process. Only large mass collections experience a finite inertia of time. Only we complex thinking beings can even see an overview of time flows and a seemingly connected context, completely changing our view. Our sense of the world does not correspond to what is actually going on inside. We interpret the atoms from our subjective point of view, wrongly.

So we speculate, in our picture, that not only the quanta move by leaps and bounds at the speed of light, but also the elementary particles do so. An electron does not move on an orbital at a certain speed, at any time localized and temporally inconclusive determinable. Heisenberg already showed that the sharpness of stay and impulse cannot be measured exactly at the same time. But can we interpret this statistical uncertainty with a short-term disappearance of the particles?

In our picture, an electron has a precisely localized position at a certain point in time, but then disappears for a short period of time. It emerges, apt with the external conditions, on the orbital in a different room position. Between it time passes in our complex world. For the electron, however, this step was erratic and space-timeless. These jumps result from the short connections to other particles. The number per time unit determines the length of the shifted space position, but the motion is always that of the speed of light.

We found out that our size of the atomic orbitals and thus our course of time does not correspond with the original position in the universe. We are a few hundred million light years away from the centre, although our exchange frequency with other particles or the associated time systems is much older. Our mass position does not correspond to our time position. Our time frequency belongs to the oldest and almost all time frequencies around us are longer in the interval: the further away, the slower. It makes us the impression, that the whole room is expanding and everything in it is moving away from us.

We have connected the sluggish and heavy mass with the time system and the plane distance. Each gravitational contact shifts the planes minimally in δ steps to each other and thus changes both what we consider to be mass and the time system of the particle to the whole. The change in space is recorded by the plane distance. It is stored and it always makes a choice in who will be the next contact partner in the foreseeable future. But how does the electrical connection fit in?

So far, we have defined a three-step cycle in which one position in the cycle affects gravity and potentially can contact any other mass particle at the right distance and a position. Another cycle concerns the electrical connection. The electrical connection is essentially limited to always the same pair of charges. Here too, the particle should move immediately, i.e. at the speed of light. It should disappear here by leaps and bounds and appear there. The two electric charges move towards each other in whole steps, only with the big difference that it is always the same two charges that see each other and that such a jump in the ground state is much smaller than that of the particle. The electron and the proton move towards each other only by a single R_e- or d_p-unit. Then the cycle part is already over and the particle disappears two cycle parts further, in the gravitational cycle part, for a larger orbital jump. Only the gravitational jump is permanently far-reaching and manages it so that a time finally elapses. At the very beginning, when the particles were just accrued, gravity was limited only to the electron and the proton and the exchange caused only single R_e/d_p-movements like with the charges. But as soon as other particles made contact, this changed abruptly.

Completely different from the electrical contact, the particles jumped at the beginning on very large distances, which then became closer with the increasing contacts and today lie exactly in the uncertainty range of the atomic structure. They determine the time system and give us the impression that further outside in our universe time passes more slowly. The orbital orbits are larger due to the slower coming time pulses, so that move the lines to the red. Since it was previously assumed that everything began in the Big Bang, the only explanation for this was that the space itself between the star systems is expanding.

Both, the moment at which the particle is connected to the edge of the universe, and the equivalent increase in mass in the radius direction, as in the normal electrical process, only makes one R_e/d_p step. In the gravitational period alone, the particle always disappears for a longer period and thus gives the world a small pause. The processes are delayed and time begins to run. The other period sections are the same in the neutral atom in the ground state; they leave no room for change and movement. Only in the gravitational cycle does the distance between the two planes can get each time. Thus two near charges see themselves continuously, because after a R_e/d_p-step the distance remains a multiple to each other. In the gravitational cycle, however, the multiplicity of the distance between the two particles is destroyed each time and the particles have to search for completely new connections in the whole space. This creates an inertia of the mass, but weakens the gravitational effect between two near particles to a tiny fraction, in compared to that between electrical connections. Gravity between two charges is completely negligible compared to electrical gravity. The inertial exchange to other particles yet is of the same order of magnitude. The number of contacts corresponds to the number of electrical connections and makes up exactly one third of the total cycle. This allows the electron-proton bond to stabilize in the atom. The electron is bounded to the nucleus through the electrical interaction. But it jumps in larger steps, because of the many inert gravitational connections, at a corresponding distance around the nucleus.

If there were only two charges facing each other, they would step by step come closer and closer in R_e steps for the electron and d_p steps for the proton. They must also stand frontally and in corresponding multiples of d_p or R_e to each other. Like everything in the universe, the information from the proton spreads out in R_e steps. Because gravitate or electrical information always moves with the speed of light. But the movement of the proton is only in d_p steps. The structure of the proton is somewhat more complicated than that of the electron. The plane distance of the proton should also have the relaxed R_e-distance as a scale, which is then, however, many times closer to each other, resulting in a plane pressure of the charges. The energy density of the charges at the d_p distance is in equilibrium with the gravitational energy density, which emanates from the potential of the corresponding universe shell. Electron and proton are not only essentially aligned to the same charge pair, but they also behave as if they were still together, as if the proton planes were within the electron planes. Due to the greater distance, the exchange is delayed accordingly and is also not free from external influences. However, the proton still reacts to shift information from the electron. It makes a d_p jump to the electron and sends this information back in R_e steps, with the small d_p shift. The exchange takes place in R_e units at the speed of light, i.e. timeless. The movements of the electron, on the other hand, are R_e steps when it emits an electrical signal itself and R_e steps when it receives the proton signal. The proton, on the other hand, shifts by only one d_p piece each time, which we interpret as meaning that the mass is much larger. In principle, we could also ignore the concept of mass and only replace it with a small displacement, but the concept of mass is so deeply anchored in physics that it is easier to maintain it.

According to Bohr, the orbits of the hydrogen atom are stabilized by the electrical and inert connections on circular orbits, whereby the angular momentum can only change in $\hbar$ units. How does this fit into our picture of particle jumps?

By representing the elementary particles as two planes, we have fixed a direction and since the planes are rotating, something likes an angular momentum. With the proton, we also get a tripartite division. A plane can have a front and a back, a side towards the direction of movement and the back of it. So, two opposite charges like electron and proton could always approach each other by one R_e/d_p step. On the one hand they belong together and on the other hand, just because they have different plane distances, they can approach each other until the proton is even in the electron. In contrast, the same charges would always move away by one R_e/d_p. The same charges see each other as if only the two backs are facing each other.

Gravity and electricity belong together, as do the two counterparts, connection to the edge and mass distribution from the centre. The charge determines the direction of the movement, which then takes place in the atom with only one R_e step towards the proton. After all, the electron now points to the nucleus, so that the jump for the direction of gravity lies in the half of the sphere with the proton. In the lowest state the electron jumps over the nucleus, so that the next electrical connection has the opposite direction to the proton. Now the second half of sight at gravity is reachable and again the nucleus lies in between. Due to the gravitational contacts, the two do not have the time to fall into the nucleus. At the same time, the large gravitational orbital jumps are without acceleration. The planes lose only a tiny δ plane step and thus they are virtually without energy loss. If then, a difference shows up only in billions of years.

So far we have considered an electric charge shift only in very small individual R_e steps. This should also be the case between two free charges and the atom in the ground state. Charges move slowly, but always towards the same counterpart. Due to the large gravitational jumps, certain quantum states result in the atom, which assign the electron its permitted position. The electrons are generally in the lowest energy state resulting from this. Nevertheless conditions can occur in which an energy from outside is exactly sufficient to transfer a charge to an unoccupied higher energy orbit, to raise the permitted energy level. Then the electron not only disappears for a small R_e step, but then it jumps in a single cycle, as with gravity, for a much longer time, a much further step. Then it disappears from the world as long as in the gravitational moment and finds itself at the higher potential. Also charges can make further steps, but do this, in contrast to gravitational time jump, only under special conditions: mostly when they do not have the usual contact with the familiar counter charge.

Normally two charges always exchange each other with the same pulse, which leads to a R_e shift, towards each other with opposite charges and away from each other with the same charges. If two more distant charges are connected to each other by a longer jump, the counter charges jumps the same distance as the output electron.

However, a connection only opens if there is a free space in the atom at a higher energy level and the energy is exactly sufficient to reach it. In quantum mechanics, only an energetically suitable photon would excite the electron, all other photons would not react. It is not clear how the quant knows if it appropriate or inappropriate, why the electron reacts with one photon and not with another. If a charge is influenced by an electromagnetic field, it would have to be moved out of its orbital for a short time, even if the energy is too small, before it moves back again after releasing energy. But it does not. It only reacts to suitable eigenvalues. Quantum mechanics only gives an intrinsic reason, which gives the quantum or the electron an unexplainable freedom, whereas our model does not know such a freedom. Not if each particle and each photon with an exact value in its location and its time, but also in its energy and impulse is fixed. Then also the single photon or electron cannot behave comprehensibly, because we can only analyse details, but its emergence or disappearance is deterministically determined by the complex networked whole. An electron reacts via an exactly fitting photon with a distant electron and with none else, because the overall structure determines this. The parts seem to be directly connected to each other locally and to react to each other; the process seems to be directly causal. But also far-reaching contacts, where no obvious connection can be identified are predictable throughout the whole system. They cannot fall out of the whole. The basic laws are always preserved, but the connections at great distances are so much more complex that we can only record it statistically.