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Idea of super gravitational field

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Abstract: *In this paper I want to observe gravity in a clear way. Considering Einstein's Relativity, The Special and the General theory as reference I modify two famous thought experiment carried earlier. By doing so, I tried to prove that gravity is just a force and it is not an effect due to space-time curvature, as explained by Einstein.*
Firstly I modified the thought experiment in which space-time is considered as a large sheet of rubber. By doing so, I tried to convince the readers that there must exist a super gravitational field below the space-time.
In the second part importance is given to that thought experiment in which Einstein imagine a person in a lift, which is placed in that part of universe, where effect due to gravity due to any source is negligible. By performing that thought experiment it was concluded that there is no distinction between acceleration and gravitation. But by taking care of some important fact related to that thought experiment I want to explain that gravity is just a force, it can't be explained by means of acceleration.
Keywords: *Gravity, Space-time, Super gravitational field,thought experiment.*

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I. Introduction:-

Do you think that at this stage you can clearly define force? I think this definition is quite simple for a child, right? Yes, but not for us. In a 3D system we have many theory to interpret force. Namely,

1. Field theory
2. Exchange theory etc.

But at this moment I specially want to talk about gravity.Gravity also can be explained by means of above two theory. Although I personally think that "exchange theory" is not suitable for explaining the mystery behind gravitational force, as particle graviton(?) isn't discovered yet. But for this moment I am not worrying about this. Because we have a pretty simple and well explainable theory which not only solve the mystery behind gravity but also explain the origin and effect of the gravitational force in a very clear way. Yes, I am taking about Einstein's General theory of relativity. But the question is that, "is it really solve the mystery behind gravity?" Let's have a look.

II. Generalization to the thought experiment related to space-time

When we observe our universe as a 4 dimensional space (t,x,y,z) and introduce the idea of space-time, then gravity no more remains as a force. Einstein explained that gravity is actually an effect due to the curvature on space-time, there is nothing like force. Quite simple and well explainable. But I am not agree with this statement. Let me explain it simply and briefly.

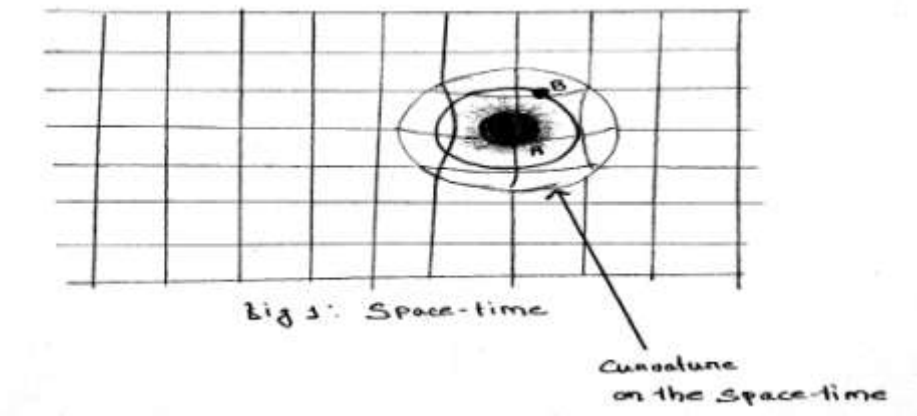

Fig.1. Space-time

Just look at the picture. On the basis of general theory of relativity we can easily interpret that the heavy object 'A' creates a curvature on the space-time, due to which the lighter object 'B' experiences a gravitational force. Now imagine the space time as a large sheet of rubber as shown.

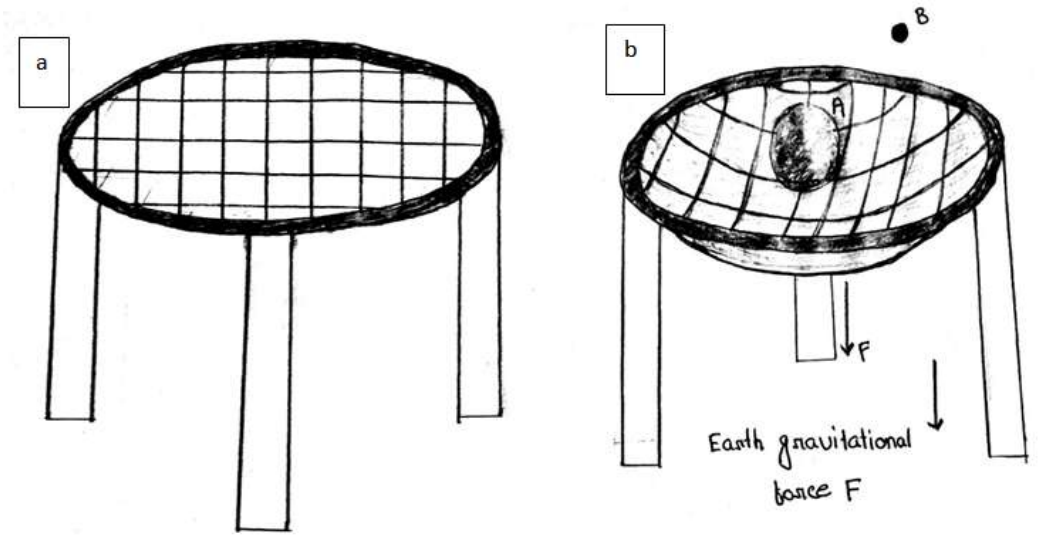

Fig.2. (a) Space-time as a large sheet of rubber (b) When a heavy mass is placed on that rubber

Now if we place the ball 'A' above the rubber sheet then it will create a curvature on it, and now if we through the ball 'B' above it then it will fall on the object 'A'. Einstein introduce this concept to explain gravity. And from this point of view he concluded that gravity is an effect due to the curvature in space-time created by a massive object; it is not a force. Wait for a while, in Fig. 2(b); when we place the ball 'A' above the rubber sheet, obviously it will create a curvature on the paper; but under the action of earth's gravitational field. Now let me generalize that idea. Imagine a situation. You take a rubber sheet in a place where gravity due to any object is negligible. Now place the heavy ball 'A' above it. Now, would it create any curvature on the space-time? Of course, not. I want to say that any object can't create a curvature on the space-time, unless it is acted by a gravitational force. Einstein's explanation is quite simple andacceptable. I agree with his explanation, but not with the conclusion that gravity is an effect. Because although all object can create a curvature on the space-time, but there must exist a supergravitational field below the space-time, which allows all object to create a curvature on the space-time. I don't know the origin of that super gravitational field. In other words I want to say that the mystery behind gravity is not solve yet.

III. Clear explanation to the Einstein's Elevator thought experiment

Let us look at Einstein's another thought experiment, in which he imagined a person in a lift, which is placed in a place of no gravity (effect of gravitation is negligible). Now if the lift is pull in upward direction with an acceleration 'g'(9.81 m/sec^2) , then the person can fell the effect of gravity. In other words he can't distinguish whether he is in an accelerated system or he is under earth's gravitational field. So, according to Einstein there is no distinction between an accelerated frame and a gravitational field.

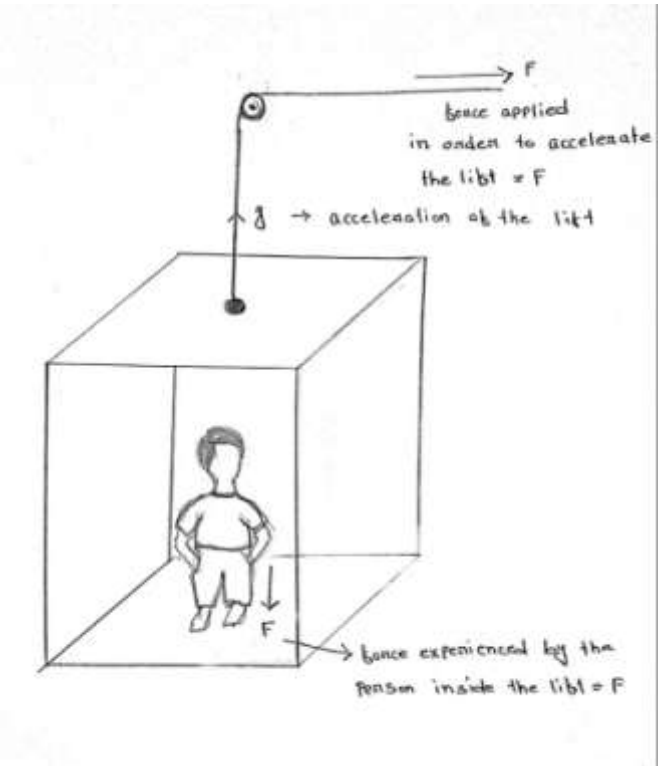

Fig.3. Einstein's Elevator experiment

But I can't convince myself to think in this way. Because when the lift is pulled upward, we have to apply some force, which in turns produce acceleration, as shown in figure 3. The person will feel the effect of that force that we have applied. What I mean to say is that acceleration can't be appear in a system without the application of some external force. It may be gravitational force of may be mechanical force. And hence acceleration in not the correct parameter to define gravity. Acceleration is only just an effect produce due to some force. Acceleration due to gravity is produced due to the gravitational force of earth, and in Einstein's Elevator experiment we have to produce some acceleration by applying some external force. That's the fact. Still gravitational force remains as a force.

IV. Conclusion

1.The modification of above thought experiments demand that we can't consider the gravitational force as an effect. It is one of the fundamental force, and we have to treat it as a force; not as an effect.
2. There exist a super gravitational force below the space-time, which allows all the massive body to create a curvature on the space-time, due to which effect of that super gravitational field can be experienced by an observer on that body.
3. Mass is not responsible for the generation of gravitational field. It just help us to experience the effect of that super gravitational field by creating a curvature on the space time. Of course, a heavy mass can create a large curvature on the space-time, due to which a strong gravitational force can be experienced.
4. The super gravitational field is the only source of all the gravitational effect.
5. There must be something beyond our universe which produces that super gravitational field.

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