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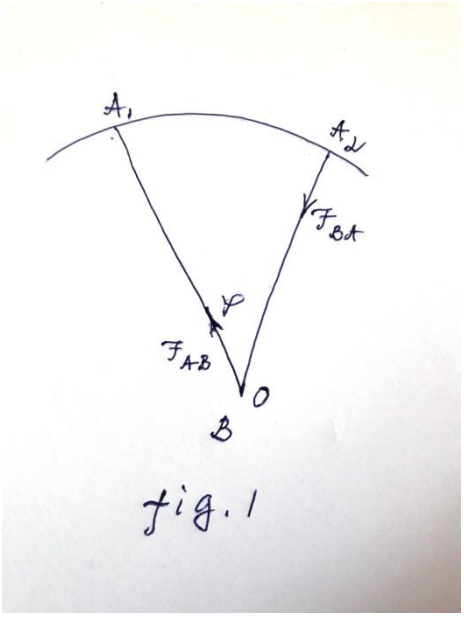
ETHEREAL MEDIUM HYDRAULIC RESISTANCE AND IRREGULARITY OF ITS DENSITY

The Summary

Gaseous ether puts hydraulic resistance to motion there through of material bodies. In systems made up with forces of gravitation or those of Fatio, in which a less massive body revolves about more massive one, the said revolving occurs thanks to the signal of force sent by the less massive body to the more massive one is directed under a certain angle to the signal arriving from the more massive body to the less massive one, the above angle being created by the revolving of the less massive body around the more massive one. Said hydraulic resistance depends on gaseous ether density that in its turn depends on mass of the central (more massive) body and on distance there from (radius of revolving). If to take as example the Solar planetary system, its planet cant shorten its orbit radius and get closer to the Sun because by doing so it would transfer to zone of enhanced resistance of ethereal medium; vise versa encounters with diffused in space gas molecules and other particles able to made resistance to the planet's motion promotes its distancing from the Sun. Fine structure constant may be understood as the angle between the direction of applying to hydrogen molecule nucleus of the force of Fatio provoked by orbital electron and the direction of applying to the electron of the force of Fatio provoked by the hydrogen molecule nucleus.

Fig.1 represents system AB composed with two bodies A and B, the mass M of the body B being much



greater than the mass m of the body A. The bodies A and B may be those of astronomic dimensions interacting with forces of gravitation or those of subatomic dimensions interacting with electromagnetic forces that in conformity with my previous articles [1,2] would be better to call “forces of Fatio”. The system is revolving in a certain plane about a common center of revolving O, but the body A being much less massive than the body B for more simplicity one may suppose that the body B is immobile and placed in the center of revolving O while the body A is revolving around it with angular velocity ω on a circular orbit of radius$r$.

At a certain initial moment 1 the body A is placed in a pointA_1that at this moment functions as the center of created by the body gravitational or electromagnetic field, and spreads in all directions gravitational or electromagnetic forces with values inversely proportional to squares of distances from the point A_1. In its turn the body B directs in all directions its own gravitational or electromagnetic forces with values inversely proportional to squares of distances from the point O, which create analogues gravitational or electromagnetic field with center in this point. Here it would be worth to notice that later on we would just mention fields and forces without indicating their nature.

Insomuch the distance A_1O has a certain value equaling the orbital radius$r$, the force F_{AB} created by the body A at the moment 1 in the point A_1 will not arrive to the body B immediately but contrary to the Newtonian hypothesis, on which is founded the Law of universal gravitation at a certain moment 2 after some time interval$t = \frac{r}{c}$ where c is the speed of light. During time$t$ the body A will shift to the pointA_2 and there for the forceF_{BA} generated at initial moment 1 by the body B will be already directed not at the pointA_1but at the pointA_2 under certain angle φ to the radius A_1O. At the moment 2 the forces F_{AB} andF_{BA} being not directed one towards another create and transfer to the system AB through the neighboring ether certain torque that could be determined thanks to fig.2. It is worth to notice that here and on under the ether there will be meant a gaseous medium composed with minuscule particles that I had dubbed “elons” while the medium itself I had dubbed “gaseous ether”.

At fig.2 the forces F_{AB} i F_{BA} are represented as two sides of isosceles force triangle, which base is a

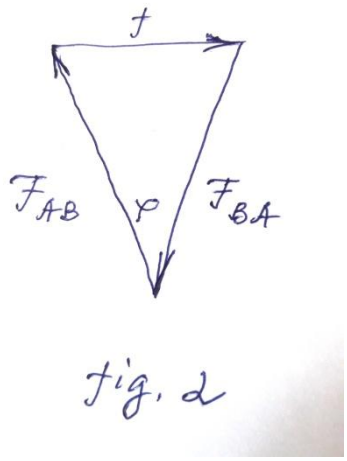


fig. 2

closing force$f$ that pushes the body A along its circular orbit against a hydraulic resistance force f_r. The forces F_{AB} and F_{BA} would attract the bodies close one to another there would not be the eccentric force$F_c = mr\omega^2$, applied to the body A.

If the forces F_{AB} and F_{BA} are gravitational, one determines their values as F_{AB} = $F_{BA} = G\frac{mM}{r^2}$, where G is gravitational constant. If these forces are those of Fatio (electromagnetic) they are determined as F_{AB}

= $F_{BA} = \frac{\rho m M}{\pi r^2}$ [1, 2] whereρ is ethereal pressure, in both cases they having to be equal the eccentric force$F_c = mr\omega^2$. For this reason the equal sides of isosceles force triangle may be meant equal$mr\omega^2$.

The angleφ between forces F_{AB} and F_{BA} has to be$\varphi = t\omega = \frac{r}{c}\omega$ and as a consequence of its smallness the force f may be determined as $f = mr\omega^2$ x $\frac{r}{c}\omega$ = $\frac{m}{c}r^2\omega^3 = \frac{\omega}{c}mv^2$, where v is linear speed of revolving of the body A.

It would be worth to pay attention that in above angle between forces F_{AB} and F_{BA} $\varphi = \frac{r}{c}\omega = \frac{v}{c}$ one could easily recognize the value, which in the case when above force triangle is proper to molecule of hydrogen coincides with the renewed fine structure constant [3]. The last permits to determine the fine structure constant as **the angle between the direction of applying to hydrogen molecule nucleus the force of Fatio provoked by the orbital electron and the direction of applying to the electron the force of Fatio provoked by the nucleus of the same molecule.**

The force f is balanced by hydraulic resistance (drag) of ethereal medium that may be represented as $f_r = \delta m v^2$ [4] where δ is the medium specific resistance relative to unities of mass and encountering speed.

Because$f = f_r$, $\delta = \frac{\omega}{c}$, which shows that the specific resistance is variable. As it seems to me the reason of such variability may be explained by variability of ethereal medium density.

Let us represent $\delta = \frac{\omega}{c}$ as product of two multipliers i.e. $\frac{\omega}{c} = \frac{1}{c}\sqrt{\frac{K}{r^3}} = \frac{\sqrt{K}}{c}\frac{1}{\sqrt{r^3}} = \frac{\sqrt{K}}{c}(r)^{-\frac{3}{2}}$, where$K$ is constant of Kepler $K = r^3\omega^2$ [5]. Then the multiplier$\frac{\sqrt{K}}{c}$ will testify that the density of gaseous ether depends on option of the planetary system central body while the multiplier $\frac{1}{\sqrt{r^3}}$ will testify that in a given planetary system the density of gaseous ether depends on distance to the central body.

The last may be explained by elonosphere density irregularity, the density depending on 1) belonging of the revolving body to one or another astronomic or subatomic system, which is proven by the multiplier $\frac{\sqrt{K}}{c}$ that indicates that in systems with more massive central bodies i.e. in those with greater Kepler constant elonosphere has to be denser; 2) position of the revolving body relative the system's central body, which is proven by the multiplier$\frac{1}{\sqrt{r^3}}$ that indicates that distancing from the central body implies elonosphere density diminution.

If to take as example a solar system planet, it becomes clear that it cannot shorten the radius of its orbit and get closer to the Sun because this would imply its transfer to zone of greater resistance of ethereal medium, and vise versa any encounters with spread in space gas molecules or other particles that would make resistance to the planet's motion would favor its distancing from the Sun.

Conclusions:

1) Gaseous ether puts hydraulic resistance to motion there through of material bodies.
2) In systems made up with forces of gravitation or those of Fatio, in which a less massive body revolves about more massive one, the said revolving occurs thanks to the signal of force sent by the less massive body to the more massive one is directed under a certain angle to the signal arriving from the more massive body to the less massive one, the above angle being created by the revolving of the less massive body around the more massive one.

3) Said hydraulic resistance depends on gaseous ether density that in its turn depends on mass of the central (more massive) body and on distance there from (radius of revolving).
4) If to take as example the Solar planetary system, its planet cant shorten its orbit radius and get closer to the Sun because by doing so it would transfer to zone of enhanced resistance of ethereal medium; vise versa encounters with diffused in space gas molecules and other particles able to made resistance to the planet's motion promotes its distancing from the Sun.
5) Fine structure constant may be understood as the angle between the direction of applying to hydrogen molecule nucleus of the force of Fatio provoked by orbital electron and the direction of applying to the electron of the force of Fatio provoked by the hydrogen molecule nucleus.

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