The nature of electrical forces

Our entire Universe is permeated with the smallest particles - fragments of the Big Bang and particles emitted by "modern" space objects. Let's call them **Uni** (from the words universal, united, Universal).
Strong nuclear interaction, just like gravitational interaction, is explained by the pressure of **Uni** on interacting particles or bodies. Let us show that electric forces are of the same nature.

As everyone knows, elementary particles with the same charge repel each other: proton from proton, electron from electron. It's all about equality. In equality of particle sizes. But particles have no charge as such at all. Not only in particles - it doesn't exist in nature either! Scientists call the large particle, the proton, positively charged, and the small particle, the electron, they call negatively charged.
But there are not two types of electricity - there are two sizes of elementary particles.

Figure 1 shows an elementary particle **P** (let it be a proton), which is at rest, since it experiences the same pressure Uni on all sides. For clarity, only one particle impact channel is presented. The number of particles exerting pressure on the left is the same on the right.

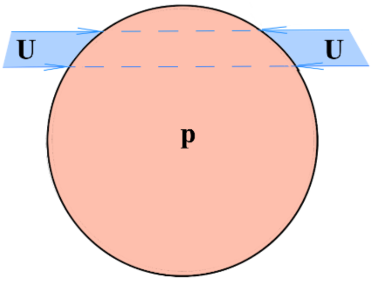

Fig.1

Let us now place another proton to the left of the first. It will block the flow of particles exerting pressure on the right proton on the left side. The right proton, in theory, should move to the left under the now uncompensated pressure of the **Uni** on the right. But this will not happen, and, moreover, it will move to the right!

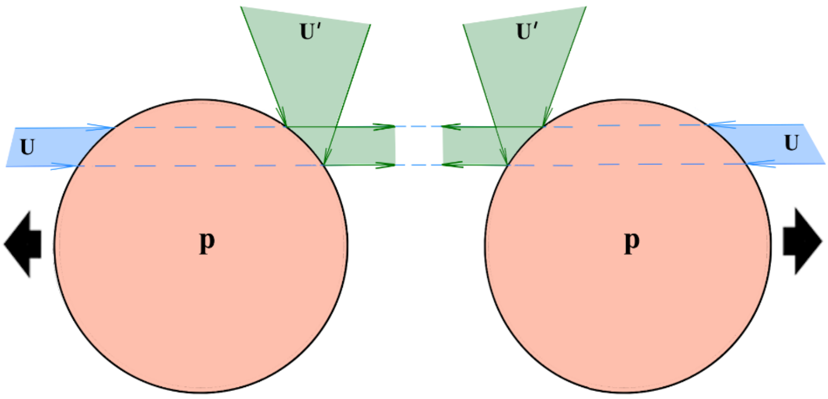

Fig.2

The flow **U'** is shown in green at the top, which, reflected from the left proton, exactly falls within the boundaries of the blue channel we are considering influencing the right proton on the left side. You can notice that the density **U'** in the reflected green channel will be higher than the density of blue particles, since the green U' hits the left proton as if from a funnel, from a much larger solid angle than the blue channel's solid angle. Thus, the pressure on the right proton from the left is greater than the pressure on it from the right. The right proton will be repelled from the left one. The same thing will happen with the left proton.
All of the above applies in exactly the same way to the interaction of two electrons. Just on a different scale.

Let us now move on to the mechanism of attraction of two particles of different sizes - electron **e** and proton **P**.

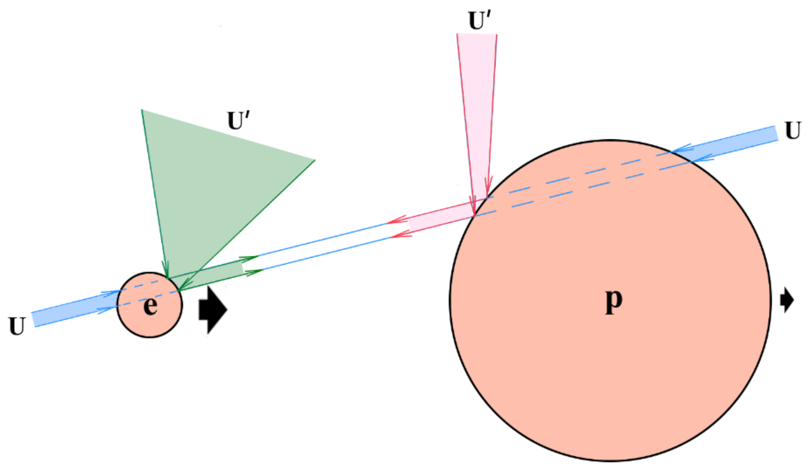

Fig.3

In Fig. 3 you can notice one significant change compared to Fig. 2. The green **U'** reflected from the electron, as in Fig. 2, still has a density greater than the blue ones incident on the proton from the right. But, here, the red **U'** reflected from the proton has a lower density than the density of the blue **U'**s incident on the electron from the left. As can be seen from Fig. 3, the red funnel is only slightly larger in size than the blue channel.

Here it should be taken into account that not all **U'** from the funnels are reflected exactly within the boundaries of the blue channel. Some of them are scattered in other directions, and some are absorbed by the proton itself. This reflectance depends on the angle of incidence and the internal structure of the reflecting body. In the article "On the nature of the force of universal interaction," the upper limit of the reflection coefficient is limited to **K = 0.8**. Therefore, red particles within the blue channel will have a lower density than blue ones, which means that the electron will be attracted to the proton.

As a result, the proton will, to a very small extent, but still be repelled from the electron, and the electron will be attracted to the proton, and with a greater acceleration than the acceleration of the removal of the proton: due to the lower inertia of the electron.

About nucleosynthesis

In nature, there is almost no element with two nucleons - deuterium. The deuterium content in nature is 0.01%.
And, here, helium with 4 nucleons is the second most abundant element in the Universe. Its content in nature is 23%.

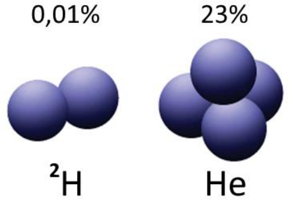

Fig.4

This is also explained by the above mechanism of repulsion of particles of the same size.

Let's consider the repulsive force of contacting particles (Fig.5) in comparison with closely spaced particles in Fig.2. The lower channel of interaction is also taken into account here.

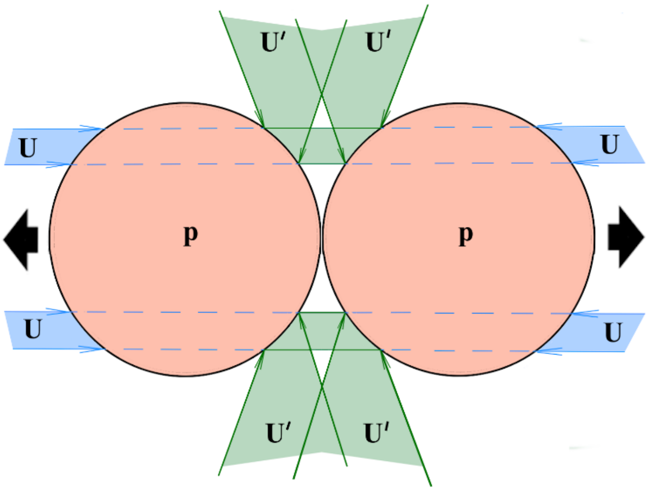

Fig.5

Nothing has changed in principle - protons repel each other.

Let us now consider the helium nucleus, so to speak, in cross-section (Fig. 6).

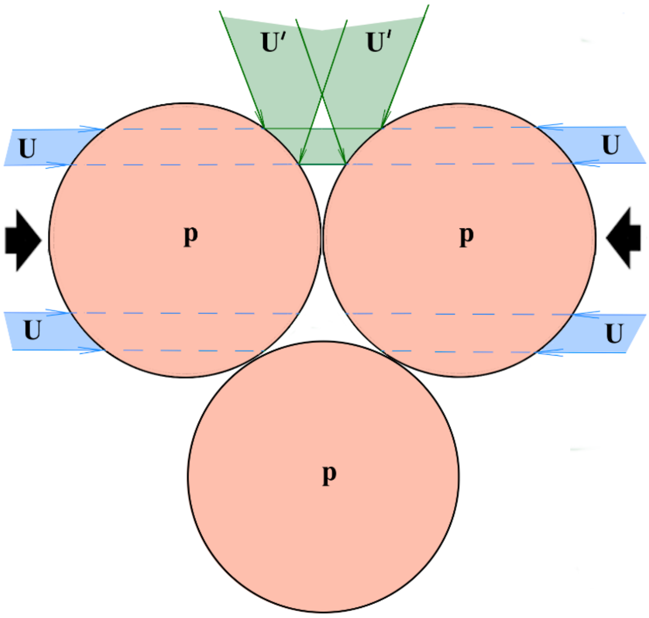

Fig.6

In this case, the lower repulsion channel is blocked by the third proton and the attractive forces **U** begin to prevail over the repulsive forces **U'**. Protons are attracted to each other.

It should be noted that such a "flat" combination of three protons, tritium, does not occur in nature, since it decays under the action of vertical repulsion funnels perpendicular to the plane of the figure. That is why the superstable helium nucleus consists of 4 protons, each of which covers the internal repulsion zone.

In this case, it is possible to determine the ratio of the forces of attraction and repulsion in the interactions we are considering.

$$4U' > 4U \quad \text{(Fig.5)} \qquad (1)$$

$$2U' < 4U \quad \text{(Fig.6)} \qquad (2)$$

$$\Rightarrow \quad U < U' < 2U \qquad (3)$$