

Translation into English: [Chapter 2 - Catalogue of Errors for Both Theories of Relativity](#)

from the German documentation of G.O. Mueller

"On the Absolute Magnitude of the Special Theory of Relativity - A Documentary Thought Experiment on 95 Years of Criticism (1908-2003) with Proof of 3789 Critical Works" - Text Version 2.1 - June 2004
<http://www.ekkehard-friebe.de/kap2.pdf>

Translator: Rothwell Bronrowan

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M: The General Theory of Relativity / Error No. 2

The principle of equivalence of the GTR is said to provide proof of the equivalence of gravitation and acceleration and inertia

Theimer (1977, p. 111) outlines the program of the GTR as follows: "Acceleration leads, according to Einstein, to gravity, and gravity leads to inertia. The weight and the inertial mass of a body are identical. [Footnote: The terms of inertial and heavy mass are logically independent of each other. Both masses are proportional; by means of an appropriate choice of units they can be made numerically equal.] This is something that Newton had already said, without deriving any special consequences from it. Einstein concluded that there was an essential relationship between gravity and inertia. This was the basis on which he founded a new principle of equivalence with far-reaching consequences."

For purposes of illustration Albert Einstein describes a thought experiment with a closed box (lift cabin) which contains physicists who have no contact with the outside world. This box is placed in two different settings: one is (A) in which it is said to be at rest in a gravitational field, the other is (B) in which it is said to be in gravity-free space and, by means of energy-based propulsion (rockets), is moved upwards. (How one is to distinguish between "up" and "down" in gravity-free space remains unsaid.)

In both circumstances the physicists let go of an object. When the box is in setting (A), gravity pulls the object downwards, i.e. it "falls". When the box is in setting (B), upon letting it go the object in gravity-free space will no longer be subject to the acceleration and will be left behind, moving towards the floor of the box "as though" it was falling. According to Albert Einstein the physicists, in both cases, would be unable to recognize in which of the two settings their box was located. It is on this that he bases his principle of equivalence, the equivalence of "the gravity of the falling body" and "the inertia of the body left behind".

Theimer summarizes the claims of the theory (p. 112): Without information from outside the physicists "can conduct no experiment in the lift to distinguish between acceleration effects and inertial effects. Therefore, gravitation and inertia are equivalent."

Theimer (pp 117-118) evaluates the principle of equivalence: "The conclusion is based on the equivalence of acceleration and gravitation, which for their parts are based on nothing other than that an idiotic behaviour is prescribed for the phantoms in the lift. Those who refuse to experiment with blinkers and who properly examine all of the factors that come into question will indeed notice that there is a difference between gravitation and accelerating, for other reasons. The equivalence of gravitation and inertia or acceleration is based on a purely kinematic consideration. Kinematics sees only the phenomenon of motion, whereas dynamics takes account of the objects participating and the forces involved."

Examined more closely, what we have here are two completely different processes: in the real case of "falling" (A) gravity exerts an influence on the object let go of; in the apparent case of "falling" (B) no force exerts an influence on the object let go of, which is only subject to inertia - whereas it is the box with the physicists that is accelerated! And the impression of "falling" arises solely from the relative acceleration of the physicists. For whom, though, are two different (!) force effects on two different (!) bodies supposed to exhibit any form of equal value (equivalence)?

The physicist knows, after all, that two physical settings can come into question, (A) being at rest in a gravitational field, or (B) energy-based propulsion in gravity-free space (assuming that there is such a thing). But the physicist also knows that both settings can be brought about by force effects acting in

opposing (!) directions, and would never come to the conclusion (as Albert Einstein does), that two equally large force effects acting in opposing directions could be of equal value, only because the observed effects (the "falling" and the "left behind" object) are apparently similar.

The physicist knows about both possibilities, and knows that they are completely opposing, and would therefore make no decision for as long as Albert Einstein allows him no opportunity to research the "outside world" and the forces at work there.

One possibility of researching within the box, for example, would be to increase the floor of the box. In this case sensitive spring balances would, in the event of gravitation, be focussed on the centre of gravity, whereas in the case of energy-based propulsion they would detect fully parallel force effects.

A second possibility for researching within the box would be to ensure sufficient internal height within the box: The force of gravity decreases with increasing distance from the centre of gravity; whereas in the case of the box accelerated by the rockets the same acceleration would be given rise to at all locations within the box (cf. Brösske, 1962, *Naturgesetze [Laws of Nature]*, pp 91-93: With the spring balances, any change - or lack of change - could be detected (cf. also Riedinger, 1923).

Moreover - as a third determinative option - Albert Einstein had himself once claimed that different clock rates applied at various heights in a gravitational field. Regardless of whether the effect is confirmed or not, he would have to permit this as an argument, that in the case of (A), the closed box at rest, different clock rates at different heights would indeed allow one to detect a gravitational field. As for what effect the acceleration might have on the clock rates in case (B), this remains to be empirically determined.

Fok (1952, pp 150-151) looks at the model of the lift and draws attention to its purely local application, contesting, for example, its application to the solar system and the fact that a gravitational field can be substituted by an accelerating: "Le caractère local du principe d'équivalence exclut la possibilité de l'appliquer à des objets physiques tels que le système solaire." - "ce champ [de gravitation] ne peut être remplacé par une accélération".

Smart physicists could, by the way, determine their situation in the box by sitting things out. For the box at rest, gravity remains unaltered, also over a longer period, whereas the acceleration (= increase in velocity!), in the case of energy-based propulsion, very soon comes to a natural end and then the alleged "equivalence" is seen to be an illusion, because without acceleration nothing now remains behind, apparently "falling". - The moral of this story? One should never accept an invitation from anyone to blind man's buff in physics, because if one does, one can be punished with "idiotic behaviour" (Theimer, p. 117).

The thought experiment of the closed box (lift cabin) introduced by Albert Einstein, in which locked-in physicists are supposed to make experimental findings, is an absurd event. Physicists perhaps do only what Einstein dictates; researchers would first knock a hole in the wall of the box to see what was happening outside, because physical reality cannot be understood without dynamics.

The important findings in the box can also be made without the box and would only lead to the trivial discovery that two exactly equal forces (gravitation and an exactly equal energy-based propulsion) acting in precisely opposing directions would give rise to equal accelerations in opposing directions. The box is only intended to disguise the fact that the effects on the box act in opposing directions, as well as what it is that actually moves the falling or left-behind objects in the box. True researchers, then, would never come to the conclusions arrived at by Albert Einstein. They can indeed trace the gravity of the falling body, or the inertia of the left-behind body, back to the correct cause even in the closed box.

So why the closed box in the first place? Quite simply, it was intended to veil the complete dissimilarity of the causes and the complete dissimilarity of the effects; because the one cause (gravitation) effects all bodies and this in the direction of the centre of gravity - while the other cause (propulsion) effects only bodies that are soundly connected to the box and move in the direction of the propulsion.

The alleged equivalence of gravitation, accelerating and inertia was contested and refuted at a very early stage. No pertinent answer has been given by the relativists to date to Lenard's famous question as to why, in the case of the sudden braking of the train, everything inside the train flies all over the place, whereas the church steeple next to the railway remains intact, when the train and the vicinity are supposed to be two systems of equal standing. Einstein answers this in 1920 in *Bad Nauheim* (p. 666): the theory of relativity can interpret the inertial effects in the train "just as well as the effects of a gravitational field", that is generated by the distant masses (i.e. the fixed stars). Lenard demands that "the fields of gravity introduced here must correspond to processes and these processes have not as yet been experienced". Einstein's answer consists solely of a visualization; practically speaking, the driver of the locomotive, on braking, had generated a gravitational field and could repeat this as often as he chose to.

To Einstein's claim as to the effects of gravitation of the distant masses another question might be asked: Why must the train first expend energy to bring it to a state of motion before generating the supposed effects of gravitation by braking it again? Why does this gravitation not exert an effect earlier?

An answer to Lenard's question, as to why the steeple does not fall, remains to be given. It is one of the known strategies of the relativists - and one repeatedly denounced by the critics - to leave critical questions unanswered, telling other stories instead. Just as the master had done in 1920.

Lenard, Philipp: [contribution to] Allgemeine Diskussion über die Relativitätstheorie : (86. Naturforsch.- Verslg, Nauheim 1920, 19.-25.9.) In: Physikalische Zeitschrift. 21. 1920, No. 23/24, pp 666-668. - Riedinger, Franz: Gravitation und Trägheit. In: Zeitschrift für Physik. 19. 1923, H. 1, pp 43-46. - Fok, Vladimir Aleksandrovich: Le système de Ptolémée et le système de Copernic à la lumière de la théorie générale de la relativité. - In: Questions scientifiques. Vol. 1: Physique. Paris 1952, pp 147-154. - Brösske, Ludwig: Naturgesetze im Experiment ohne Relativitäts-Theorie. In: Kritik und Fortbildung der Relativitätstheorie. 2. 1962, pp 55-98. - Theimer 1977, pp 111-145. - Gut, Bernardo Juan: Immanentlogische Kritik der Relativitätstheorie. Oberwil b. Zug: Kugler 1981. 151 pages. - Norton, John: What was Einstein's principle of equivalence. In: Studies in history and philosophy of science. 16. 1985, pp 203-246. - Beckmann, Petr: The equivalence principle. In: Galilean electrodynamics. 3. 1992, No. 3, p. 42. - McAlister, John W.: A mechanical test of the equivalence principle. In: Galilean electrodynamics. 3. 1992, No. 3, pp 43-49.