Translation into English

Chapter 2

Catalogue of Errors for Both Theories of Relativity

from the 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

Chapter 2

Catalogue of Errors for Both Theories of Relativity

The overview of around 130 serious errors in the special theory of relativity and, just in passing, also those in the general theory of relativity gives each reader of relativistic presentations the opportunity to check the completeness of these presentations and their lines of argument.

Each theoretical error is accompanied by a very concise account of the critical argumentation. In general, comments and references to the literature are given.

Structuring in 21 specific groups:

A. Ether
B. Light
C. Space
D. Time
E. Motion
F. Electromagnetism
G. Minkowski's World
H. Mathematics
J. Mass/Energy
K. Mass/Velocity
L. Gravitation
M. The General Theory of Relativity
N. Thermodynamics
O. Experiment
P. Epistemology
Q. Methodology
R. Theoretical Structure
S. Presentations
T. Social Enforcement
U. Effect on Outsiders
V. Motives

The following works on relativity are referred to with abbreviations:

AE 1905

Einstein, Albert: Zur Elektrodynamik bewegter Körper [On the Electrodynamics of Moving Bodies].
In: Annalen der Physik. F. 4, Vol. 17 (=322). 1905, pp 891-921.
Printed in:
(1) Das Relativitätsprinzip : e. collection of papers / H. A. Lorentz, A. Einstein, H. Minkowski; with comments by A. Sommerfeld; Foreword: O. Blumenthal. Leipzig (etc.): Teubner, 1913. 89 pages. Further editions in 1915, 1920, 1922, 1923 and 1958.

(2) Albert Einsteins Relativitätstheorie [Albert Einstein's Theory of Relativity]: the fundamental works / published and commented by Karl von Meyenn; 14 contributions: A. Einstein, K. v. Meyenn, H. Weyl. Braunschweig: Vieweg, 1990. 331 pages. Herein: pp 124-155.

Minkowski 1908 (1909)

Minkowski, Hermann: "Raum und Zeit." [Space and Time]. Lecture, 80th Naturforscher-Vers., Cologne 1908, 21st Sept.; Foreword: A. Gutzmer. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, pp 4-9.

At the same time in: Physikalische Zeitschrift. 20. 1909, pp 104-111.

Printed in: Das Relativitätsprinzip [The Principle of Relativity]. Lorentz, Einstein, Minkowski. 6th edition 1958, pp 54-66.

Laue 1913

Laue, Max v.: Das Relativitätsprinzip [The Principle of Relativity]. 1911. 2nd edition 1913 and repeatedly.

Theimer 1977

Theimer, Walter: Die Relativitätstheorie : Lehre - Wirkung - Kritik. Bern (etc.): Francke 1977. 192 pages.

Galeczki / Marquardt 1997

Galeczki / Marquardt 1997 Requiem für die Spezielle Relativität [Requiem for the Special Theory of Relativity] / Georg Galeczki, Peter Marquardt. Frankfurt a. M.: Haag u. Herchen, 1997. 271 pages.

Overview of the Catalogue of Errors

A: Ether

Error A 1
The Michelson-Morley Experiment (MME) 1881/87 is said to have proven the non-existence of the ether

Error A 2
All repetitions of the Michelson-Morley experiment (interferometry experiments to give proof of running-time differences; MME) are said to have resulted in the same "null result", thereby repeatedly confirming the STR

Error A 3
The Michelson-Morley experiment (MME) is said to have proven the constancy of the speed of light

Error A 4
The Michelson-Morley Experiment (MME) is said to have proven the non-existence of "absolute space"

Error A 5
With his STR, Albert Einstein is said to have "abolished" the ether in 1905

Error A 6
The positive result of the 1913 Sagnac experiment (obtained with a rotating interferometer) and its implications are denied in the STR interpretations

Error A 7
The reintroduction of the ether by Albert Einstein in 1921 had no consequences for the STR

Error A 8
The running-time differences clearly detected in the experiments conducted by Dayton C. Miller in 1925/27 are denied in the STR presentations

Error A 9
Disregarding the 3-K background radiation discovered in 1965

B: Light

Error B 1
According to Albert Einstein, the constancy of the speed of light in a vacuum is supposed to constitute a principle

Error B 2
All variously moving observers are supposed to measure the same speed of light, c, for the same ray of light

Error B 3
The claim of a constant speed of light (c constant) requires measurement of the one-way speed of light, which has so far not proved possible

Error B 4
The claimed independence of the speed of light from the motion of its source (C-I) presupposes a medium (the ether) and thereby contradicts the STR

Error B 5
The claim that the speed of light is the greatest possible speed in the universe (C-M) has not been proven and, as a disqualifying claim, *cannot* be proven either

C: Space

Error C 1
Albert Einstein denies the existence of absolute space

Error C 2
The STR denies the unity of observational space for the geostationary observer

Error C 3
Albert Einstein worked with the idea of a "space at rest"

Error C 4
The space of the GTR is supposed to be curved

D: Time, Simultaneity, Clocks, Clock Synchronization, Time Dilation, Twins Paradox

Error D 1
Albert Einstein maintains that the concept of time depends on the positions of the hands of clocks

Error D 2
Albert Einstein denies any simultaneity between bodies in relative motion

Error D 3
Albert Einstein finds himself unable to clearly demarcate between the two types of simultaneity proposed (one absolute and one relative)

Error D 4
The synchronization of clocks beyond the close vicinity within which absolute simultaneity is valid is only undertaken in relativity by the method of the reflected beam of light

Error D 5
The relativists adopt natural processes, that cannot be regulated and cannot be calibrated, as clocks

Error D 6
Albert Einstein maintains that time dilation (a slowing of time; a time delay) between two inertial systems in relative motion is a real effect

Error D 7
The atomic-clock transportation of Hafele / Keating in 1972 is said to have given proof of a time delay

Error D 8
Muon decay (meson decay) is said to have given proof of a time delay

Error D 9
Paul Langevin and Albert Einstein claim that a twin returning from a [space] journey will be younger than his twin brother who had remained on the earth

E: Motion, The Principle of Relativity, Inertial Systems, Bodies

Error E 1
In 1905 Albert Einstein supposedly introduced a "system at rest" without explaining with respect to what this system was "at rest"

Error E 2
Assertions made by the STR as to real length contractions and time delays in only one of two inertial systems contradict the principle of relativity of the STR, which maintains that there is complete reciprocity and symmetry between all inertial systems

Error E 3
Albert Einstein maintains that the STR "is supported ... by the kinematics of the rigid body," and Max v. Laue maintains that "The assumption of a rigid body is incompatible with the [special] theory of relativity"

Error E 4
In the theory [STR] itself, the validity of the principle of relativity is repeatedly ignored

Error E 5
The Ehrenfest paradox: a rotating, round disc is said to suffer length contraction on its circumference, relative to the observer

Error E 6
The existence of bodies exhibiting constant rectilinear motion (inertial systems) is too much of a rarity from which to obtain, by way of observance, globally valid findings

Error E 7
The practical realization of two inertial systems (ISs) inevitably leads to inaccuracies and obscurities about the consequences of which the theory knows nothing and its supporters say nothing

Error E 8
The inclusion of more than the usual 2 inertial systems (ISs) in the thought experiments of the STR results in fundamental contradictions

Error E 9
For the alleged effects, complete reciprocity (symmetry) between inertial systems (ISs) of the STR is, on the one hand, required on principle (the principle of relativity), but is repeatedly disregarded and abandoned in the implementation of the theory

Error E 10
The inferences of the STR are limited to relative motion that is parallel

Error E 11
Length contraction, which was introduced by FitzGerald and Lorentz as a hypothesis only and was first presented by Einstein in the STR as a reality, has still not been observed after for more than 100 years

Error E 12
Length contraction is introduced with contradictory epistemological status (appearance, reality)

Error E 13
In connection with length contraction it is said that the measurements of the contracting body perpendicular to the direction of motion remain unchanged (selective contraction)

Error E 14
According to Albert Einstein, at relative speeds approaching the speed of light length contraction leads to shrinkage of the body "to a flat-shaped structure"

Error E 15
The slower ageing of the space-travelling twin - as compared with his brother who remained on the earth - is said to have been caused by the accelerations (positive and negative) undergone during the outbound and return journeys

F: Electromagnetism

Error F 1
The fact that a relative motion between a magnet and a coil always generates the same current, regardless of whether the magnet or the coil is moved, tends to suggest that there is no absolute state of rest

Error F 2
Albert Einstein based his STR on Maxwell's electrodynamics, which has a series of flaws that thus also become flaws in the STR

Error F 3
The STR was developed without any knowledge of unipolar induction, which is an induction without relative motion between field and conductor

G: Minkowski's World

Error G 1
Minkowski maintains that "the notions of space and time I would like to develop for you are based on experimental physics. This is their strength."

Error G 2
Space (3 space coordinates) and time (1 time coordinate) are said to preserve their independence only "in a sort of union"

Error G 3
The time coordinate is said to have an imaginary value [the square root of -1]

Error G 4
Minkowski introduces a multitude of spaces without justifying them physically, demarcating one from another or furnishing empirical proof

Error G 5
An interpretation of the four-dimensional Minkowski world as physical space is impossible

Error G 6
Minkowski's "world lines" are interpreted by the relativists as real paths in space

Error G 7
Minkowski attempts to interpret his fictitious, four-dimensional coordinate system space-time as the material world

Error G 8
According to Minkowski, length contraction is "a gift from above"

H: Mathematics, Lorentz Transformations, Geometry

Error H 1
Albert Einstein's mathematical derivations of the Lorentz transformations contain fundamental errors

Error H 2
The group properties are missing in the Lorentz transformations

Error H 3
Albert Einstein's and Max von Laue's derivations of length contraction and time dilation contain fundamental errors

Error H 4
In the STR it is claimed that, in constant motion relationships, lengths are contracted and times are dilated

Error H 5
The claim of the validity of a non-Euclidean geometry in space conceals the fact that the realization of a non-Euclidean geometry requires a measurement of curvature that can only be given in Euclidean geometry

Error H 6
The conditions for orthogonality are said to hold in four-dimensional space

Error H 7
Different geometries are said to hold in the space of the STR and in the space of the GTR (STR: plane geometry; GTR: curved geometry)

J: Mass-Velocity Relationship

Error J 1
According to Albert Einstein, velocity-dependent mass is a relativistic effect

Error J 2
The experiments conducted by Kaufmann (1901, 1902, and 1906) are said to have provided proof of a relativistic increase in mass with increasing velocity

K: Mass-Energy Relationship

Error K 1
The mass-energy relationship ($E = mc^2$) is said to define the transformation from mass into energy

Error K 2
The mass-energy relationship $E = mc^2$ is said (1) to have been discovered by Albert Einstein in the context of the STR, and (2) only to be interpreted by relativity

L: Gravitation

Error L 1
In the STR, there are said to be inertial systems that are subject to no gravitational effects

Error L 2
Albert Einstein maintains that, in the GTR, a gravitational field can be generated by merely changing the coordinate system

M: The General Theory of Relativity

Error M 1
A relationship of transition exists between the STR and the GTR

Error M 2
The principle of equivalence of the GTR is said to provide proof of the equivalence of gravitation and acceleration and inertia

Error M 3
The principle of equivalence of the GTR is said to apply in the dimensions of the cosmos

Error M 4
The principle of equivalence of the GTR is said to provide proof of the equivalence of the inertial system and the rotational system

Error M 5
Albert Einstein's claim that light is deflected by gravitational forces is said to be a fundamental achievement of his GTR and its confirmation is said to confirm the GTR

Error M 6
Albert Einstein's claim that light is deflected by gravitational forces is said to have been confirmed by the observations of the eclipse of the sun in 1919

Error M 7
Albert Einstein's alleged explanation of the perihelion advance of Mercury is said to be a fundamental achievement of his GTR and its confirmation is said to confirm the GTR

Error M 8
Albert Einstein's alleged gravitation-induced red shift of the spectral lines is said (1) to be based on the GTR, and its confirmation is said (2) to confirm the GTR

Error M 9
According to Albert Einstein, no rigid bodies with Euclidean properties exist in fields of gravity; instead one "uses" non-rigid reference bodies that "suffer arbitrary changes in shape during their motion" ("Bezugsmollusken" [reference molluscs])

Error M 10
The relativists maintain that one can also regard the earth as being at rest and the fixed-star sky as rotating; a rotating earth (the Copernican view of the world) and a rotating fixed-star sky (Ptolemaic view of the world) are equivalent

N: Thermodynamics

Error N 1
According to Albert Einstein (1907) and Max Planck (1908), a system in motion should appear colder to an observer, and the flow of heat should appear diminished

Error N 2
Relativistic treatment of thermodynamics by Albert Einstein (1907), Fritz Hasenöhrl (1907) and Max Planck (1907 and 1908) are incorrect

O: Experiment

Error O 1
Although Lorentz' ether theory and Albert Einstein's STR do not differ mathematically, it is said that experimental results prove the correctness of the STR

Error O 2
Albert Einstein and the relativists claim, for their thought experiments, the status of [real] experiments and refer to "thought [i.e. imagined] experiences"

Error O 3
Relativists declare certain effects as being negligibly small; at the same time they present the smallest effects of all as proof

P: Epistemology

Error P 1
Advancement of pure speculation, supposition and demands to "principles", and adoption of their claims as "laws", without detailed justification

Error P 2
From negative statements, positive claims are to be derived

Error P 3
For relativists, "non-violation of something" is seen as confirmation of the theory

Error P 4
Appearance and existence: AE 1905 changes his expressed position on length contraction and time dilation several times, wavering between "appears to be" and "is" and thereby implanting a fundamental contradiction in his theory

Error P 5
The two fundamental postulates of the STR (the principle of relativity; the constancy of the speed of light) are said to be compatible with each other

Error P 6
Relativity works with the known and standard approach of concluding the correctness of its premises from experimental results, without any proof that the theory provides the sole explanation

Error P 7
The authors of relativity defame so-called sound common sense as incompetent and thereby indirectly base their own claims on some other, as yet unknown power of reasoning

Q: Methodology

Error Q 1
The transfer of the "principle of the relativity of electrodynamics" to mechanics is said to contradict no empirical result

Error Q 2
The claim that an effect in the STR (clock paradox or twins paradox) has its justification in the GTR

Error Q 3
In response to questioning as to the physical causes of effects claimed by them (length contraction - LC; time dilation - TD) the authors of relativity have completely different suppositions, even as regards causality

Error Q 4
Albert Einstein developed the effects of length contraction and time dilation solely within his kinematics (phoronomy; mechanics), without taking dynamics (force and motion) into consideration

Error Q 5
The Lorentz transformations are the core of the STR and are thereby the cause of the STR's frailty

Error Q 6
The relativists transfer results from particle physics to the macro world as supposed evidence of effects of the STR and GTR

Error Q 7
The inertial effects in a braked train (a chaos of freely falling objects) is explicable, according to Albert Einstein, in terms of the gravitational field of the fixed stars

Error Q 8
In both of Albert Einstein's theories of relativity decisive differences (limits) are claimed without the physical conditions of the limit boundaries being discussed

Error Q 9
In the STR certain supposed findings taken solely from the field of kinematics - and even there, derived from consideration of only two objects - are said to hold in the real world controlled by dynamics, and there for countless similar types of objects

Error Q 10
Albert Einstein's STR and GTR are developed with observable objects and onlooking observers, and their supposed observations; the demands of critics, that the claimed effects should also be clearly observable, is by contrast rejected

Error Q 11
Relativity fundamentally maintains that all mathematical relationships (equations) found (including those that are then quickly altered) are physical realities

R: Theoretical Structure

Error R 1
The STR is an unfounded, incoherent package of the previously independent findings of other researchers, plus Albert Einstein's own subsequent assertions

Error R 2
According to Albert Einstein, the sphere of validity of the GTR and STR should be limited in size to the sphere of space

Error R 3
Between the years of 1915 and 1920, Albert Einstein changed his epistemological position without undertaking the necessary public revision of his STR

Error R 4
The forces of inertia operating in a braked railway train are assumed to be due to gravitational effects of the fixed stars, though at the same time gravity-free space for inertial systems is assumed ("far from all gravitation masses")

S: Presentations of the Theory

Error S 1
The authors of relativity contradict each other in significant points, though they carefully refrain from engaging in the otherwise standard discussion in search of clarification

Error S 2
As evidence of the correctness of the theory it is claimed that the clear majority of all physicists accept the STR as having been confirmed

Error S 3
The authors of relativity claim that only Albert Einstein's STR and GTR can physically explain certain occurrences

Error S 4
Almost without exception, all authors of relativity claim that without Albert Einstein's STR one could not build atom bombs, or operate nuclear power stations or particle accelerators: these activities provide thousandfold proof of the theory every day

Error S 5
The relativists maintain that new ideas and unusual theories only find acceptance with the public gradually, and they console themselves and their public with historical analogies

Error S 6
The presentations of relativity are full of the terms "at rest" and "in motion" without any mention being made of a body referred to or a reference system

Error S 7
The presentations of the relativists are full of "terms in inverted commas" without any details as to how the terms in inverted commas differ from the same terms without inverted commas

Error S 8
Many authors of relativity maintain that relativistic effects can only be seen at speeds of the order of the speed of light

Error S 9
Albert Einstein maintains in the reprint (1913) of his first work from 1905 that he was at that time unaware of the work published by Lorentz in 1904

T: Social Enforcement of the Theory, Suppression, Exclusion, Abuse of Power, Break With Tradition

Error T 1
The relativists suppress critical works by preventing their publication

Error T 2
The relativists support the exclusion of critical publications by defamation of their authors

Error T 3
The relativists prevent reception of critical works already published by failing to refer to them in the trade journals and in other specialist physics publications, or by denying their existence

Error T 4
The relativists practice persecution and expulsion of all potential and proven critics of the theory from academic teaching and research

Error T 5
The relativists sweepingly slander the critics as anti-Semites, Nazis, Stalinists or anti-Communists

Error T 6
With the suppression and elimination of the criticism since approx. 1922 the public in several countries has been deceived as to the true status of the STR, and those scientists participating in this have thereby engaged themselves in a break with tradition, or have condoned it

Error T 7
Propagation of the theory in other fields of activity that are far-removed from physics (Philosophy, Theology, Literature, Art, etc.) without any reference to the state of the debate on the criticisms made

Error T 8
The relativists abuse the educational system as a brainwashing tool for indoctrination of their public, and especially for strengthening the blind faith placed in authority by the young

Error T 9
The relativists abuse the suggestive force of the audio-visual media in films, videos and computer programs for propagation of the theories, while at the same time fading out the existing criticism

U: Effect on Outsiders

Error U 1
Theology

Error U 2
Literature

Error U 3
Art

Error U 4
Philosophy

Error U 5
Science fiction

Error U 6
Esoteric

V: Motives for Generation and Preservation

Error V 1
The desire to eliminate the idea and the hypothesis of an ether as a medium for the spreading of electromagnetic radiation

Error V 2
W. C. Röntgen's bibliographical analogy to the education of Albert Einstein

Error V 3
The mathematicians in particular were obliged to draw attention to the limitations of the mathematical speculations in the field of physics, though in fact they did just the opposite

Error V 4

The sensationally exaggerated reporting on the two theories of relativity in the print media from 1920-23 led to a form of mass suggestion, which has been abused by the relativists in a cynical way

Error V 5

Renunciation of a "physical theory of nature" and adoption of a "mathematical theory of nature"

Error V 6

Unscrupulous propaganda for an untenable theory is a psychological trap, because admittance of its untenable nature at some later date would be bound up with enormous loss of face and this disgrace would therefore be postponed at all costs

Error V 7

Max Planck's gratitude for the fact that Albert Einstein explained the photoelectric effect and was thereby the first to support Planck's equation E=hv.

Ether

A: Ether / Error No. 1

The Michelson-Morley Experiment (MME) 1881/87 is said to have proven the non-existence of the ether

This claim is given by all authors as one of the foundations of the STR. It is incorrect, since the MME was intended to provide proof of the drift against a stationary ether. Anyone accepting the supposed null result of the MME can only conclude that the ether is not stationary. For this reason, some authors have supposed the "taking along" of the ether as a means of explaining the alleged null result. The proof of the non-existence of the ether by the MME was not at all possible in the first place.

As regards the conducting of the original MMEs of 1881 and 1887, the essential circumstances are still not reported in the trade journals and propaganda writings of relativists up to the present day. Even many critics believe the propaganda of the relativists. In 1977, for example, Theimer (p. 16) recognized as uncontested: "The experiment was repeated at various times of the year, also during phases of opposite motion of the earth vis-à-vis the sun, but the result remained zero." None of this is true.

For the first time in 1993 (!) Collins/Pinch (Golem, cited from the 2nd ed. 1998), pp 29-43, presented a ***critical*** *analysis of the course of the 1887 experiment. The experiment ought to have been carried out under 6 conditions (p. 35). A whole 6 series of measurements were undertaken, and these at 12 o'clock on the 8th, 9th and 11th of July and at 6 p.m. on the 8th, 9th and 12th of July. Due to the disappointing readings, however, the experimenters discontinued the experiment.* ***Not carried out*** *were:*

(1) repetitions at various times of the year;

(2) repetition in a transparent building;

(3) repetition high above sea level.

Precisely these measurements at various times of the year, neglected in 1887, were later undertaken by D. C. Miller, who furthermore satisfied the requirements of the transparent building and high altitude on the Mt. Wilson Observatory, obtaining clearly positive values for running-time differences and the expected, notable seasonal fluctuations. Where a periodic fluctuation can be clearly recognized, the readings are relevant - and as regards their magnitudes, these were considerable.

In other words, the complete implementation of the MME of 1887 is just a famous fairy tale of the science of physics, and the subsequent successful implementation and exposure of the fairy tale by D. C. Miller is no wonder at all. On the basis of 1887, Albert Einstein supposedly revolutionized, in 1905, our conceptions of space and time.

The imperfection even of the instrument of 1887, the discontinuation of the experiment by the experimenters and the failure to take note of both of these circumstances are serious errors of physical research and a main reason for the - around 1905 still tragic - loss of course by H. A. Lorentz and Albert Einstein, which was later deliberately expanded to a system.

Claims of non-existence is epistemologically the most problematic undertakings. Basically speaking, they cannot be proven at all by a single experimental result. They can, however, be fundamentally refuted by a single experiment, something that has happened repeatedly during the subsequent period.

The incomplete implementation of the MME of 1887 was not, of course, revealed by relativists, and incidentally not by physicists either, but - a nice point - by the science sociologists Collins and Pinch. Physics is too difficult for physicists, if sociology fails to help them critically. Both sociologists were subsequently summoned by the powers that be in relativity in the USA to appear before an indictment symposium, referring to which they report, in the 2nd ed. of 1998, that they had nothing to retract.

The MME of 1881 made use, for the first time, of the interferometer conceived by Michelson. The construction problems were so great that this first experiment was unable to provide useful results. The repetition in 1887, with an improved instrument, brought such a small running-time difference for the beams of light travelling in different directions that Michelson himself, in disappointment, spoke of a null result, although even the improved instrument could not give a definitive result. For this reason further interferometer experiments were conducted during the following 40 years, these showing irrefutably positive results.

Remarkably, Michelson's own evaluation as a "null result" has not only been taken up by relativists, but also by critics right up to the present day. The suppression of the further experimental results - those of Michelson via Sagnac up to Dayton C. Miller - in the perception of the general public is one of the greatest achievements of relativity.

Michelson, Albert Abraham: On the Relative Motion of the Earth and the Luminiferous Ether. In: American Journal of Science. Ser. 3, Vol. 34. 1887, November, pp 333-345. Also in: Philosophical Magazine. Ser. 5, Vol. 24. 1887, December, pp 449-463. Reprint in: Swenson 1972. - Swenson, Loyd S., Jr.: The Ethereal Aether. A History of the Michelson-Morley-Miller Aether-Drift Experiments, 1880-1930. 1972. 361 pages. - Collins, Harry M.: The Golem: What You Should Know About Science / Harry Collins, Trevor Pinch. Cambridge: Univ. Pr., 1993. 164 pages. cf. 2nd ed. 1998. German edition: Der Golem der Forschung. Wie unsere Wissenschaft die Natur erfindet. 1999.

A: Ether / Error No. 2

All repetitions of the Michelson-Morley experiment (interferometry experiments to give proof of running-time differences; MME) are said to have given the same "null result", thereby repeatedly confirming the STR

This claim is verifiably incorrect. Instead the exact opposite is true. The sought-after running-time differences have already been clearly measured since 1887, were clearly confirmed in 1913 by Sagnac with the rotating interferometer, and were further enhanced considerably, after the First World War, by Michelson and D. C. Miller. The running-time differences measured with the interferometers are of such an impressive magnitude that the world of relativity can only save itself by resorting to its typical concealment and denials of these results. The data for the experiments in America according to D. C. Miller, 1933:

1887, July, Michelson / Morley, Cleveland, basement room: 8.8 km/sec.

"The brief series of observations was sufficient to show clearly that the effect did not have the anticipated magnitude. However, and this fact must be emphasized, ***the indicated effect was not zero****; the sensitivity of the apparatus was such that the conclusion, published in 1887, stated that the observed relative motion of the earth and the ether did not exceed one-fourth of the earth's orbital velocity. This is quite different from a null effect now so frequently imputed to this experiment by writers on Relativity." (p. 206) - "Inspection shows clearly that these curves are not of zero value, nor are the observed points scattered at random; there is a positive, systematic effect." (p. 207)*

1902, Aug. / 1903, June, Morley / Miller, Case School of Applied Science, basement room: approx. 10 km/sec (p. 208; Diagram p. 207)).

1904, July, Morley / Miller, Cleveland Hights, 7.5 km/sec (p. 217).

1905, October, Morley / Miller, Cleveland Hights, 285 m above sea level: 8.7 km/sec (p. 217).

1913, Sagnac, Paris; horizontally rotating interferometer, two directions of rotation, displacement of the bands, though without relative motion between the light source and the observer, strength of the displacement depends on the rotational speed of the interferometer. (Galeczki/ Marquardt 1997, pp 203-207.)

1921, April, Miller, Mount Wilson, 1750 m: 10 km/sec (p. 218).

1921, Dec., Miller, Mount Wilson, non-magnetic building materials: results as in April (pp 218-219).

1924, Sept., Miller, Mount Wilson: 10 km/sec (p. 221).

1925, Michelson / Gale / Pearson, Clearing (Illinois): calculated value 0.236 interference lines, 0.230 observed (Michelson/Gale/Pearson, part 2, p. 144).

1925, April, Aug., Sep. / 1926, Feb., Miller, Mount Wilson: 9.3 / 10.1 / 11.2 / 9.6 km/sec (p. 230). "The present results strikingly illustrate the correctness of this method, as it now appears that the forty-six years of delay in finding the effect of the orbital motion of the earth in the ether-drift observations has been due to the efforts to verify certain predictions of the so-called classical theories and to the influence of traditional points of view." (p. 231).

1927, Dayton C. Miller

The experimental setups and procedures adopted by Michelson, Morley and Miller are critically analyzed in detail by Collins/Pinch in 1998 (Golem, 2nd ed.), pp 38-43. They evaluate Miller's positive result as "the outcome of the best experiment yet completed, perhaps the only one which could truly be said to have tested what it was meant to test" (p. 42). The relativists propagate, up to the present day, a supposed null result that has never been given. The terms "null result" or "negative result" arose solely from the initial expectations of the physicists and their disappointment that the results obtained were very much smaller than expected. For this reason the null result falls into the field of psycho-physics. Moreover, there is clear evidence that the lower readings are by no means null results, since they show clear, periodic fluctuations in the course of the day (cf. Diagram, p. 207). Something that shows recognizable periodic fluctuations, as expected, cannot be dismissed as insignificant background noise.

How the world of relativity would like to dispose of the problem of the positive measurements of the ether drift can be seen taking Swenson's 1972 book as a case in point. Swenson never discloses measurement results, and as for the measurements of October 1905 (Morley / Miller, Cleveland Hights, 285 m above sea level: 8.7 km/sec) he reports (p. 152): "By November they had reduced 230 turns of the interferometer to tabular figures, with another null result to announce, but one that, as Miller claimed long afterward, showed a 'very definite positive effect'." Miller, in other words, had only claimed positive effects, and much too late. The foreword to such null results: by Gerald Holton. A world of relativity that up to the present day denies and suppress the increasingly apparent readings - of approx. 8 km/sec in 1887 up to 11.2 km/sec in 1925 - with the blessings of Holton can never have acted in good faith. At least Albert Einstein himself, in 1914 and in 1916, admitted that the claim of the constancy of the speed of light would have to be altered; cf. Post, 1982 (Einstein's papers). He nevertheless allowed his interpretations of the STR up to 1955 to remain unaltered, and none of his followers has since seen a need to make the necessary revision of the STR, probably because of the suspicion that nothing of the theory would remain, if the highly-praised supposed null result of the interferometer experiments and the wonderful and fundamental essentials of the theory - with c as the absolute constant - deduced from this would have to be conceded as being non-existent. Even Minkowski's assurance given in 1908, that his four-dimensional space-time was "based on experimental physics," would then find itself up in the air. And one would have to talk the public at large out of its belief in the "great revolution in all our conceptions of space and time," which has supposedly already taken place.

One would have gambled too high and would no longer have been able to drop out without loss of face. This will now come at a later date - and all the worse.

The historians of Einstein's theories could well examine the interesting question as to what extent the results of the repeated experiments influenced the clandestine task of the STR and the emergence of the new theory (the GTR) in 1916, in which there is - suddenly - no more discussion of c as a constant, but just the opposite.

Hicks, William M.: On the Michelson-Morley experiment relating to the drift of the ether - In: London, Edinburgh, and Dublin Philosophical Magazine. Ser. 6, Vol. 3. 1902, Jan., pp 9-42. - Morley, Edward W.: Report of an experiment to detect the FitzGerald-Lorentz effect / Edward W. Morley, Dayton C. Miller. In: American Academy of Arts and Sciences. Washington. Proceedings. 41. 1905, August. pp 321-328. Also in: London, Edinburgh, and Dublin philosophical magazine. Ser. 6, Vol. 9. 1905, pp 680-685. - Morley, Edward W.: Final report on ether-drift experiments / Edward W. Morley, Dayton C. Miller. In: Science. 25. 1907, April, pp 525. - Sagnac, Georges: L'éther lumineux démontré par l'effet du vent relatif d'éther dans un interféromètre en rotation uniforme. In: Académie des Sciences. Paris. Comptes rendus. 157. 1913, pp 708-710. Contd. pp 1410-1413: Sur la preuve de la réalité de l'éther lumineux par l'expérience de l'interférographe tournant. Engl. translation in: The Einstein myth and the Ives papers [The luminiferous ether demonstrated by the effect of the relative motion of the ether in an interferometer in uniform rotation]. - Sagnac, Georges: Effet tourbillonaire optique; la circulation de l'éther lumineux dans un interférographe tournant. In: Journal de physique théorique et appliquée. Ser. 5, P. 4. 1914, March, pp 177-195. - Michelson, Albert Abraham: The effect of the Earth's rotation on the velocity of light [Part 1. 2.] / A. A. Michelson and [P. 2:] H. Gale, assisted by Fred Pearson. In: Astrophysical journal. 61. 1925, pp 137- 139 [P. 1]; pp 140-45 [P. 2]. Printed in: The Einstein myth and the Ives papers. 1979. - Miller, Dayton Clarence: Ether-drift experiments at Mount Wilson Solar Observatory. In: Physical review. Ser. 2, 19. 1922, April, pp 407-408. - Miller, Dayton Clarence: Ether drift experiments at Mount Wilson in February 1926. In: Physical review. 27. 1926, June, p. 812. - Miller, Dayton Clarence: Significance of the ether drift experiments of 1925 at Mount Wilson. In: Science. (USA) N. p. 63. 1926, No. 1635, 30th Apr., pp 433- 443. - Miller, Dayton Clarence: Conference on the Michelson-Morley Experiment [Pasadena 1927; Contribution]. In: Astrophysical journal. 68. 1928, No. 5, pp 352-367; Contribution to the discussion: 397-399. - Miller, Dayton Clarence: Conference on the Michelson-Morley Experiment [Pasadena 1927; Contribution]. In: Astrophysical journal. 68. 1928, No. 5, pp 352-367; Contribution to the discussion: 397-399. - Miller, Dayton Clarence: The ether-drift experiment and the determination of the absolute motion of the earth. In: Reviews of modern physics. (USA) 5. 1933, No. 3, pp 203-242. - Swenson, L. S.: The Ethereal Aether. A History of the Michelson-Morley-Miller Aether-Drift Experiments, 1880-1930. Austin (etc.): Univ. of Texas Pr., 1972. 361 pages - Post, Evert J.: What happened to Einstein's papers? In: Physics today. 35. 1982, No. 6 (June), p. 11. - Collins, Harry M.: The Golem: What You Should Know About Science / Harry Collins, Trevor Pinch. Cambridge: Univ. Pr., 1993. 164 pages. cf. 2nd ed. 1998. German edition: Der Golem der Forschung. Wie unsere Wissenschaft die Natur erfindet. 1999. - Galeczki/Marquardt 1997. - Einstein, Albert: Remarks on P. Harzer's treatise "Über die Mitführung des Lichtes in Glas und die Aberration". In: Astronomische Nachrichten. 199. 1914, No. 4753, Col. 7-10. - Einstein, Albert: Die Grundlage der allgemeinen Relativitätstheorie. In: Annalen der Physik. 49. 1916, pp 769-822. Reprinted in: Das Relativitätsprinzip. Lorentz / Einstein / Minkowski. 1923 and repeatedly, pp 81-124; there: p. 84.

A: Ether / Error No. 3

The Michelson-Morley experiment (MME) is said to have proven the constancy of the speed of light

The MME could only detect running-time differences for beams of light travelling in different directions. The "constancy of the speed of light" as claimed by the STR refers explicitly to two completely different effects that the MME can in no way discover: (1) constancy in a vacuum; and (2) constancy vis-à-vis arbitrarily moving observers. The MME could prove neither the one nor the other.

Due to his contradictory statements, Albert Einstein awakened the idea that he had not known of the MME in 1905. This highly important question has been heatedly discussed and argued over by science historians. In 1905, however, Albert Einstein explicitly mentions (p. 891) "the unsuccessful experiment, to ascertain a motion of the earth relative to the 'medium of light'". Lorentz and all other participant authors referred continuously to the MME before 1905. With the taking over of the mathematical framework of the theory of

Lorentz by Albert Einstein in his STR, the factual connection to the MME is proven. For this reason both relativists and critics regard the MME as a fundamental precondition and impulse for the STR.

A: Ether / Error No. 4

The Michelson-Morley Experiment (MME) is said to have proven the non-existence of "absolute space"

The claim is without any connection to the experiment to detect running-time differences for beams of light travelling in different directions.

A: Ether / Error No. 5

With his STR, Albert Einstein is said to have "abolished" the ether in 1905

This claim is verifiably incorrect. In 1905 Albert Einstein only claims (p. 892), "the introduction of a "light ether" will thus prove to be superfluous". Elsewhere he mentions that the ether is not to be found in his formulae. Abolition in the sense of declaring its non-existence, as is always suggested, cannot be justified by a failure to take account of it.

This claim rests on the insinuation, that things that Einstein doesn't mention do not exist. It could appeal to neo-positivism and to logical empiricism. The claim therefore lies on the former general line of the theory. - The mention that the ether is not contained in the formulae is irrelevant. It never comes in the formulae as a measured quantity, but first in the interpretations of the measurements. The Lorentz ether theory and Einstein's STR serve as an example: the mathematics employed in both theories is identical, yet it allows both interpretations. The measurements of the interferometer experiments relate only to displacements of the interference bands and these stand for running-time differences.

The theory is almost fixated on negative statements and claims of non-existence as the foundations of its edifice. Its constructors appear to have no idea of the problems associated with this. Most of the theoretical errors can be traced back to these foundations.

A: Ether / Error No. 6

The positive result of the 1913 Sagnac experiment (obtained with a rotating interferometer) and its implications are denied in the STR interpretations

Sagnac measured running-time differences in 1913. With this, the claim of a null result for the MME, which had never existed in any case, was refuted. The same, by the way, can be said of the subsequent running-time measurements made up to Dayton C. Miller in 1927. With the result obtained by Sagnac, the basis of the theory propagated by the world of relativity was already destroyed in 1913.

There are various interpretations as to the causes of the running-time differences. The interpretation of the relativists concentrates on presenting the ether as something old-fashioned and out of date. As though Sagnac had proven the ether. The truth is that neither Michelson/Morley nor the subsequent experimenters could say anything about the characteristic properties of the ether. The physical findings in all interferometer

experiments relate solely to the running-time difference of electromagnetic radiation (light) on different paths in different directions. All the experiments are concerned with differences relating to the direction of motion of the earth, which the experiments are set up to examine. - Michelson/Morley turned their interferometer through 90 degrees, Sagnac allowed the interferometer to rotate continuously, and D. C. Miller built his interferometer as a fixed facility on the surface of the earth and used the rotation of the earth as his rotational component. Michelson/Morley and D. C. Miller had to additionally observe the effect of the motion of the earth on its orbit around the sun.

For the relativists, the result obtained by Sagnac is a catastrophe. If, after all, the supposed null result obtained by Michelson/Morley was proof for the relativists of the correctness of the theory, the subsequent, clear proof of running-time differences must logically have amounted to a disproof of their theory. There is no alternative to this conclusion, not even concealment.

Sagnac, Georges: L'éther lumineux démontré par l'effet du vent relatif d'éther dans un interféromètre en rotation uniforme. In: Académie des Sciences. Paris. Comptes rendus. 157. 1913, pp 708-710. Contd. pp 1410-1413: Sur la preuve de la réalité de l'éther lumineux par l'expérience de l'interférographe tournant. - Engl. translation in: The Einstein myth and the Ives papers. 1979, pp 247-252: The luminiferous ether demonstrated by the effect of the relative motion of the ether in an interferometer in uniform rotation.

A: Ether / Error No. 7

The reintroduction of the ether by Albert Einstein in 1921 had no consequences for the STR

By 1920 at the latest, Albert Einstein had declared the necessity of the existence of the ether. His personal opinion, that the ether could not be understood as material, is one of many views put forward. His opinion, that the ether was identical with space, was one that was also expressed at an earlier date and cannot be verified. The general unawareness as to the characteristic property of the ether appears to leave all claims made in this connection as nothing more than pure speculation, until experimental finding are available. Two crucial sentences from the Leiden speech (reprint 1990, p. 117): "Indessen ... [Thinking precisely about it reveals that this denial of the ether is not a necessity for the principle of the special theory of relativity. One can assume the existence of an ether, but one then has to forego attributing to it a specific state of motion ...]" (p. 119): "Andererseits ... [On the other hand one important argument can be made in favour of the hypothesis of the ether. Denying the ether means, in the end, assuming that empty space has no physical properties whatsoever.]"

In the few relativistic presentations that dare even to mention the new position of Albert Einstein, his interpretation of the ether (as being identical to space) is presented as something completely new. None of these authors treats the question of how these claims can be proven. For most apologetic presentations, however, Albert Einstein remains the conqueror of the ether of 1905.

As a pure claim, the deportation of the ether to space is a clever chess move, because one knows nothing more about space than that extended bodies can exist and move in it. One knows nothing about the ether. One knows nothing about space. In this way Albert Einstein explains one unknown in terms of another unknown. But nonetheless, in 1920 he recalls to mind the word "ether", which had meanwhile come to be regarded with scorn, and testifies to its necessity, because he is meanwhile busy with the GTR.

Einstein, Albert: Äther und Relativitätstheorie: Address given on 5.5.1920 in the Reichs-Univ., Leiden. 1920. 15 pages reprinted in: Albert Einsteins Relativitätstheorie. Publ.: K. v. Meyenn. 1990. pp 111-123.

A: Ether / Error No. 8

The running-time differences clearly detected in the experiments conducted by Dayton C. Miller in 1925/27 are denied in the STR presentations

In his interferometry experiments Miller worked for many years at different altitudes and with longer light paths than his predecessors. Moreover, he avoided shielding the laboratory with concrete and metals, which was previously so typical, and he carried out the experiments at the various scheduled points in time (opposite locations of the earth in its orbit around the sun, and opposite positions of the earth in its own rotation), and was indeed the first to do so completely. His experimental setups were the best achieved up until then and have never been achieved again in control experiments. His results showed values that were approx. a third of those expected by a certain ether concept, i.e. no null results. - Carvallo, 1934, cited (unfortunately without a given source) on the title page a statement by Albert Einstein from 1925: "Si les résultats du Dr. Miller étaient confirmés, la théorie de la relativité serait en défault."

In relativistic presentations the results obtained by D. C. Miller are almost never mentioned. - Thorough analysis of the circumstances in: Collins, 1993 (Golem).

The world of relativity has had the interferometry experiments made harmless and has had them simply disposed of as irrelevant by Swenson, Loyd S., Jr.: The Ethereal Aether. A History of the Michelson-Morley-Miller Aether-Drift Experiments, 1880-1930. 1972. 361 pages.

In 1988 the confessed relativist B. Kanitscheider took a very clever approach towards making the dangerous measurements he had heard about in the same year harmless. At least he had heard, in 1988, about *one* positive ether drift detected in the year 1921 (p. 101): "Much later one experiment, namely that by Dayton Clarence Miller in the year 1921, even gave a positive ether drift. Since this took place at a time in which the STR had long since been installed, it would have been a threat to the theory. Neither Einstein nor most of the experts of those days were very devastated by the Miller result, however. One assumed a systematic error in the measurement setup." - In other words, this was recognized as a threat, but one was simply none too devastated, and the suspicion as to an error dismissed the result. On no account may one make a clear evaluation of the measured drift! Kanitscheider's physical moral: no matter what is measured, even if it's a threat, one must not allow oneself to be very devastated, and in particular one must not take it seriously. Simply assume an error! A lesson on how one fights threats with assumptions.

Since the results obtained by D. C. Miller, at around a third of the expected values, could no longer be reinterpreted as "null results" or as "negative results", the powers that be in physics, who alone control the research facilities and the financial resources, did not dare to carry out the control experiments that are otherwise customary in such cases. This is one of the early examples of prevention of free research, in order to protect the STR against public ruination, and it makes the D. C. Miller experiment one of the first experimental candidates for research after the future reinstatement of freedom to research.

- Miller, Dayton Clarence: Ether-drift experiments at Mount Wilson Solar Observatory. In: National Academy of Sciences (USA). Proceedings. 11. 1925, pp 306-314. - Miller: Significance of the ether drift experiments of 1925 at Mount Wilson. In: Science. (USA) N. p. 63. 1926, No. 1635, 30th Apr., pp 433-443. - Miller: Conference on the Michelson-Morley Experiment [Pasadena 1927; Contribution]. In: Astrophysical journal. 68. 1928, No. 5, pp 352-367; Contribution to the discussion: 397-399. - Miller: The ether-drift experiment and the determination of the absolute motion of the earth. In: Reviews of modern physics. (USA) 5. 1933, No. 3, pp 203-242. - Carvallo, Moise Emmanuel: La théorie d'Einstein démentie par l'expérience. Paris 1934. 55 pages - Kanitscheider, Bernulf: Das Weltbild Albert Einsteins. Munich: Beck 1988. 208 pages - Collins, Harry M.: The Golem: What You Should Know About Science / Harry Collins, Trevor Pinch. Cambridge: Univ. Pr., 1993. 164 pages. cf. 2nd ed. 1998. German edition: Der Golem der Forschung. Wie unsere Wissenschaft die Natur erfindet. 1999.

A: Ether / Error No. 9

Disregarding the 3-K background radiation discovered in 1965

The background radiation (3-K radiation) found in 1965 is interpreted in cosmology as residual radiation from the Big Bang. It is said to be isotropic (i.e. equally strong in all directions), though it does possibly reflect directional aspects. It is not identical to the proposed ether models, though an analogy does suggest itself, since the background radiation is said to fill the entire cosmos and in terms of isotropy it does represent a form of ether that can serve as a reference system against which to measure experimentally a drift of the earth vis-à-vis the background radiation.

Proof of a drift of the earth against the background radiation would be directly comparable - or even identical - with the drift sought by the MME against the ether, which was presumed by Michelson to be stationary. The background radiation would constitute an absolute reference system, the very existence of which was flatly denied by Albert Einstein. The drift of the earth found by Dayton C. Miller in 1925 - without any knowledge of, or reference to, the background radiation - was about 30 percent of the expected values and allows one to also hope for positive results in measurements for drift made against the background radiation.

Bergmann, 1970, is cited in the literature as follows: modern data such as 3K background radiation and independent motion of the galaxies "has led to the breakdown of Einstein's first postulate, the principle of relativity."

Not exploring or evaluating the possibility of experimental research for this drift in respect of the basics of the STR - a possibility which has now existed for 35 years and more - is an intentional and unforgivable suppression of scientific progress by the relativists, because it would constitute a further refutation of the theory. Relativists show a strong preference for employing historical analogies as physical arguments: the doubters of the antipodes and the inventors of perpetual motion as foolish opponents of physical science, who have been defeated. With the 3-K radiation we do not have a historical, but rather a physical analogy that, with an isotropy or anisotropy of the 3-K radiation to be identified and the possibility of earth-drift measurements, can enable exactly such findings as those sought for the ether. The 3-K radiation would thereby be at least a candidate for an absolute reference system for all motion in the cosmos.

Bergmann, Peter Gabriel: Cosmology as a science. In: Foundations of physics. 1. 1970, p. 17. - Prokhovnik, S. J.: The logic of special relativity. 2nd ed. 1978. - Kafka, P. In: Physikalische Blätter. 35. 1979, pp 257-420 - Ruderfer, Martin: Detection of absolute motion from atomic timekeeping data. In: Speculations in science and technology. 2. 1979, No. 4, pp 405-420. - Combourieu, Marie-Christine: Absolute space-time and realism in Lorentz invariant interpretations of quantum mechanics / Marie- Christine Combourieu, Jean-Pierre Vigier. In: Physics letters. A. 175. 1993, pp 269-272.

Light

B: Light / Error No. 1

According to Albert Einstein, the constancy of the speed of light in a vacuum is supposed to constitute a principle

Without giving any justification, Albert Einstein first stipulated (AE 1905, p. 892) as a "precondition ..., that light in a vacuum always travels with a certain speed V that is independent of the motion of the light-emitting body." Three pages later (AE 1905, p. 895) he describes his precondition as the "principle of the constancy of the speed of light", again without giving reasons for the presumption of a precondition and its elevation to a principle. In this formulation of the principle independence from the motion of the source is contained, though not as yet the subsequently added condition that the supposedly constant speed of light always remained the same vis-à-vis randomly moving observers, although the light propagation and its speed was to be exempted from the relativity of the respective motions.

To this, the criticism has raised the following fundamental objections:

(1) For each precondition introduced to a theory, justification must be given. Albert Einstein in 1905 gives no justification for this whatsoever. His precondition must therefore be held as unfounded.

(2) The elevation of a non-justified precondition to a principle without any further justification whatsoever is supposed to attribute greater importance to the alleged facts. But since the "precondition" is already without justification, so too is the sublime "principle".

(3) The speed of a natural occurrence is not directly given, but is calculated from the quotient distance travelled per time taken; i.e. it presupposes a distance measurement and a time measurement. Alone the quotient, a calculation, gives the magnitude of the speed. Such a measurement of the (one-way) speed of the propagation of light was not available in 1905. And it is still not available in the present day. Instead one works with measurements of reflected beams of light, i.e. with the average speed for the outbound and return journeys of the light.

(4) The use of an average speed of light in the STR is impermissible, because it has no physical magnitude but represents a mathematical fiction only and possibly different speeds on the outbound and return journeys, i.e. the non-constancy of the speed of light veils, and gives rise to far-reaching physical conclusions from the world of fiction.

(5) The claim of constancy is put forward in 1905 for (p. 892) "empty space". Under this term Albert Einstein refers to a space free of measurable bodies, though not free of radiation or of fields (electrostatic, magnetic, electromagnetic and gravitational fields), so that even in supposedly "empty space" physical influences can have an effect on the light.

(6) In order to be able to maintain the "principle" of a constancy of the speed of light under these conditions of "empty space" the speed of the spreading of the light or other electromagnetic radiation must be measured empirically. The measurements must at the same time establish the spreading of the radiation in different directions,

because the "principle" also claims a uniformly constant spreading in all directions of space. Only continuously repeated measurements of this sort with exactly corresponding results can lend the assumption of constancy a certain plausibility. As to when such a demonstration of reliability has been adequately given in order to justify the status of an irrefutable "principle", this question need not be answered at present since the empirical findings have not as yet been recorded under the conditions mentioned.

(7) For Albert Einstein in 1905 the idea of a "constancy" of the speed of light was probably also bound up with the idea of the "identity of the calculated magnitude", though these must be differentiated, because there are experiments that give no measured value for the speed of light, but only a comparison of two beams of light as regards their equal or unequal speeds, i.e. running-time differences, regardless of what the actual speed might be. The comparative experiment of this sort conducted by Michelson and Morley, famous since 1881/1887, has only measured traces of a running-time difference that have been evaluated as a "null result". Subsequent running-time measurements made with interferometers have recorded considerable running-time differences (Sagnac 1913; D. C. Miller 1925 and 1927) and have thereby clearly refuted the assumption of the "principle of constancy" made by Albert Einstein.

(8) Only 11 years later (in 1916) Albert Einstein himself had given up his "principle" of the constancy of the speed of light, since in his GTR the light is accelerated or decelerated under the influence of gravitation, i.e. its speed changes. - To sum up: the "precondition" was not justified, nor was the "principle", and the magnitude of the alleged constancy of the one-way speed was never measured. Instead the non-constancy was proven in a variety of ways by running-time differences detected by Sagnac and D. C. Miller, and even Albert Einstein himself, 11 years later with the GTR, abandoned the constancy requirement in 1916.

The idea of "constancy" as an "identity for speed" has been refuted by the measured running-time differences. What remains is the idea of "constancy" in one direction, one direction in space, i.e. a one-way speed. So far there has been no empirical confirmation of this whatsoever. The reason lies in the difficulty of measuring the one-way speed of light. As long as one uses light signals for the synchronization of clocks, all "proofs" remain circular, i.e. meaningless. Some other form of synchronization procedure is necessary. This is why the relativists work only with the assumption of the average speed of an outbound and returning beam of light.

The running-time differences proven in interferometry experiments (1913, 1925 and 1927) for various directions in space were not measured in a vacuum, but their disappearance in a vacuum is not to be expected, which is why the relativists already deny the findings without a vacuum, just to be on the safe side. The summary of findings for the world of relativity is dreadful: (1) one has no one-way speed whatsoever, (2) one cannot therefore give a single plausible justification for the constancy of this speed, and (3) the results of the interferometry experiments with the positively established running-time differences indeed shatter all expectations of constancy. With its supposed "principle", the STR is basically already a lost cause.

It is inexplicable how, after 1911 or after 1916 at the latest, Albert Einstein and his successors could continue to publish the theory of 1905, which as explained relied on the constancy principle, unaltered.

With the subsequent GTR - 11 years after the announcement of the STR - Albert Einstein himself had given up the "principle", and had even prepared this relinquishment already in 1911. In other words, the constancy principle really only had a lifespan of 6 years. Abraham already greatly welcomed this in 1912 as the declaration of bankruptcy of the STR. Since the relativists appear to know nothing about this declaration of bankruptcy, they have had to live alternately in two worlds ever since: in the world of the STR, in which the constancy principle applies, and in the world of the GTR, in which it

does not apply. The perpetrators of the propaganda in the world of relativity speak continuously of both of these worlds, though they never tell one in which of them they themselves live. The public apparently has a free choice. It cannot be ruled out completely that some relativists might even manage to live in both worlds at the same time. Albert Einstein has already shown them how to, and they have never had any fear of contradictions.

AE 1905. - Abraham, Max: Relativität und Gravitation : Erwiderung auf eine Bemerkung des Hrn. A. Einstein. In: Annalen der Physik. F. 4, Vol. 38 (1912), pp 1056-1058.

B: Light / Error No. 2

All variously moving observers are supposed to measure the same speed of light, c, for the same ray of light

This claim is a central statement of the theory. It maintains the non-relativity of light propagation. The speed of light is thereby declared to be an absolute value.

In the case of Albert Einstein (AE 1905, p. 891), no explicit mention is made of an arbitrary number of different, moving observers. This implication is hidden, however, in the "coordinate systems", for which "the same electrodynamic and optical laws apply" (AE 1905, p. 891). He does not therefore deduce his absolute speed of light from empirical measurements, but from the validity of the same laws in all inertial systems. Further statements can be found on page 899 ("also measured in the moving system") and on pages 900-901 ("measured in the moving system ... in the event that this is the case in the system at rest").

M. v. Laue, 1913 (p. 35), describes it explicitly as an "assumption", that extends "beyond the experimental findings", "that the speed of light" has "the same value in all systems". As a justification he maintains that this assumption is "a necessary requirement of the principle of relativity" and he describes this assumption as a "law". It is, in other words, an assumption that extends beyond the findings (!), that is therefore not supported by these and is finally there and then elevated to a law. So much for the source situation.

The critical analysis of the alleged non-relativity, i.e. of the absolute constancy of the speed of light, has been a permanent topic for the critics since 1909:

(1) It has to do with an assumption for which there is es no empirical confirmation, v. Laue himself admitting that it extends "beyond the experimental findings".

(2) Experimentally unconfirmed suppositions can in no way be held as "laws", even if one heralds them as such.

(3) The assumption of the absolute constancy cannot be a statement "required by the principle of relativity" because it directly contradicts the principle of relativity and annuls the principle of relativity for motion as applied to the motion of light.

(4) Whereas Albert Einstein in 1905 can give no empirical findings whatsoever for his assumption, v. Laue in 1913 (p. 35) makes reference to the Michelson-Morley experiment (MME). This is supposed to have proven that "light propagation in a vacuum ... with respect to all systems, takes place equally in all directions". This claim can by no means be proven by the first experiments of 1881/87, undertaken with imperfect instruments and not fully implemented, but seems, on the contrary, highly unlikely even in view of the very slight positive result obtained by the MME.

(5) After Sagnac in 1913 or D. C. Miller in 1925 and 1927 at the latest, v. Laue and all relativists should have publicly conceded the loss of all foundations for the "law" and should have revoked the "law".

The untenable nature of the matter corresponds to Albert Einstein's wily method of argumentation in AE1905: on pp 891-892 he further states that the principle of relativity and the absolute constancy of c

are "only apparently incompatible", though he already makes both preconditions for the further reflections; on p. 895 both claims are appointed to principles on which everything else is founded. On p. 899, however, Albert Einstein turns the tables. Now the absolute constancy is even "required" by the principles: "as the principle of the constancy of the speed of light in conjunction with the principle of relativity requires". Both principles are obviously already held as compatible and are incorporated in Albert Einstein's transformation equations (pp 899-900). On pages 900-901 Albert Einstein surprisingly states that the compatibility of the two principles is not yet proven (!). On page 901 he then proves the compatibility of both principles, applying to this end the transformation equations of pages 899-900 - within which his two principles had already been incorporated.

Albert Einstein thus relies on the reader's being unable to retain an overview of a convoluted line of argumentation stretching over 10 pages of text, in which claims are made, but the proofs of these claims are announced as coming later. Meanwhile calculations based on the claims are undertaken and the claims are set in formulae from which they can later be "proven".

At least Albert Einstein does not forget to first put the rabbit that he plans to pull out of the hat, into the hat. The official physics of the Nobel-Prize winners Planck, v. Laue, Einstein and Born, as well as of their successors, has been successfully selling this method and this result for 100 years as a genial revolution for all of our conceptions of space and time.

Now to the fundamental problems. If the light is to move and is to exhibit a measurable speed in its spreading (propagation - all agree on 300000 km/sec), then this motion must also underlie Galilei's principle of relativity, i.e. it must always be given in terms of a reference system. To this end there are basically 3 physical options that suggest themselves: (1) the light source, (2) the medium (the ether or simply space itself), within which the light spreads, and (3) the recipient (observer), who/that registers the arrival of the beam of light. Source, medium and recipient can move with respect to each other, and a ray of light can move differently with respect to each of the three objects. Each physical observation of the motion of the light must account for four objects.

In the literature, and mostly also in the critical literature, it is generally assumed that option 1 (light source) can be eliminated as the reference system for the speed of light, because one generally recognizes the independence of the speed of light from the source as having been proven (well-known exceptions: W. Ritz; M. La Rosa).

Option 2 (medium, ether, space) was supposedly declared by Albert Einstein, in the years from 1905 to 1920, as "abolished". It again came into favour in the context of his STR after 1920, but in the world of relativity no recognition was given to this after 1920.

So, since 1905 all that remains for the world of relativity as a reference system is option 3 (observer), and here Albert Einstein decreed a claim as a principle, for which there is not the least bit of empirical proof, and which, moreover, violates his own principle of relativity (and that of Galilei).

In this, the presentation of a mere claim without any supportive empirical findings as a universal principle of physics, the much applauded physical daring of the theory might indeed find justification. In view of the results, however, this daring proves instead to be recklessness. The claim by v. Laue, that the principle of relativity of all things requires (!) this same measurement for C in all systems, i.e. non-relativity, is thereby an absurdity. Albert Einstein had at least always conceded that there was an element of incompatibility, even though this was only "apparent".

First pompously announcing the applicability of relativity to all motion and then subsequently suppressing the application of relativity to one specific phenomenon, this appeared, even for Albert Einstein himself, as an "apparently incompatible precondition" (AE1905, pp 891-892). In the case of v. Laue, the contradiction is explicitly elevated to a law. Albert Einstein and his successors

are indeed happy to go one step further and even want to make the speed of light - supposedly measured with the same value everywhere - a unit of measurement, in order to simplify their mathematical working model. The relativists thereby want to incorporate the fundamental contradiction of their theory in the empirical measurements. In the process they forget that they must form a quotient from two values, one of which they have so far been unable to measure empirically, the time for the one-way speed.

AE 1905. - Laue, Max v.: Das Relativitätsprinzip. 2nd edition 1913.

B: Light / Error No. 3

The claim of a constant speed of light (c constant) requires measurement of the one-way speed of light, which has so far not proved possible

The claim of the constancy of the speed of light (constancy of c) presents, by declaration, a basis of the theory (STR) that so far cannot be proven experimentally, not even in the earth's atmosphere, because it requires a measurement of the one-way speed of the light in different directions in space, that so far is not possible. A test in a vacuum is not as yet even an issue.

All reflections in the context of the STR since 1905 are therefore only based on the assumption of a constant average speed of a beam of light on the outbound and return journeys taken together. The decisive empirical discovery that the ray of light travels in both directions at the same speed - the one-way speed - is missing. The claim that c is a constant is therefore completely unfounded.

The much farther-reaching claim made by Albert Einstein as to an absolute constancy of c, namely that the same speed for c would even be measured by all randomly moving observers, is a different topic and implicates the principle of relativity (cf. error B 2).

The measurement of the one-way speed would require a measurement (1) of the path travelled, and (2) of the time taken, this to be measured by two clocks, one at the start and one at the end of the path. Whereas the path measurement presents no problem, the time measurement leads to an augmentation circle, if a synchronization of the clocks is to take place by means of light signals, since for a flawless synchronization of the clocks by this method one would already have to have identified the one-way speed of the light, which the experiment involving the clocks is still seeking to prove. The linking of time measurement and the propagation of light, and the logical dependence of the one on the other must be avoided. A solution can only exist in a secure synchronization of distant clocks by another method than that of light signals.

The relativists have so far shown no signs of taking a real approach towards solving the problem of their claim. Most critics have no problem to solve here, since they do not believe in the dogma of the constancy of c anyway.

The following suggestions on how to synchronize without involving light signals have previously been made: a row of closely aligned clocks with "observers" who pass on the synchronization over a long distance; a mechanical coupling through a rotating axis; and a slower clock transport, in which case, according to the relativists, the transported clock would scarcely be slowed down. All ideas without a definitive result in the literature. The fast clock transport should, according to the STR, result in a slower pace in the moving clocks and would thereby disturb and revoke the synchronization. This effect of time dilation, however, is believed only by the relativists when they are in the world of the STR.

Here it is instructive to recall to mind the hierarchy of the overlapping motions in outer space: all places on the earth move, with the rotation of the earth, around the earth's axis,

but also with the earth in the earth's orbit around the sun, and with the solar system within the spiral arm of our galaxy around the centre of the galaxy, and with our galaxy in our galactic cluster. At this point we will discontinue the consideration to ask ourselves where a "non-moving" clock might be found, that in the view of the relativists would not be "slowed down".

When the relativists enter the world of the GTR, the alleged constancy of c no longer exists and there is therefore no longer a need to prove it. If the critics seriously ask for proof of the claimed the constancy of c, the relativists can always escape through the GTR mousehole. This is the clever world of relativity, well equipped with two opposing theories.

Salmon, Wesley C.: Clock and simultaneity in special relativity or Which twin has the timex? In: Motion and time, space and matter. Interrelations in the history of philosophy and science. Ed.: P. Machamer, R. G. Turnbull. Ohio State Univ. Pr. 1975. - Podlaha, M. F.: On the impossibility to measure the one-way velocity of light. In: Lettere al Nuovo cimento (della Società Italiana di Fisica). 28. 1980, No. 6, pp 216-220. - Wohlrabe, Klaus: Zeit und Bewegung. In: Die Einstein'sche und lorentzianische Interpretation der speziellen und allgemeinen Relativitätstheorie. 1998, pp 162-197.

B: Light / Error No. 4

The claimed independence of the speed of light from the motion of its source (C-I) presupposes a medium (the ether) and thereby contradicts the STR

The claim of C-I (AE1905, pp 892 and 895) is widely accepted in the literature, even by the critics, the arguments for or against in the following connection being irrelevant. The important thing here is only the realization that the strict claim of C-U has been a fixed component of the STR since 1905, up to the present day.

The logical consequence of this claim of C-U is namely that the light, after leaving the source, spreads as a transversal wave in a carrier medium of its own (ether, space) which largely or fully determines the speed of expansion, as is suggested by the behaviour of a beam of light passing through another medium. In the period from 1905 until 1920 some statements on this physically justified and logically plausible assumption made by the STR and by Albert Einstein on the ether stand in contradiction, These contradictions also continued after 1920 and right up to the present day, because the world of relativity failed to allow for the consequences of Albert Einstein's 1920 lecture in Leiden (reintroduction of the ether as space).

The counter-position to the SRT, namely the assumption of a dependence of the speed of light on the state of motion of the source, was developed by Walter Ritz, amongst others, in the context of a corpuscular theory of light. Independent of the question as to how far Ritz was able to justify his theory, the problematic situation at any rate became clear in his jointly-developed criticism of the STR. - Ritz works without the hypothesis of the ether. The light left its source in the form of a corpuscle. As a corpuscle the light needs no carrier medium, but its velocity is therefore dependent on the state of motion of the source.

Because the corpuscular (ballistic) theory of light questions C-I, in the world of relativity one works with the wave theory of light. This inevitably gives rise to conflicts with the quantum theory. On the question as to the compatibility of the two theories there is no agreement in the literature, because the unclear relationships of the quantum theory also stand in contradiction to the explicit, simultaneous stipulation of the place and the velocity of a particle in the STR.

Ritz, Walter: Recherches critiques sur l'électrodynamique générale. In: Annales de chimie et de physique. Ser. 8, P. 13. 1908, pp 145-275. Reprinted in: Ritz: Oeuvres. Paris Gauthier-Villars 1911, p. 317. - Ritz, Walter: [Collected Works] Theorien über Aether, Gravitation, Relativität und Elektrodynamik / Walter Ritz; with an epilogue by Karl Dürr. 2nd edition Bern u. Badisch-Rheinfelden: Schritt-Verl., 1965. 74 pages - O. Mathias: Die ballistische Lichttheorie und das Prinzip der Konstanz der Lichtgeschwindigkeit. In: Physika

Physikalische Zeitschrift. 40. 1939, pp 443-460. - Einstein, Albert: Äther und Relativitätstheorie; address given on 5.5.1920 in the Reichs-Univ., Leiden. 1920. 15 pages reprinted in: Albert Einsteins Relativitätstheorie. Publ.: K. v. Meyenn. 1990. pp 111-123.

B: Light / Error No. 5

The claim that the speed of light is the greatest possible speed in the universe (C-M) has not been proven and, as a disqualifying claim, *cannot* be proven either

Whereas logical claims of exclusion can indeed be proven, every form of excluding physical claim must be evaluated, epistemologically, as being extremely risky. Basically speaking, it can never be positively proven, but a single empirical, contrary finding could annihilate the claim. The possibilities for proof are therefore completely asymmetrical - to the disadvantage of the claim.

Even if the authors of such excluding physical claims (here: no greater speed than c) are usually unaware of the unfavourable position in which they find themselves (since otherwise they would be less inclined to broadcast their claims so loudly), they nevertheless sense the underlying danger for their position and elevate it still higher, preferably to an unassailable dogma. It must always be like this and anything contrary is forbidden. The reason? It would be thinking against the theory!

A very simple reflection in the context of the STR's very own claims shows the invalidity of the above C-M claim: (1) there is said to be only relative motion; (2) certain galaxies, according to statements made by astronomers, are moving away from the earth at more than half the speed of light; (3) two such galaxies that, seen from the earth, are moving in opposite directions are moving away from each other with a relative speed that is greater than the speed of light. - Furthermore, in nova and supernova occurrences, jets of matter have been observed with a speed of expansion that lies above the speed of light.

Incidentally, Albert Einstein himself admitted the possibility of faster-than-light speeds on the basis of his GTR - in 1920 in Bad Nauheim, as Gehrcke explicitly testified to in 1921, after H. Weyl had expressed his doubts about this.

Excluding physical claims which are elevated to dogmas and the derivation of forbidden thoughts for the purpose of better securing oneself against criticism are characteristic of Albert Einstein's two theories. For research, if and to the extent that they are accepted, dogmas are serious obstacles. An example: when astronomers notice that, according to their calculations, the jets (gas emissions) from nova explosions are moving with faster-than-light speed, then they immediately correct themselves in submissive obedience and search instead for an explanation that explains away the faster-than-light speed (e.g. one can always assume a gravitational lens that completely alters the situation), so that the astronomers do not come to be regarded as wanting to kick against the pricks of the STR. The sanctions in the natural sciences, after all, are high and they function excellently. It is therefore no wonder that no faster-than-light speeds are "observed" - because one can't see what must not be.

The latest examples of thought prohibition were the reports on the observations of faster-than-light speeds (superluminary speeds), cf. Nimtz 1997. Authors who want to air such forbidden ideas always assure the reader, in the introduction, that they are orthodox relativists and naturally in no way wish to criticize the STR. And they also make efforts to take much of the sharpness out of the impermissible: something or other may well have moved with faster-than-light speed (superluminary speed), but it cannot transfer any energy, or it can only transfer information, or it has to do with tunnels, about which Albert Einstein made no statement, or - as the summit of all

acumen - the faster-than-light speed did not occur by accelerating a particle from slower-than-light speed to faster-than-light speed, but the created particle is naturally faster than light, and has therefore crossed no speed boundary! The photon has thus preserved the etiquette of the STR. In physics, a lot is possible, though not a violation of holy dogmas.

Strum, L.: Überlichtgeschwindigkeit und Relativitätstheorie. In: Physikalische Zeitschrift. 27. 1926, pp 541-544. - Chiao, Raymond Y.: Schneller als Licht? : der RT zufolge stellt die Lichtgeschwindigkeit eine obere Grenze dar - manche quantenmechanische Vorgänge scheinen diese Regel zu verletzen / Raymond Y. Chiao, Paul G. Kwiat, Aephraim M. Steinberg. In: Spektrum der Wissenschaft. 1993, October, pp 40-49. - Knapp, Wolfram: Die sieben Welträtsel der Physik / Wolfram Knapp, Jan Lublinski, Bernd Müller. In: Bild der Wissenschaft. 1994, No. 8, pp 29-37. - Nimtz, Günter: Schneller als Licht? In: Physik in unserer Zeit. 28. 1997, No. 5, pp 214-218. - Müller, Bernd: Stürzt Einsteins Dogma? : können Informationen schneller als Licht übertragen werden? In: Bild der Wissenschaft. 1997, H. 8, pp 69-74. - Magueijo, João: Faster than the speed of light: the story of a scientific speculation / João Magueijo. Cambridge, Mass. Perseus Publ. 2002. 279 pages.

Space

C: Space / Error No. 1

Albert Einstein denies the existence of absolute space

In 1905 Albert Einstein initially said (p. 892) only that "a space at absolute rest" "equipped with special properties" is not introduced in die STR. This means that he did not recognize the existence of absolute space.

The existence of absolute space is reflectively required for, and bound up with, a series of other fundamental conceptions: (1) with the unit of observational space accessible to us, (2) with the validity of an absolute time for the entire observational space, and (3) with the existence of absolute motion, as determined relative to the absolute space.

As a consequence of his rejection of absolute space Albert Einstein has also denied - i.e. relativized - the other 3 absolute concepts. For (2) time, and (3) motion, he does this explicitly. For (1) observational space, he makes use of treacherous formulations. He speaks, for example, of a "space 'at rest'" (p. 897), which logically implies the existence of a space 'in motion' and a multiplicity of spaces. With respect to what his space "at rest" is stationary, is something he fails to state.

What the inverted commas used by Albert Einstein are supposed to stand for cannot be found out. In this space "at rest" he accommodates two coordinate systems, one at rest and one in motion. With this, one system is logically at rest with respect to the space "at rest" (!). Then he announces that the space "at rest" should be measurable on the one hand from the system at rest, and on the other from the system in motion. After this announcement, however, no further mention is made of space until the end of paragraph 3 (p. 902). The space "at rest" is not measured at all.

Albert Einstein's relativization of the absolute concepts (space; the unity of space; time; motion) is refuted by experimental findings:

(1) the existence of rotational motion that corresponds to no relative motion in its vicinity, and that cannot therefore be relativized;

(2) the experimental refutation of the Ehrenfest paradox;

(3) unipolar induction without any relative motion between the magnet and the conductor;

(4) the positive results of the interferometry experiments with running-time differences;

(5) the habit of astronomers to treat their entire observational space, that part of the universe visible to us, as a unit of space in which a single time holds for all points in space, in which the distances separating all points in space are determined and for the occurrences observed the points in time are calculated on the basis of the running times of light.

This spherical observational space of the astronomers accessible to us (radius today approx. 20 billion light years) is the only one we have. An absolute space for the single reason that there is no other alternative to it. Albert Einstein would like to abolish the unity and the uniqueness of this space and to divide it into volumes of arbitrary amounts of space, which can be at rest or in motion, like bodies of matter.

The term "absolute space" comes from Newton and has, for Newton, not only physical but also religious qualities. These religious aspects introduced by Newton are made out to be the essence of the Newtonian theory of space by Albert Einstein and his followers and for this reason this theory of space is contested. Albert Einstein is celebrated as having conquered Newtonian "absolute space".

The purpose of this "abolition" by the relativists is not the rejection of Newton's religious concepts, which in any case no longer play any role in the modern physical concept of absolute space and are compelling on no one. Instead the polemic against Newton's religious ideas as regards space is intended to help destroy the unity of space, so that, together with the destruction of the unity of space the destruction of the unity of time can also be justified.

In 1905 it was not a bad idea of Albert Einstein to first want to destroy the unity of time, because, in view of the popular illusions as to time, it seemed to be particularly easy to bring this about, and thereafter to turn to space and bodies of matter. - If one takes Albert Einstein's tendency to identify every material body as space seriously, then logically speaking, in the world of relativity not only bodies but also volumes of empty space must undergo length contraction, and the world of relativity must tell us which length direction of its volumes of space contracts vis-à-vis which other of its volumes of space, and why, and whether reciprocally, or really or only apparently. The epistemological delicacies of the world of relativity are still far from exhausted.

The relativists would like to place all critics who see the existence of absolute space - as an absolute physical reference system - as unquestionablly proven, in the corner of religious and/or metaphysical sectarianism, which was finally and conclusively conquered by the heroic Albert Einstein and should therefore no longer dare to show its face in the field of physics. - As for the physical problems raised by the critics to which the relativists can no longer respond with physical arguments, these relativists prefer to respond with social defamation of the critics. Examples of such bad errors are Newton's religious absolute space, the stupid doubters of the antipodes and the obsessed designers of perpetual motion devices.

AE 1905.

C: Space / Error No. 2

The STR denies the unity of observational space for the geostationary observer

Albert Einstein (AE1905) divides the given single observational space into "volumes of space" and also wants to consolidate and extend this with a division of time: the denial (annulment) of the concept of simultaneity, and the division of time into various times - local times - for each body (reference system) in motion

with respect to its environment (pp 892-895). Each body is said to have its own space with its own time (e.g. p. 895: "die Zeit des ruhenden Systems" [the time of the system at rest]). He even speaks (p. 897) explicitly of a "space 'at rest'", which logically implies the existence of at least one other 'moving' space and thereby a multiplicity of spaces.

As from 1922 Albert Einstein explicitly expressed his plurality of volumes of space (initially as "Four Lectures ...", as from 1956 as "fundamentals") in written form (p. 7): in order to exclude the "fatal error" of assuming that the earth and its surrounding space is space per se, he wants to "speak only of 'reference bodies' and 'reference areas'". - Albert Einstein's multiplicity of spaces has become an idiom in the world of relativity. For example: "... to any other reference system R belonging to the same space-time"; "... reference system R belonging to a different space-time" (P. F. Browne, 1977, p. 729).*

For this denial of the obvious unity of geostationary observational space, no one is able to give even a single plausible argument. The science that researches the only observational space for the geostationary observer is astronomy, and the astronomers have so far allowed no one to destroy the unity of their observable space or to divide it up. Instead, the astronomers regard all of the points within their observational space as also having the same time, in which for all points in space their distances are determined, and for observed occurrences the time of the occurrences are calculated, on the basis of the times-of-travel of light.

The division of observational space wanted by Albert Einstein has not been accepted in its potential main area of application (astronomy). Otherwise this old science would sink in a chaos of countless spaces. It is preserved from this fate in particular by the awareness that the distances into which it looks are only images of long-bygone circumstances - 'old films' so to speak.

Anyone wishing to deny the unity of observational space must (1) present serious empirical findings against the unity of space, and (2) be able to give a precise physical analysis of the results or consequences of abandoning unity in favour of a multitude of "spaces". How are things at the borders between two of Albert Einstein's "volumes of space"? What happens physically with the transition of a measurable body from one volume of space into the other? What might reveal this transition?

In 1905 Albert Einstein is unable to analyze all of the important questions, and he was unable to do so even later. His followers and successors have also been unable to do so. Instead they busy themselves with reproductions of Albert Einstein's claims, though with embellishments and interpretations when they believe that this is necessary to improve weaknesses in the theory. They work with a completely unfounded claim of Albert Einstein's as though this was a matter of course.

For relativists it is enough to know "what Einstein has taught us ...". The devout relativists are incapable of critical research and the cynical relativists know how to prevent it, because only prohibition and suppression of every bit of criticism can maintain the facade covering the condition of the theory.

In 1984 ("Grundzüge") Albert Einstein reveals his ideological motive for recognizing the division of space, namely to combat the ruinous attitudes of the philosophers (p. 6): "It is therefore, in my view, one of the most ruinous attitudes of the philosophers that they have transferred certain understandable fundamentals of the natural sciences out of the control of accessible areas of the empirically expedient into the unassailable heights of theoretical necessity (the a priori)." Apart from the question as to whether every theoretical necessity is aprioristic, theoretical necessity is somehow ruinous. Anyone who so generally denies theoretical necessity finds himself (regardless of content) on a course of confrontation with every serious attempt to discover via contemplation.

AE 1905. - Einstein, Albert: Grundzüge der Relativitätstheorie. 5th edition 1969, reprint Braunschweig etc.: Vieweg, 1984. 166 pages (Wissenschaftliche Taschenbücher. 58.) - Browne, P. F.: Relativity of rotation. In: American Journal of Science. Ser. 2, Vol. 10. 1977, pp 727-744.

C: Space / Error No. 3

Albert Einstein worked with the idea of a "space at rest"

Albert Einstein speaks explicitly (AE1905, p. 897) of a "space "at rest"" (the term "at rest" already being put in inverted commas by him), which logically implies the existence of at least one other moving space and thereby a multiplicity of spaces. With respect to what his space is "at rest" is a question that Albert Einstein does not ask himself and one to which he makes no comment. With this he has introduced an absolute "space at rest".

For this multitude of spaces assumed by him he is unable to present a single plausible argument, or to name empirical findings, or to state the nature of the mutual demarcation between the supposed volumes of space, or to analyse and justify any physical transition from one volume of space to an adjacent volume of space. He also fails to justify the assumption of an obviously absolute space "at rest". Albert Einstein's supposed space "at rest" is a construction against his ideas of the relativity of all motion, an empty concept.

The science that researches the only observational space for the geostationary observer is astronomy, and the astronomers have so far refused to accept the idea of a multiplicity of observational volumes of space.

The question asking with respect to what Albert Einstein's supposed "space at rest" is indeed at rest, is dealt with at another point in the catalogue of errors (cf. Error E 1). Albert Einstein's preferred idea of a division is relevant to the concept of space. - The first 3 theoretical errors with respect to the concept of space, C1 - C3, are naturally closely bound to each other, although each presents an error in its own right, and calls for its own counter-arguments: the contested absolute nature of space, the contested unity of space and the explicit plurality of volumes of space.

Albert Einstein's universally practiced method of putting his concepts, for absolutely no apparent reason, in inverted commas at one point and without them at another, without clearly specifying, or at least indirectly stating, what is supposed to be different about the concept presented in inverted commas, is treated as a presentation error (Error S 7).

Strangely enough, as far as we know, none of the critics has addressed the topic of Albert Einstein's supposed "space at rest" of 1905 as an explosive against the unity of space. Nor does the error of a missing reference - with respect to what this "volume of space" is supposed to be at rest - seem to have been addressed. One of the real howlers made by Albert Einstein appears, so far, to have been overlooked in the criticism. We recommend it for general attention.

AE 1905.

C: Space / Error No. 4

The space of the GTR is supposed to be curved

Albert Einstein declares (in 1916, cited from the 1923 reprint), with respect to the previous opinion that Euclidean geometry describes the relative locations of bodies in space (p. 81): "that the general theory of relativity cannot retain this simple physical explanation of space and time". Previously (p. 84): "the coordinates of space and time have had a direct physical meaning." He wants to show that this view (p. 84) "must be abandoned and replaced by a more general concept". He wants to express the laws of nature as general covariant equations. This targeted general covariance removes (p. 86) "the last remnants of physical concreteness from space and time".

This last remnant of concreteness vanishes with the mathematical construction of a four-dimensional geometry. In this mathematical construction the

coordinates of space and time are no longer constants, but functions, i.e. dependent on space-time. (p. 88): "At the same time the motion of the free point of mass in the new coordinates will appear as curvilinear, irregular, ... independent ... of the nature of the point of mass in motion. We will interpret this motion as being similar to motion under the influence of a gravitational field. We see the presence of a gravitational field bound up with a space-time variability of the [function]". (p.89): "According to the general theory of relativity, then, gravitation plays an exceptional role as compared with the other ... forces."

With this the program of the GTR is outlined: gravitation determines the space coordinates, though without any concreteness, because everything has to take place in a non-Euclidean geometry (p. 122). "So Euclidean geometry does not apply in the gravitational field even in close approximation, if one wishes to understand the very same rod as a realization of the same path, independent of its place and its orientation." Free points of mass depict curvilinear motion, as does light (p. 123): "One easily recognizes that the beams of light have to travel a curvilinear path with respect to the coordinate system ..."

A critical analysis has no great difficulty with this concept of space, because the inventor of the theory himself concedes that it is a mathematical construction that is without any physical concreteness.

Already in 1930, Forsyth diagnoses in the Foreword, that the alleged curvature of space is a mathematical abstraction and its existence is not proven by anything. Nothing has altered here right up to the present day. - In an abstract presentation of space the mathematicians can construct as many different geometries as they want. All of these created geometries can be worked with, provided they are not self-contradictory. This is the basis of the conventionality of geometry.

The user can select a geometry ad lib and according to convenience. All processes in space can be depicted with each geometry. In selecting a non-Euclidean geometry only curved lines are available instead of straight lines. In principle, such constructions of non-Euclidean geometries, if they are not self-contradictory, are also neither more true nor more false than other geometries. Their choice in order to describe processes in real space does not, however, give proof that space has taken on the properties of one of the many geometries.

Albert Einstein goes a grotesque step further and maintains that (p. 84): "one can 'create' a gravitational field by merely changing the coordinate system" (the inverted commas for "create" are from Albert Einstein). If one can create a gravitational field by changing coordinates, then one thereby alters, according to Albert Einstein's own teachings, the curvature of space. But how does space know which coordinates Albert Einstein has just selected on his paper?

The critic can here mainly restrict himself to quotes from Albert Einstein, because he himself openly admits that he is only working with fictions. The change of coordinates is completely arbitrary and only a figment of the imagination of the relativists, and this is said to create a gravitational field that can only be fictitious, but that supposedly immediately changes the only true geometry of space. Nobody will claim the physical concreteness of this physics, and it waives all effort to do so itself.

When the relativists speak of curved space, they merely attribute characteristics of physical phenomena or processes (bodies, fields, radiation) to space, something which, in the case of primitive people, is described as magic and fetishism (writing the name of the enemy on a piece of paper and then burning the paper as a means of destroying the enemy).

Albert Einstein's magic even goes so far as to create fields of gravity through a pure selection of coordinates. Here, everyone is permitted to build his very own world. - The relativists thus observe a gravitational field with curved field lines (the same

gravitation) and maintain that this is the reason why space is curved. Here they forget that, according to their own logic, a different - e.g. rectilinear or differently curved - appearance at the same point in space does not imply that space must either lose its curvature or must assume a different curvature. Space, therefore, must continuously alter its geometric structure to accommodate its appearance or process. What speaks against this standpoint is (1) the applicability of completely different geometries to the same processes in space, (2) the complete lack of any proof of the validity of only one specific geometry in space, (3) for the practical application of a non-Euclidean geometry, the necessity of the Euclidean geometry for the definition of the measurement of curvature, without which a non-Euclidean geometry is unable to be implemented, and (4) the complete lack of proof as to certain special properties of true space that go beyond the two known characteristics of its extension and the possibility of motion within it.

For the relativists space is a sort of dump for rubbish, everything that we cannot understand being added on to it as a property of space and then regarded as having been explained. Space is said to be curved. It is said to alter its properties continuously in dependence on existing mass. Space itself is said (since 1920) to be the ether. It is further said to permit only one specific (non-Euclidean) geometry, though which non-Euclidean geometry in particular holds at any given time alters, depending on one's opinion. Since we know nothing about space, we can claim to know everything about it: that's seeing better in the dark. - There are simple reflections that allegedly show the supposed properties of space as physically being caused by characteristics of bodies or fields. A rigidly stretched thread can form almost a straight line, even in a gravitational field, and it is only the difference with respect to this rigidly stretched thread (the line of Euclidean geometry) that allows one to recognize and to measure a curvature. If a ray of light travelling parallel to the thread is curved by the gravitation, it is not space that is curved, but the path taken by the light, this being due to a familiar cause, and not to space.

A. Einstein: Die Grundlage der allgemeinen Relativitätstheorie. In: Annalen der Physik. Ser. 4, 49. 1916, pp 769-822. Reprint in: Das Relativitätsprinzip. Collected Works from Abh. 5th edition, 1923. - A. R. Forsyth: Geometry of four dimensions. 1930, S. X-XIII.

Time

D: Time / Error No. 1

Albert Einstein maintains that the concept of time depends on the positions of the hands of clocks

AE1905, p. 893, gives, as a "Definition of 'Time'" (the inverted commas for "time" come from Einstein), "that in place of the 'time' I 'set the position of the small hand of my clock'. Such a definition is indeed sufficient when it is intended to define a time solely for the place in which the clock finds itself". And he continues (pp 894-895): "The main thing is that we had defined the time by means of a clock at rest within a system at rest. We will call the time defined in this way 'the time of the system at rest', due to its being part of the system at rest". With this Albert Einstein maintains two things: (1) that time is defined by what a clock indicates; and (2) that a time can be defined for a location, and this "exclusively", whatever this may mean.

Both claims are incorrect: the first because the concept of time is consecutive and already determines the construction of the clock, so that no subsequent setting of a hand of the clock can change the concept of time, any more than the deduced can exert an effect back to the

original; and the second, because the physical concept of time is won from comparing random physical processes (movements) in the entire observational space, and therefore applies to the entire observational space and no longer subsequently and randomly due to the presence of an instrument (clock), to the location of which in space it can be limited.

If time was in the clock and this would always only tell the place at which the clock found itself, then, according to Albert Einstein's logic, the time at the place in question would even be dependent on running defects of the respective clock, and a place without a clock would have no time at all. This makes clear that the time cannot be in the clock, but is only indicated by it. And even where there is no clock measuring the time, time continues to pass, a concept of time exists, and all changes in time continue to take place.

Defining the concept of time in terms of the position of the hands of the clock fails to appreciate the logical interdependencies and turns the intellectual conception of time, its concept, just as upside down as the claim that the thermometer defines the concept of temperature, or that the ruler defines the concept of length. The mix-up between the concept and the measuring instrument derived from this is easy to diagnose and demonstrates once again Albert Einstein's unawareness in the handling of concepts and his inadequate intellectual analysis of the problems he is seeking to resolve.

The supposed validity of time only for the place at which a clock finds itself could have been accepted on probation had he himself abided by the rule. One would have followed this with interest to see what findings were to be won from this approach. In the remaining statements relating to his theory, however, he again works with the familiar physical concept of time, in which his clocks are also able to give a time extending beyond their respective locations, namely for an entire, extensive reference system. With this he himself refutes his claim of purely local valid time. A time that on the one hand is only locally valid and on the other is also valid in observational space would require two different concepts of time that are not developed in the STR.

P. Janich (1969) makes it clear that the concept of time is something normative, a protophysical setting that cannot be altered by running defects of the clocks, and that cannot be altered by certain subsequent settings of the hands.

The claim that time is what comes out of the clock is also a piece of magic. The clock as a time dispenser. - The swapping between two different concepts of time, the one a purely local concept introduced by himself and the other the familiar concept of time in physics and astronomy, valid in observational space, proves conclusively that even Albert Einstein himself cannot account for things in terms of the fictitious, solely local concept of time, because without a valid concept of time in space he is completely unable to arrange the natural processes in observational space in a meaningful way. He does, however, wish to limit the space-validity of his concept of time to the extension of a reference system. But the limitation is ruptured, in the practical context, by all other reference systems that are at rest with respect to the first reference system. The fact that they could be rigidly interconnected to each other requires that the same time applies as in the first reference system, which means that the limitation foreseen by Albert Einstein becomes invalid. So there is either the concept of a magical time that comes from the clock and applies solely to its location, or the concept of physical time which applies to the entire observational space. One has to decide between them. The astronomers have decided.

Janich, Peter: Die Protophysik der Zeit. Mannheim Bibliogr. Inst., 1969. 177 pages - Subsequent edition: Frankfurt a. M.: Suhrkamp, 1980. 319 pages.

D: Time / Error No. 2

Albert Einstein denies any simultaneity between bodies in relative motion

Prior Remarks. Clock synchronization is only one application of simultaneity. - After having reduced time to a characteristic of the clock (cf. Error D 1), for Albert Einstein there are as many times as there are bodies with clocks in different places. With this, the question as to the "same time", i.e. simultaneity and whether and how this can be ascertained, is only a valid one for him (those who do not artificially divide time into portions have no problems with simultaneity). In the process Albert Einstein makes the following distinctions: (A) the simultaneity of occurrences or the settings of clock hands at one and the same place is recognized by him as being unproblematic (AE 1905, p. 893); (B) the simultaneity of distant occurrences that are not moving with respect to each other, e.g. two fixed-location clocks on the same body (reference system), and can be created by synchronization with beams of light, is also recognized by him (AE 1905, p. 894); (C) but the simultaneity of distant occurrences on bodies (reference systems) that are moving with respect to each other cannot, according to Albert Einstein, be clearly, or absolutely ascertained, because according to his claim, "two simultaneous" occurrences in one coordinate system can be held to be simultaneous, whereas in a system differently in motion they are held to be "no longer simultaneous occurrences" (AE 1905, p. 897).

Cases A and B are recognized by Albert Einstein as simultaneity, but he contests simultaneity for case C. On the other hand, simultaneity as an identity of precise time can only be determined or disputed. In this matter there are no transitional states (a bit more simultaneous, a bit less simultaneous), which is why the contestation of simultaneity means its abolition and not, as it so nobly sounds in the relativistic language, a "relativization" of simultaneity. This clarification is of considerable importance, because it shows a breach that no relativist has so far been able to explain; why in two cases simultaneity exists and in the third case it does not, not even in a relative context.

The criticism recognizes, in the contestation of simultaneity, a consequence of the mistake already outlined in Error D 1, i.e. that time comes from the position of the hands of the clocks. An analysis of the supposed abolition of simultaneity in case C, in keeping with AE1905 (pp 892-897) is very instructive. The setup of the experiment for simultaneity is as follows (pp 896-897). Two objects are introduced, a reference system in which the clocks at rest have already been successfully synchronized with the light-signal procedure (as described on p. 894), and a rigid body (rod) that is in motion relative to the reference system. The clocks are attached to both ends of the moving rod, which are running synchronously with the clocks of the reference system and at each of the two clocks there is an observer. Both observers now synchronize their clocks with each other with the help of the light-signal procedure (although these clocks are already supposed to be synchronized - see above). In this connection the same formula (speed = distance travelled per time taken) is used for in each case for the outbound and return journeys of the light signal: with

- time of travel of the light (between the rod ends),
- rod length,
- velocity of rod v (vis-à-vis the reference system)
- and speed of light V.

This gives two equations. The signal on the outbound journey and the signal on the return journey both travel the same rod length and are in this respect equal to one another. In the one (outbound) direction, however, the velocity of the rod is subtracted from the constant speed of light V, (V - v), whereas in the opposite (return) direction the velocity of the rod is added to V, (V + v). In this way unequal quotients are given (the same rod length per unequal speeds), from which Albert Einstein deduces that the clocks of the observers in motion at the rod ends are not running synchronously, whereas the clocks of observers at rest in the reference system, by contrast,

are running synchronously, which is why in this case there is no absolute simultaneity.

This curious procedure shows the following explicit errors:

(1) The fundamental error. Albert Einstein does not treat the moving rod as is required by his principle of relativity, i.e. as reference systems of equal value, but deduces his non-simultaneity only for the clocks on the rod. In other words, he forgets to take the same approach for the clocks in the reference system, which would lead to the same, but reciprocal result. The disregard for reciprocity is evident throughout.

(2) Albert Einstein applies different calculations for the synchronization. On the one hand he assumes the validity of synchronizations with light signals within his reference system in that he deduces the entire running time for the light signal in the reference system over the outbound and return journeys (p. 894). On the other hand he calculates two separate and different running times for the outbound and return journeys for the synchronization of the clocks at the rod ends, setting one relative light-signal velocity as (V - v) and the other as (V + v) and obtaining in this way, naturally, no true synchronization of the two clocks. In the one case he adds both running times and takes an average, in the other case he separates these into two partial running times and does his calculations with different values. These different calculations for the same process constitute an impermissible and easily detected trick. Either the calculation with the averaged running time (p. 894) is correct, in which case this also applies to the clocks at the ends of the moving rod and gives a correct synchronization, or the calculation for the clocks at the rod ends (p. 896 below, and p. 897 above) is correct, in which case this also gives no synchronization for the clocks of the reference system. The difference alleged by Albert Einstein arises only because he does not treat the reference system and the moving body (rod) as relative and equal, disregarding his own principle of relativity in the process. Neither Albert Einstein nor his followers have dispelled this contradiction. In fact, they probably haven't even noticed it.

(3) Two different speeds (V - v; V + v) are given for the light, although this cannot be the case according to Albert Einstein's own principle of constancy. In each of his systems there must and may only be one measurable speed of light, namely V (= c)! With V - v and V + v the speed of light itself becomes a relative speed, thereby losing its pompously alleged absolute constancy vis-à-vis all observers.

(4) Albert Einstein claims an initial synchronization, although he does not state how this is to be achieved. The clocks at the ends of the moving rod are said to be initially synchronous "with the clocks of the system at rest". How can Albert Einstein have achieved simultaneity for this synchronization when the rod was moving against the "system at rest" and he wants to prove that there is no simultaneity between moving systems?

(5) If, however, the alleged initial synchronization was established while at rest with respect to the reference system, according to Albert Einstein this synchronization no longer applies in the subsequent relative state of motion, because his relatively moving clocks are supposed to run more slowly.

(6) Whichever of the two possible situations for the alleged initial synchronization one prefers, one version violates his time dilation for the moving clock, while the other version makes use of synchronization between moving systems, the invalidity of which Albert Einstein subsequently seeks to prove, i.e. a clear contradiction between the precondition and the conclusions.

(7) What purpose, by the way, is this initial synchronization supposed to have, when both clocks are subsequently supposed to be synchronized with each other by means of the light-signal procedure?

(8) The starting time stipulated in the synchronization procedure is declared in footnote 1 (p. 896) as the "'time of the system at rest' and at the same time as the 'position of the hands of the moving

clock'," in which "at the same time" there is a simultaneity. But how can this simultaneity between two bodies in relative motion have been established? Again in this footnote Albert Einstein works with simultaneity between bodies moving relative to each other, a simultaneity he subsequently seeks to show is impossible: the well-known circular contradiction. He himself makes use of something as a precondition the existence of which he then subsequently denies.

(9) According to the principle of relativity, the reference system and the rod moving relative to it represent two systems of completely equal entitlement. This means that for both systems the same equations hold, also for synchronization. Albert Einstein's different calculations thus contradict his principle of relativity, which claims that the effects between inertial systems exhibit complete reciprocity. Had he been consequent, he would have selected, in keeping with case B, two secure, simultaneous occurrences anywhere in observational space and would then have had to determined how the observers in ***both*** *systems evaluated the times of these two occurrences. But he didn't take this approach. According to his own principle of relativity, the observers in both systems would have to have come to the same result, agreeing on recognition or on non-recognition of simultaneity. Had they failed to agree on it, they would clearly have made an error, because simultaneity in keeping with case B is regarded as absolutely assured.*

(10) Albert Einstein's decree as to which clocks in which system in what synchronization were to measure the processes at the moving rod can be found on p. 896, paragraph 5, and is completely unclear. Any interpretation here would only be an invention of clarity.

(11) The error of different synchronization calculations arises in Albert Einstein's presentation from a tacit treatment of the reference system (coordinate system) as a "coordinate system at rest" (p. 895) without any details being given as to what it is, with respect to which this "system at rest" is actually at rest. Or put another way, he makes use here of a clandestine absolute reference system that, according to his theory, cannot exist.

Since Albert Einstein's derivation is completely incorrect and his attempted abolition of simultaneity in case C is unsuccessful, and since all three cases, A - C, take place in the same physical observational space, the very same time applies to them at all places, which is why simultaneity also applies for all places in observational space. There are at least six proofs of this:

(1) The physical concept of time derives from the comparison of different movements at random places in space. For this reason its validity cannot be subsequently, and quite arbitrarily, assigned and limited to specific places in space, nor can its validity be made dependent on the states of motion of individual bodies within this space.

(2) In the solar system at least some bodies move with different speeds, and the astronomers on the earth calculate the positions of these bodies successfully on the basis of a standardized time scale and simultaneity. There is no case C in which simultaneity does not hold for specific places in observational space, because a body there is moving relatively. As regards the explicit stipulation à la Albert Einstein, that two occurrences seen from one system can be held to be simultaneous while from another system they can be held to be non-simultaneous, this forms no part of the approach taken in astronomy.

(3) Whitrow reports (1966 and 1981) the reintroduction of worldwide time (p. 573): "... cosmologists studying the expansion of the universe were led, about 1930, to reintroduce the concept of world-wide time, so that the relativity of time became an essentially local phenomenon for observers in motion relative to the cosmic background."

(4) The recognized simultaneity in case B for distant occurrences at rest with respect to each other cannot be denied to a third occurrence taking place at a location between these two occurrences, only because this is in motion. The validity of simultaneity over a certain distance, once recognized, proves the validity within the observational space of this distance.

(5) If, for case C, Albert Einstein contests simultaneity between two specific occurrences, he must be able to state with what other (!) occurrences these occurrences of case C are supposed to be simultaneous (he does not dare to state, after all, that there are occurrences that are not simultaneous with any other occurrence whatsoever!), etc. He must in this way construct h i s network of simultaneity relationships applying to all bodies spread throughout space that are at rest, relatively speaking, with respect to each other (case B), a mechanical connection here being unnecessary, whereas all other bodies spread throughout space and moving relative to case B (case C) fall out of the simultaneity network. If the bodies of case C change their relative states of motion (as they continuously do in the real world), they might then, vis-à-vis each other, or as bodies of case B, enter the state of being relatively at rest and then belong, perhaps temporarily, to the simultaneity network of Albert Einstein. Since at the same time Albert Einstein's principle of relativity is supposed to apply, as a consequence of which there is no absolute reference system, every body can regard itself as being at rest and can regard the other bodies as being in motion relative to it, so that every body can construct its own simultaneity network and can penetrate the different simultaneity networks in space. In this case Albert Einstein's distinctions between cases A - C would be superfluous.

(6) For all rotating bodies of our solar system, the same fixed-star sky appears to rotate, though for each body on different axes and at different speeds. By observations and calculations, astronomers on each of these bodies could determine their own place and the simultaneous places of the other bodies, just as astronomers on the earth do, it being assumed in this connection that the achievable accuracy of measurement is unable to encroach on the recognized simultaneity.

Conclusion: Albert Einstein's deductions are based on serious errors. If one were to take them seriously, physics would be confronted with two explicit alternatives. Either there is simultaneity for all points in observational space regardless of the states of motion of bodies; or the concept of simultaneity is revoked by Albert Einstein as being useless, in which case nobody can put the occurrences found in observational space in a sequence. Physics could only choose the alternative that allowed one to recognize the order of occurrences. Fortunately there are no two [such] alternatives.

Albert Einstein makes two major errors: in two cases he concedes absolutely sound simultaneity, so that he cannot later reject this concept; and he fails to maintain that there are occurrences that are simultaneous with nothing else in the world whatsoever. - Whitrow reports the public admittance of the reintroduction - "about 1930" - of the absolute, worldwide valid, *single* time and thereby simultaneity, and combines it with the consolation that the "relativized time" of the STR at least still applies "locally". The logical argument, however, still needs to be demonstrated, i.e. how in the stomach of the great standardized time the endlessly many locally relativized times are to be applied.

As already seen in the introduction of solely local time taken from the clock, in the case of simultaneity Albert Einstein again seeks to derive the concept (of simultaneity) from the technical stipulation (of the synchronization). - Given his far-reaching claims as to time and simultaneity, Albert Einstein knows too little about the clocks to be able to say in what his time is supposed to stick. He says only that they should all be "of precisely the same characteristic property" (p. 893). A funny physicist, who doesn't interest himself in the technology and in the physical laws governing his clocks.

In the propaganda writings of the relativists Albert Einstein's presentation of time and simultaneity is celebrated: "It is exactly in this that the boldness and the high philosophical meaning of Einstein's idea that he disposes of the old prejudices with a time that is valid for all systems" (v. Laue 1913, p. 37). In these words one senses the relief of the physicist: achieved at last! - However, in physics, as in all other fields, it is not primarily important whether the ideas are bold and meaningful, but whether they are true.

M. v. Laue 1913. - Bergson, Henri: Durée et simultanéité [1. éd.] : à propos de la théorie d'Einstein. Paris: Alcan, 1922. 245 pages, Engl. translation: Bergson: Duration and simultaneity / introd.: Herbert Dingle. Indianapolis: Bobbe-Merrill, 1965. 190 pages - Whitrow, Gerald James: Time and the universe. In: The voices of time. Ed.: J. T. Frazer. New York 1966, pp 564-581. - 2nd ed. 1981.

D: Time / Error No. 3

Albert Einstein finds himself unable to clearly demarcate between the two types of simultaneity proposed (one absolute and one relative)

The recognized simultaneity of two occurrences at the same place (AE1905, p. 893), e.g. the settings of the hands on clocks standing next to each other, and the alleged non-simultaneity for two occurrences on relatively moving bodies at a distance from each other (p. 897) raise questions as to their demarcation.

1st question: How far from each other may the two clocks standing next to each other be; a metre, or five metres, or ten metres? Is one permitted to read the position of the hands of a clock even with binoculars? Then one could bridge a distance of several hundred metres.

2nd question: Fundamentally speaking, proximity and motion are not mutually exclusive. If the two relatively moving systems approach each other and then pass each other very closely (with a separation, for example, of 1 metre) so that the simultaneous reading of one clock in one system and one clock in the other system is possible, can this establish simultaneity in various moving systems?

Albert Einstein deliberately fails to address these questions, though in a footnote on p. 893 he admits: "The imprecision as to the concept of simultaneity of two occurrences at (roughly) the same place and how it can be bridged by an abstraction will not be discussed here."

In view of the serious consequences seen by Albert Einstein as a result of his distinction, this imprecision is unforgivable. After all, if two systems passing each other in close proximity synchronize their clocks at this moment, then something happens which Albert Einstein explicitly contests; unequivocal simultaneity between systems in relative motion.

The lack of care shown by Albert Einstein as regards the definition at close proximity, the imprecision of which he himself concedes, ruins one of his nicest inventions, the "relativity" of simultaneity. His waiving of a discussion on demarcation was possibly due to the seeming futility of such an attempt. After all, he would not only have to have identified the demarcation between proximity and distance, but would also have to have justified this and to have explained what it was that, on crossing this boundary, physically (!) changed.

H. Bergson (1968, p. 55) clearly recognizes this hole in the theory and makes fun of it in that, instead of human observers, he sets microbes on the clocks standing next to each other, they regarding even the separation of one metre as a large distance so that they - well positivistic - refuse to establish absolute simultaneity. In the discussion with Albert Einstein in 1922, Bergson put the following nice words in the mouths of the microbes: "Ah non! nous n'admettons pas cela. Nous sommes plus einsteiniens que vous, Monsieur Einstein" (p. 106).

Bergson: [Contribution to discussion, Sitzung der Société Française de Philosophie, 6th April 1922] : [Topic of the meeting: La théorie de la relativité]. In: Société Française de Philosophie. Bulletin. 22. 1922, No. 3, pages 102-107. Reprinted in: Bergson: Écrits et paroles. 3. 1959, pages 497-503. Engl. translation in: Bergson and the evolution of physics. Ed.: P. A. Y. Gunter. Knoxville 1969, pages 128-133. - Bergson, Henri: Durée et simultanéité [7. éd.] : à propos de la théorie d'Einstein. 7. éd. Paris: Pr. Univ. de France, 1968. 216 pages - 1s éd. 1922.

D: Time / Error No. 4

The synchronization of clocks beyond the close vicinity within which absolute simultaneity is valid is only undertaken in relativity by the method of the reflected beam of light

In the STR the beam-of-light method has several problems:

(1) one doesn't know the one-way speed;

(2) the postulate of the constancy of c is, in the case of Albert Einstein (p. 892), only an unfounded assumption promoted to a "principle", and

(3) the postulate of the absolute constancy of c vis-à-vis arbitrarily moving observers is a contradiction to the principle of relativity and is not only unconfirmed, but due to the running-time differences in interferometry experiments is clearly refuted;

(4) Albert Einstein himself applied contradictory procedures for synchronization (on the one hand with averaged running times for the outbound and return journeys, on the other hand with different suppositions for both paths).

For this reason critics suggest other procedures to determine simultaneity beyond the near-lying boundary that Albert Einstein claims exists:

(1) Severi (1924) proposes an endless series of clocks placed next to each other, each with one observer, so that simultaneity of the position of the hands gradually progressing over large distances can be determined;

(2) Ms. Garavaldi (one of the few women amongst the critics) introduced (1950) a third reference system with an observer to the - otherwise always - two reference systems (coordinate systems) of the relativists, this regarding itself as being at rest (which every inertial system may do) and restoring the symmetry of the clock synchronization (i.e. simultaneity). There are also other approaches towards remedies, e.g.:

(3) Synchronization by means of sound waves whose speed of expansion can be determined for any medium and are subject to no contradictory relativization; and

(4) Slow clock transport, as to which there still appears to be no unanimity in the literature.

These suggestions on how to determine simultaneity at arbitrary points in space are indeed correctly understood by the relativists as massive criticism and, as a consequence, are suppressed. - Galeczki / Marquardt (1997, p.136) introduce yet another "critic": "Newton has already suggested a synchronization procedure for clocks that are attached to the end points of a path to be measured. This procedure is free of the "simultaneity paradox" of the STR and it presupposed a verifiable characteristic of the signal carrier: The clocks are attached to an axis and are synchronized from the middle."

A nice example for a proof that the theories of relativity consist largely of fictitious problems, and that the relativists falsely claim that only their theories can solve the problems. The truth is that without these unfounded theories one would not have most of the problems and would therefore need no solutions. To add a twist to a well-known dictum: the special theory of relativity is the illness that sees itself as its therapy.

AE 1905. - Severi, Francesco: Riduzione dei principii di relatività ai loro elementi logici e psicologici. In: Accademia dei Lincei. Cl. di sc. fis., mat. e nat. Rendiconti. Ser. 5, vol. 33. 1924, P. 1, pp 429-435. - Garavaldi, Orestina: A proposito di alcune recenti obbiezioni contro la relatività einsteiniana. In: Accademia dei Lincei. Cl. di sc. fis., mat. e nat. Rendiconti. Ser. 8, vol. 8. 1950, P. 1, pp 226-228.

D: Time / Error No. 5

The relativists adopt natural processes, that cannot be regulated and cannot be calibrated, as clocks

The clock, as a physical measuring instrument, is well defined. It must have at least a metronome, a counter and a display, and it must be adjustable (precise running) and be able to be regulated (synchronization per standard time). These conditions are imperative because the concept of time is a normative stipulation, as Janich (1980) has proven.

Relativists disregard the normative nature of the concept of time and the elementary conditions associated with a device for measuring time and want, for example, to present a natural occurrence (the decay of particles in space-bound radiation) as the measuring procedure and the particles (muons; myons) as clocks. - If the decay process is different under other physical conditions (laboratory; storage ring) than in the space-bound radiation, the relativists diagnose from this that a different rate of time, a decelerated or an accelerated time, is responsible. In the case of muon decay they calculate a time dilation for the very fast-moving particles and then claim this as experimental confirmation of the STR. - In view of the elementary characteristics of a clock, the impracticability of muons as clocks is obvious, and the specific decay times give no proof of the time dilation of the STR.

For Albert Einstein, the clockmaker trade works in vain.

The introduction of particle decay to time measurement is particularly absurd, because particle decay has only a statistical value (the half-life period) for a certain number of particles and is by no means able to give the decay time of a specific particle, to say nothing of determining the time of origin of this particle. There is no single particle for which the place of origin and time of origin and the place of decay and time of decay are known. Apart from this, there are conditions of quantum mechanics to be observed, cf. Error D 8.

In the propaganda accounts from the world of relativity, muon decay and atomic-clock transportation are the only two supposed experimental confirmations of the kinematics of Albert Einstein. Both say absolutely nothing about a change in the lapse of time.

Janich, Peter: Die Protophysik der Zeit. konstruktive Begründung und Geschichte der Zeitmessung. Frankfurt a. M.: Suhrkamp, 1980. 319 pages.

D: Time / Error No. 6

Albert Einstein maintains that time dilation (a slowing of time; a time delay) between two inertial systems in relative motion is a real effect

AE (1905, p. 904) maintains that between two inertial systems in motion with respect to each other a time dilation (TD) exists: "If there are synchronously running clocks at points A and B of K at rest, as seen in the system at rest, and if one moves the clock at A with velocity v along the connecting line towards B, according to the readings given by the clock at B the two clocks are no longer running synchronously, but the clock moving from A to B runs vis-à-vis the clock at B from the start by ... [formula] more slowly. [...] One sees immediately that this result also holds when the clock moves in an arbitrary polygonal line from A to B, even if the points A and B coincide."

For the following presentations an eye must be kept on the term "system at rest", which again reappears here; it "rests" without a reference and unconnected, as already introduced in AE (1905, p. 892), and is therefor absolutely set. This will be treated as a cardinal error under E 1. Here,

this hidden, system absolutely "at rest" is the true reason for Albert Einstein's claim of a real slow-running of the also absolutely "moving" clock.

Albert Einstein discusses, for two synchronized clocks A and B in the "system at rest" (which he calls K), three different paths for a journey by clock A:

(1) from point A to point B along the "connecting line", to a clock at point B. The result? Before the journey both clocks were synchronous, after the journey they are no longer synchronous, the moved clock A now running behind.

(2) clock A travels along an arbitrary polygonal line in an arbitrary curve towards B, which is not however curved, but is comprised of several straight part-paths so that no rotation, which would involve acceleration, takes place. The clock need only experience turning at the corners of the polygonal path travelled. In this case too; after its arrival at B the moved clock A is again running behind the clock that remained at B.

(3) as the third variant, points A and B coincide, the path travelled representing a closed ring comprised again of straight part-paths. In this case too, the moved clock A, after its return to the starting point, again runs behind the clock that remained stationary.

For all 3 journey variants the same holds true, that during its journey clock A is no longer part of the "system at rest". This in turn makes clear that on every journey it is an independent moving system that moves, with respect to the "system at rest", with the constants velocity v.

In variant (1) clock A moves along the "connecting line" to B, which may well be interpreted as a straight line, whereby its motion is rectilinear and constant, i.e. it is an inertial system.

In variants (2) and (3) the moving system clock A changes only its direction at the corners of its polygonal travelled path, its velocity remaining constant. As to whether clock A in this case is still an inertial system, Albert Einstein appears to think so. For all three cases, at any rate, he claims the real slow-running of the moving clock.

The criticism recalls to mind the first principle of the theory (of relativity) and demands, in accordance with the theory, the relative reciprocal consideration from the moving system of clock A, which is also supposed to be an inertial system. Albert Einstein appears to have forgotten this consideration. The inertial system clock A may consider itself as being at rest, because in keeping with the principle of relativity all motion is relative, and comes to the conclusion, after meeting clock B, that clock B is running behind. The findings of the two systems thus contradict each other.

Since, in terms of two clocks, running behind can only be a valid description for one of the clocks, the author of the theory is thus faced with the question as to which of the two equally justified systems is correct in its claim. Is it clock A that is running behind, or clock B? The question is Herbert Dingle's. It cannot be answered from the STR due to the principle of relativity. A period of 6 years of public enquiry in Great Britain has brought no answer from the STR.

Albert Einstein and his relativists cannot explain, on the basis of the STR, which system is correct with its claim.

For this reason, in keeping with the STR there is no running behind, but only a clock. And if the relativists were to declare that, on the basis of the principle of relativity, both claims are correct (which they don't, in this connection), then there would still be no running behind, but just one clock against the other.

(The question as to why running behind on the basis of relative motion should take place in the first place is not part of the subject matter of the error discussed here.)

Various attempts have been made by several relativists to save of the real running behind of the moved clock. As the most prominent example, only A. Sommerfeld will be quoted here, with his comments to the reprint of text of Minkowski's lecture of 1908 in the anthology, "Das Relativitätsprinzip" 5th edition 1923, pp 67-71.

Sommerfeld develops 2 equations on two different world lines between the same world points and states (p. 69): "This is what the running behind of the moved clock vis-à-vis the clock at rest, as brought out by Einstein, is based on. This statement is based, as Einstein has stressed, on the (unprovable) assumption that the moved clock indeed shows its own time, i.e. in each case shows time that corresponds to the stationary-envisaged, instantaneous speed-state. The moved clock must naturally ... have been ... accelerated. The running behind of the moved clock does not, therefore, show the actual 'motion', but 'accelerated motion'. This does not therefore contradict the principle of relativity itself." Sommerfeld too is characterized by the rampant use of unexplained inverted commas.

The critics first thank Sommerfeld for confirming that the assumption is unprovable. Apart from this, Sommerfeld has overseen the fact that Albert Einstein also clearly described clock A in journey variant 1 as an inertial system, i.e. not accelerated. The option of accelerations, therefore, does not hold. Variants 2 and 3 were described by Albert Einstein himself as being equal and as having the same result. In other words, Sommerfeld's attempted explanation is contrary to that of Albert Einstein. But Sommerfeld wants to save the running behind of the moved clock and thereby Einstein's authority at all costs, even if this means contradicting its author, and he complements the process out of the STR by way of supposed "accelerations", which cannot be justified within the STR. The critics also take exactly the same view, namely that a real running behind cannot be justified on the basis of the STR. To this extent the critics again agree with Sommerfeld.

Any justification of the running behind from outside the STR is uninteresting for the critics of the STR. In the context of the STR it doesn't exist. And this is, after all, also the view taken by the confessed relativist Sommerfeld.

Why Albert Einstein forgot to apply the reciprocal consideration for the travelling clock A as an inertial system in keeping with the principle of relativity can possibly be explained in that, in his scenario on time dilation he introduces a "system at rest", without saying with respect to what it was "at rest". It is the same "system at rest", unconnected and without a reference, as already introduced by him at the outset (page 892); one which, according to the principle of relativity, ought not to exist. It is this clandestinely introduced, absolute reference system that repeatedly leads to faulty argumentation in the course of the treatise:

- on p. 895 the "coordinate system at rest" appears in the scenario of the measurement of the rigid rod;
- on p. 896 in the footnote in relation to the "time of the system at rest";
- on p. 897 "space at rest" is merely a variant;
- on p. 902 a moving rod is measured in the "system at rest" without the reciprocal measurement;
- and on p. 904 the moved clock is considered from the "system at rest" only, without the reciprocal consideration.

It is difficult to understand how someone, in treating the STR, which was initially emphasized as a supposedly fundamental principle, can then manage to consistently forget it. And always whenever it has to do with the deduction of real effects.

AE 1905. - Das Relativitätsprinzip : Collected Works of Treatises / H. A. Lorentz, A. Einstein, H. Minkowski. 6th edition., unaltered. reprint of the 5th edition. 1923. Darmstadt: Wiss. Buchges., 1958. 159 pages.

D: Time / Error No. 7

The atomic-clock transportation of Hafele / Keating in 1972 is said to have given proof of a time delay

The transportation of 2 pairs of atomic clocks around the earth in jet planes, in an east-west and in a west-east direction, for a total of five days, has given rise to the following results, according to the report by Hafele and Keating in 1972 (a critical summary in keeping with Louis Essen, 1978). The authors have not disclosed all of the data, have given only average values for an average clock instead of individual data and have made use of only a non-stipulated selection of the data. Pairs of clocks were transported in each case in order to identify running differences. These accounted for up to approx. 300 nanoseconds between the individual clocks of a pair (i.e. on the same flight!). The raw data disclosed by Hafele/Keating for an average clock accounts for a time loss of 132 nanoseconds on the west-east journey and a time increase of 134 nanoseconds on the east-west journey. After corrective calculations by Hafele/Keating the average clock is said to have lost 59 nanoseconds on the flight in the easterly direction and to have gained 273 nanoseconds on the flight in the westerly direction, thereby being in close agreement with the predicted values.

L. Essen evaluates the result as being unconvincing, because the disclosed measurements are only average values and, on top of this, they are smaller than the running differences of the pairs of clocks.

According to Galeczki/Marquardt (1997, pp 114-115), Hafele/Keating personally adjusted and synchronized their clocks during the journey. Their data is therefore completely worthless and falls under the category "wishful thinking" (according to Wesley, 1983, pp 171-172).

J. P. Wesley discusses the purpose of the experiment. Hafele/Keating assume that the velocity of the journey has an effect on the clocks in the sense of the alleged time dilation of the STR. However, the authors have not given any theoretical justification for the assumption that the relative velocity of the clocks, with respect to the surface of the earth, run more slowly on the one hand and more quickly on the other.

Another aspect is also unclear; the validity of any results from an atomic-clock transportation around the earth. The several-day journey is no constant rectilinear journey but, due to the curvature of the flight path, is a continuously accelerated motion, i.e. it does not fall under the stipulated field of the STR (for which the result, however, is supposedly so decisive!). The several-day journey through the irregular gravitational field of the earth and through the irregular magnetic field of the earth could at best fall under the competence of the GTR, from which no interpretation is mentioned in the critical literature.

The difference in both directions of travel alleged by Hafele/Keating can also not be explained in the context of the STR because according to the principle of relativity the directions of relative motion play no role.

When two convinced relativists conduct an experiment alone and uncontrolled, official school physics need not worry about the result of the experiment. The non-disclosure of all of the relevant individual data, the summary in terms of the average values of "average clocks" (where on earth can you find an average clock?) and above all the personal adjustment eliminating the running differences of the pairs of clocks should serve to ensure that the world of relativity suffers no evil. But all of the precautionary measures have proved useless. Hafele/Keating have still said too much.

When one knows who Louis Essen was, one reads his report with pleasure: he is the "father" (or one of the fathers) of the atomic clock and he understands what the experimenters have done with "his" clocks.

J. C. Hafele, R. E. Keating: Around-the-world atomic clocks : observed relativistic time gains. In: Science. 177. 1972, pp 166-168; 168-70. - Essen, Louis: Relativity and time signals : "The theory is so

rigidly held that young scientists dare not openly express their doubts". In: Wireless world. 84. 1978, October, pp 44-45. - Wesley, James Paul: Causal quantum theory. Blumberg, BR: Benjamin Wesley, 1983. 405 pages - G. Galeczki, P. Marquardt: Requiem für die Spezielle Relativität / Georg Galeczki, Peter Marquardt. Frankfurt a. M.: Haag u. Herchen, 1997. 271 pages.

D: Time / Error No. 8

Muon decay (meson decay) is said to have given proof of a time delay

Report in keeping with Galeczki / Marquardt (1997, pp 119-126). A precise analysis of the experimental findings of the muon decay in cosmic radiation and in the CERN experiment shows that the proof of a time delay (time dilation), as propagated by the world of relativity, does not exist. - Fundamental points of criticism are, for example:

(1) The law of decay, under application of the Lorentz transformations, is neither invariant nor covariant.

(2) The assumed coming-into-being of the muons at great heights is incorrect, since their paths in the atmosphere are significantly shorter.

(3) The longer existence of the fast muons is due to the fact that, because of their speed, they are simply more difficult for other particles to capture, i.e. a measurement effect.

(4) In the CERN experiment no direct proof was found, only an indirect proof via the electrons released during decay.

(5) In the CERN experiment the detectors located lateral to the muon path were only able to capture part of the electrons and thereby feigned a reduced number of muon decays, another measurement effect.

(6) The decay of unstable particles is a process that is only statistically ascertainable and cannot be any form of observer-dependent process.

(7) Unstable particles are the worst-imaginable clocks.

(8) The lifespan of an individual muon is not stipulated in orthodox quantum mechanics.

(9) The unstable muon is unsuitable as a physical clock right from the start, since the three essential traits of a clock are missing: a time-periodic process, summation of the intervals, display.

(10) In the world of relativity only constant relative speeds are always said to have an effect, but not the extreme accelerations in the CERN experiment of the magnitude of [10 to the 18th] g.

(11) The relativists confuse the slowing-down of a process with the concept of time expansion.

Further points of criticism arise from the problems associated with the technical setup of a storage ring, the reaction times of the detectors, and the completely different interpretations of the CERN experiment.

Galeczki / Marquardt (p. 121) evaluate their criticism of the muon experiments as "deadly". If the a longer lifespan for fast-moving muons is indeed detected, this must have physical causes.

Galeczki / Marquardt 1997.

D: Time / Error No. 9

Paul Langevin and Albert Einstein claim that a twin returning from a [space] journey will be younger than his twin brother who had remained on the earth

This claim is designated by the relativists as the "twins paradox". It originated in the first years after 1905. - The basis had been provided by Albert Einstein (AE 1905) with the claim that time dilation is a real effect (p. 904) and that the clock travelling in a polygonal curve, on its return to the starting point is running behind the clock that remained there (cf. Error D 6).

Paul Langevin is said to be the first to have had the idea of substituting the clocks with two twin brothers, one of whom shoots off in a space capsule and then returns, to discover that he is now younger than his twin brother.

In his lecture in Zurich in 1911 Albert Einstein explicitly adopts this idea of transfer to living beings (S. 12): "If, for example, we were to put a living organism in a box and then send it on the same outbound and return journeys as the clocks previously, one could see to it, after as long a flight as required, that this organism returned little altered to its starting point, whereas absolutely comparable organisms that had remained at the original location would long since have given way to new generations." "This is an irrefutable consequence of the underlying principles that experience has forced us to accept."

To clearly bring out the logic, experience forces us to accept the principles, and the principles demand irrefutably that one remains young.

At the outset of the era of space travel E. Sänger, working on this basis, made fantastic - but precise - calculations on the staying young of the travelling twin.

A glance at the academic textbooks of physics shows that, for students and already even for final-year schoolchildren, such calculations meanwhile belong to the standard exercises. - Since all of Albert Einstein's deductions on non-simultaneity and time dilation have been proven incorrect (cf. Errors D 1 - D 8), one need not seriously discuss any farther-reaching fantasies derived therefrom - unless one wishes to complete an academic course of studies in physics, or to be successful in one's final, school-leaving examinations.

At this point a simple misunderstanding can be cleared up. Some critics quote the lecture by Albert Einstein in 1911 with the statement that he merely wanted to "shake" the box with the living beings. The reason for this can only be Einstein's formulation "outbound and return journeys [i.e. back and forth motion]", by which he was indeed referring, however, to the outbound and return journeys of arbitrary length.

The twins error is treated by the relativists as the "twins paradox", because paradoxes are somehow a bit more distinguished, and one can assure the amazed public that the seeming absurdity may not make sense at a first glance, but it is exactly in this point that the greatness of the theory and its author can be seen, that he can explain the nonsensical effect quite simply and naturally! Sound common sense, however, must not be allowed to interfere in the process.

In their formulations, with which they introduce the "twins paradox" to their public, the relativists do not shy away from initially conceding, engagingly though in drastic words, the unusual and nonsensical and experience-contradictory aspects of their "twins paradox", whereby they naturally win the readers over in that they make them (the readers) confident that, despite all dubiousness, things will end well. In the end, however, things regularly wind up in a situation in which the reader should believe it mostly because it has been mathematically proven. In 1911 Albert Einstein said to his

listeners that we are forced (!) to accept this from the principles, which are derived from experience. The physicists have no other choice. Max Born, referring to his explanation of time dilation with the world lines of Minkowski, says simply and honestly: "One has to accept it." Decided and announced. All further argumentation to be discontinued. That's how they would like to have it.

It should be noticed that people who regard themselves as physicists manage, within the framework of a theory that is openly said to be only applicable to constant rectilinear motion, to select as examples of this theory, processes which involve non-constant motion. This is scientific physics - since 1911 at the latest.

When the same people attempt to explain the processes conceived by them, they are surprised to discover that non-constant motion appears, and come to the conclusion that the matter has to be explained in the context of another theory on irregular motion. Or they maintain that this irregular motion is unimportant.

Anyone who allows himself such blunders really ought to eliminate the conceived problem as quickly as possible from the theory applied to constant rectilinear motion. This is an option that the physicists of the world of relativity have failed to hit on so far, probably because "Einstein has (not) taught us".

AE 1905. - Langevin, Paul: L'évolution de l'espace et du temps. In: Scientia. 10. 1911, f. 3, pp 31- 54. - Einstein, Albert: Die Relativitätstheorie. In: Naturforschende Gesellschaft in Zürich. Quarterly. 56. 1911, H. 1/2, pp 1-14. - Born, Max: Die Relativitätstheorie Einsteins. Unaltered reprint of the 5th edition. Berlin 1969. 328 pages (Heidelberger Taschenbücher. 1.) 1st edition 1920. - Marder, Leslie: Reisen durch die Raum-Zeit; das Zwillingsparadoxon - Geschichte einer Kontroverse. Braunschweig etc.: Vieweg, 1979. 169 pages.

Motion

E: Motion / Error No. 1

In 1905 Albert Einstein supposedly introduced a "system at rest" without explaining with respect to what this system was "at rest"

According to the principle of relativity there is only relative motion, which is why for each motion it always has to be said with respect to what it is determined. Rest is null motion, therefore the same [reference requirement] also applies to all claims of being at rest.

In 1905 Albert Einstein supposedly introduced a "system at rest" (p. 892, 3rd paragraph) without explaining with respect to what this system was "at rest". This unconnected "system at rest" without a reference thus contradicts his own principle of relativity. The designation "at rest" is supposedly (p. 892) to serve "to distinguish it linguistically from the subsequently introduced ordinate systems" and (p. 892) to "give a more precise presentation".

As to the more precise presentation, this would have been better achieved with a necessary statement as to the reference system with respect to which the "system at rest" is actually at rest. Here Albert Einstein gives no answer. Even in the further course of his treatise he fails to return to this question and thus owes the cause of greater precision an explanation. Since the necessary increase in precision is not provided, his first justification, that of "distinguishing it linguistically" alters its true character. From the supposed linguistic distinction Albert Einstein in fact makes a physical (!) distinction and thereby clandestinely introduces a system absolutely at rest.

This "system at rest" is also treated beyond paragraph 1 (in which it was introduced) in all of Albert Einstein's lines of argument as the system truly "at rest". Evidence: it is never seen - from the other inertial systems - as a relatively "moving" system. The "grand" principle of relativity, in other words, fails to be applied to the "system at rest" right from the start. The effects observed in systems in relative motion are never observed in the supposedly unconnected "system at rest".

With this, Albert Einstein has managed to introduce an inertial system that is no longer subject to the principle of relativity. And it is this "system at rest", with its clandestinely attributed characteristics, that forms the basis for the deduction of length contraction and time dilation as real effects.

As for any "increase in precision", this is unfortunately not the case. Quite the contrary, in fact. The language used is non-uniform, sometimes with inverted commas, sometimes without (pp 895-902) for a coordinate system at rest, a rigid rod at rest, a ruler at rest and (p. 897) even a "space 'at rest'", and without any information whatsoever as to what difference is intended by the same term with inverted commas and without inverted commas.

A clear and explicit statement as to the complete reciprocity between inertial systems can be found in AE 1905 on p. 903, in connection with the shrinkage of moving objects to flat-shaped structures. But he doesn't make explicit mention there of the absolute "system at rest" introduced at the beginning, or emphasize its special status.

The introduction of the reference-free and unconnected "system at rest" is, within the framework of the STR and in keeping with Albert Einstein's own principles, not permissible, and is therefore itself a theoretical error and the source of other serious theoretical errors.

A precise examination of all details as to "moving" and "at rest" in AE 1905 reveals that the relativity propagated by the principle of relativity is continuously violated against, i.e. every detail relating to the states of motion and rest (= zero motion) is fundamentally *only* valid with respect to a specific reference system. In analyzing the text of 1905 all statements for which a reference system is explicitly given, or that are objectively connected to such details so that the same relative connection applies consistently, can be held to be correct. Due to non-fulfilment of the principle of relativity, all other statements of the theory must be classified as adverse to the theory.

The total number of expressions in AE 1905 containing the characteristics of being at rest or moving and set in inverted commas amounts to (page, number of expressions): 892 (1), 895 (2), 896 (5), 897 (1), 903 (2), 913 (2), 917 (1) = altogether 14 expressions in inverted commas, for which no reference system is given with respect to their motion or state of rest. These expressions in inverted commas are mostly used again in the text directly thereafter in the same context, though now without inverted commas and without any information being given as to what has changed.

Here there can be no talk of any particular increase in precision, but only of particular thoughtlessness. Via these 14 expressions in inverted commas Albert Einstein creates a clandestine connection to the "system at rest", introduced unconnected and without a reference on p. 892, and deduces his one-sided effects. - The same evaluation can be made of those cases in which Albert Einstein speaks of "simultaneous" without stating which synchronization procedure he could have carried out (cf. Error D 2).

Albert Einstein's physical, absolutely resting "system at rest" from page 892 presents the still-hidden answer to Herbert Dingle's question as to where in the STR it is determined in which inertial system the famous effects of the kinematics appear as real. So far we have found no discussion, even in the critical literature, of the absolute "system at rest" of page 892. Relativists won't want to "discover" it anyway. - Albert Einstein's physics of the inverted commas governs almost all interpretations of the world of relativity. If an author is unable to give the state of motion or of rest for

a body or a reference system clearly, he gives instead inverted commas, as though this automatically ensures correct understanding, because every reader can attribute his or her own understanding as the correct one.

AE 1905.

E: Motion / Error No. 2

Assertions made by the STR as to real length contractions and time delays in only one of two inertial systems contradict the principle of relativity of the STR, which maintains that there is complete reciprocity and symmetry between all inertial systems

According to AE 1905 (p. 895), his principle of relativity says that for two coordinate systems exhibiting constant rectilinear motion relative to each other ("in gleichförmiger Translationsbewegung befindlich"), the same physical laws apply. This leads to the complete reciprocity and symmetry of the relationships of both coordinate systems to each other, i.e. in each system the same relative motion would be determined with respect to the other.

According to v. Laue 1913 (p. 34) there is even "a threefold endless great diversity of equally justified systems which move with constant speeds with respect to each other". Laue named them "justified systems" for short. On p. 38 v. Laue introduces two celestial bodies with two astronomers, each of whom regards himself to be at rest: "According to the principle of relativity this is non-determinable, each of the suppositions being completely equal," to which the critic must ask where celestial bodies in inertial motion are supposed to exist, if gravitation controls events in space.

*All of the claims as to real contraction of bodies and real time delays in only **one** inertial system are in contradiction to this statement on the complete equality of all inertial systems (all: threefold endless great diversities). This asymmetry cannot be justified by the STR.*

*Consequent application of the principle of relativity would require the conclusion that these effects, if they are real, must be real in **both** inertial systems. This in turn would raise the question, for both systems, as to why objects within the system should shorten and why clocks should run more slowly just because another inertial system moved relative to it. Without any physical cause and effect one ends up in a realm of ghosts and spectres.*

Until the contradiction between one-sided real effects and the principle of relativity and reciprocity has been resolved, the entire kinematics of the STR are invalid, because all supposed conclusions of the kinematics section of the theory are based on these claims of asymmetry: length contraction, time dilation, abolition of simultaneity, the twin rejuvenation. - Especially for length contraction, cf. Errors E 11, E 12, E 13 and E 14. On time dilation, see Errors D 6, D 7 and D 8.

Since 1960 at the latest, Herbert Dingle has confronted the physics establishment in Great Britain with the invalidity of the STR in that he puts the question ("Dingle's Question") as to which argument from the STR supposedly justifies the alleged one-sided effects of a real contraction of the body and a real slowing-down of clocks in only one inertial system (out of endlessly many possible inertial systems). There is no such argument in the STR.

Dingle received no obvious answer to his question and he reports on the results of his years-long enquiries and on his experiences with the various facilities and committees in the field of academic physics in Great Britain in the years 1972 in his book "Science at the Crossroads". His initiative was of special importance, thanks to his outstanding vocational position and to the fact that he himself, until the 1950s,

had supported the STR as valid. As in all solely-true religions, in the physical church of the world of relativity backsliders and heretics are mercilessly pursued, cf. the publications of Ian McCausland, who after the death of Dingle made efforts to gain appropriate recognition of, and response to, his question, in vain.

It must be assumed that public questioning as practiced by Herbert Dingle would be ignored by the powers that be in physics in all countries of the western world at least as much as in Great Britain.

AE 1905. - Dingle, Herbert: Relativity and electromagnetism. In: Philosophy of science. 27. 1960, pp 233-253. - Dingle, Herbert: Science at the crossroads. London: Brian & O'Keeffe, 1972. 256 pages - McCausland, Ian: Why n o t discuss relativity. In: Wireless world. N. Y. 86. 1980, October, p. 55. - McCausland, Ian: Science on the defensive. In: Canadian electrical engineering journal. 5. 1980, No. 2, pp 3-4. - McCausland, Ian: The twins paradox of relativity : a composite reply to correspondence arising from Professor Dingle's October article. In: Wireless world. N.Y. 87. 1981, No. 1546, pp 73-74.

E: Motion / Error No. 3

Albert Einstein maintains that the STR "is supported ... by the kinematics of the rigid body," and Max v. Laue maintains that "The assumption of a rigid body is incompatible with the [special] theory of relativity"

The contradiction between AE 1905 (p. 892) and M. v. Laue 1913 (p. 50) with respect to rigid bodies relates to a basic condition of the theory and has consequences for the alleged effects of length contraction and time dilation, for reciprocity and for the reality or apparent nature of these effects.

The contradiction between Albert Einstein and Max v. Laue has been recognized neither by the two protagonists themselves nor by subsequent relativists and has not, therefore, been resolved. This contradiction - regardless of the reader's solution and for as long as it remains unresolved by consensus in the context of discussion amongst professionals - is the cause of further contradictory deductions and is a good case in point for the assumption of a fundamental theoretical error. And until proof is given for the one or the other alternative (rigidity accepted and fundamental, or denied because incompatible), this contradiction itself is the proof of the theoretical error; it exists in the contradictory ontological status of the alleged effects.

The supposition as to the existence or non-existence of rigid bodies is only another consequence of the combination of "is" and "appears to be" for the same processes, fabricated by Albert Einstein in his document of 1905. Sometimes a length "is" contracted for Albert Einstein (p. 896: that it [the length] is different from l), and sometimes it "appears to be" contracted (p. 903: appears contracted; shrunken ... as observed from the system at rest).

M. v. Laue contests the rigid body, because this naturally creates problems for the alleged length contractions, and because he himself wants to explain contraction as real and associated with the elasticity of the body (p. 45).

Since the author of the theory did not want to decide, or couldn't decide, the successors pointedly took no notice of this contradiction, each choosing instead his own version and pretending vis-à-vis his public that it was the only possible version - which is why the world of relativity is so full of contradictory interpretations. - This virtually programmatic inconsistency in the world of relativity serves as a welcome disguise for its invalidity and for preventing effective criticism, due to a variety of shimmering presentations of the world. This fact is relatively seldom addressed by the critics because most critics naively believe that there must in the end be a physical problem that just needs to be correctly presented.

The true social security system of the world of relativity, from inconsistency and disinformation to suppression of the criticism, is only seen by a few of the critics. Critics who do recognize this social protection system of the theory, however, are particularly bitter in their comments. Examples: Gehrcke 1924, Hundert Autoren gegen Einstein [A Hundred Authors Against Einstein] 1931, Hjort 1930-1934, Soddy 1954, Barth since 1954, Rudakov 1981, Santilli 1984, Bourbaki 1990, Galeczki/Marquardt 1997.

Contradictions between the claims of authoritative relativists are the rule. They belong, so to speak, to the starter kit of the STR. - The omnipresent contradictions of the STR can be distinguished as follows:

(1) contradictions between Albert Einstein's own claims regarding the STR;

(2) contradictions between Albert Einstein's claims regarding the STR and the GTR;

(3) contradictions between Albert Einstein's claims and those of his representative followers, successors and interpreters;

(4) contradictions between the statements of the various relativistic interpreters.

This forest of contradictions hides not only the ruins of the theory from the eyes of the unsuspecting public, it also makes it difficult for the critics to organize public discussion on the world of relativity, because each argument of the critics can be countered by the relativists with a reference to some opposite relativistic position defended by someone, somewhere, and the someone actually does exist! What doesn't exist, however, is a non-contradicted theory.

There is, then, a wonderful haze from the multitude of contradictions, a protective shield of disinformation that forms the only provisional salvation of the theory and its supporters from public disgrace, which is why the relativists will also do nothing to free the image of their theory from ist contradictions. Instead they prefer to give assurances that there are no contradictions in the theory!

AE 1905. - M. v. Laue 1913. - Rudakov, N.: Fiction stranger than truth : in the metaphysical labyrinth of relativity. Geelong, Vic., Australia: The Author [Selbstverlag], 1981. 175 S. - Santilli, Ruggero Maria: Il grande grido: Ethical probe on Einstein's followers in the U. S. A. : an insider's view; a conspiracy in the U.S. Academic-Governmental Complex on Einstein's relativities? 2nd print., November 1984. Newtonville, Mass.: Alpha Publ., 1984. 354 pages.

E: Motion / Error No. 4

In the theory [STR] itself, the validity of the principle of relativity is repeatedly ignored

In several cases the grandly announced principle of relativity (AE 1905, pp 891 and 895) is not applied in the theory itself. An example: the mass-velocity relationship.

Critical overviews are given by Theimer 1977 (pp 78-84) and Galeczki / Marquardt 1997 (pp 127-130 and 134-142). Theimer reports on the thought experiment of Lewis and Tolman (1909), in which two systems in motion with respect to each other, between which two spheres bounce off each other and back again, are supposed to display "simultaneity", whereby they find themselves in a common, absolute time, from which then the reality of a mass increase is derived. This can no longer be a relativistic effect, because the principle of relativity is not supposed to hold.

The Kaufmann experiment of 1901 (deflection of electrons in the magnetic field) has no connection to the theory of relativity. The increase in the mass of the electrons is only one of several possible explanations of Kaufmann's readings. No mass whatsoever was directly measured. The relativists write the equations such that a change in mass can be interpreted; but Max Jammer 1964 ("Masse"), p. 182, draws attention to another version of the equation, in which the mass remains constant. In this way the fictitious nature of mass increase is shown to be merely one possible explanation of a random mathematical approach.

In the case of the mass-velocity relationship, not only the validity of the principle of relativity is disregarded, the alleged result is also an arbitrary interpretation of an experiment that measured no mass directly. - A detailed discussion of the error of the mass-velocity relationship can be found under Error J 1. - The disregard of the principle of relativity is a continuously repeated error in the world of relativity and is only mentioned in this case as an example. Further examples: the running behind of the clock returning from its round tour, cf. Error D 6, and its application in the twins error, cf. Error D 9.

AE 1905. - Jammer, Max: Der Begriff der Masse in der Physik / translated from the Engl. by Hans Hartmann. Darmstadt 1964. 248 pages - Theimer, Walter: Die Relativitätstheorie : Die Relativitätstheorie : Lehre - Wirkung - Kritik. Bern (etc.): Francke 1977. 192 pages - Galeczki / Marquardt: Requiem für die Spezielle Relativität / Georg Galeczki, Peter Marquardt. Frankfurt a. M.: Haag u. Herchen, 1997. 271 pages.

E: Motion / Error No. 5

The Ehrenfest paradox: a rotating, round disc is said to suffer length contraction on its circumference, relative to the observer

Report in keeping with Galeczki / Marquardt (1997, pp 105-108). The relationship of circumference to diameter is said to be smaller than Pi, due to the Lorentz contraction. Phipps, 1980, analysed 6 different published, suggested solutions. Weinstein, 1971, suggested an experiment that Phipps conducted in 1974. The alleged Lorentz contraction of the disc must have the effect, on a radial, straight line engraved "on the surface of the disc, that it will undergo backwards curvature, i.e. against the direction of rotation". The effect must become increasingly noticeable with an increasing rate of rotation, in other words it must be cumulative. "Phipps carried out this experiment [1974] in that he rotated a high-grade steel disc (diameter: 1.35 cm) 4 months long (!), uninterrupted, using a small compressed-air turbine at 6072 Hz. Several radial lines were engraved on the surface of the disc. During the rotations photos were taken using laser flashes with a duration of 20 ns. The analysis, both during and after the experiment, gave [alpha] < 0.0006, or in other words, a null effect." (p. 107).

Other authors such as Swann [1920] declare the STR as having no authorization for rotational effects, i.e. no predictions and no confirmations. For rotation, there is no theory. The Ehrenfest paradox is thus a true theoretical error.

Galeczki/Marquard (1997, pp 105-108) add: "Needless to say, all of the textbooks and monographs on the STR steer clear of the Phipps experiment. What else could one expect? Even an extensive original work on relativity and rotation, 'Relativität und Rotation' [P. F. Browne, 1977], in which Weinstein's proposal is mentioned, ignores its experimental realization by Phipps."

Ehrenfest, Paul: Gleichförmige Rotation starrer Körper und Relativitätstheorie. In: Physikalische Zeitschrift. 10.1909, p. 918. - Swann, William Francis Gray: Unipolar induction. In: Physical review. Ser. 2, Vol. 15. 1920, pp 365-398. - Weinstein, D. H.: Ehrenfest's paradox. In: Nature. London. Vol. 232. 1971, p. 548. - Browne, Peter F.: Relativity of rotation. In: Journal of physics. A: Math. Gen. 10. 1977, p. 727. - Phipps, Thomas E., jr.: Do metric standards contract? In: Foundations of physics. 10. 1980, pp 289-307. - Galeczki / Marquardt: Requiem für die Spezielle Relativität / Georg Galeczki, Peter Marquardt. Frankfurt a. M.: Haag u. Herchen, 1997. 271 pages.

E: Motion / Error No. 6

The existence of bodies exhibiting constant rectilinear motion (inertial systems) is too much of a rarity from which to obtain, by way of observance, globally valid findings

Albert Einstein limits the validity of his STR to bodies exhibiting constant rectilinear motion (inertial systems). On such a body the fact that it exhibits constant rectilinear motion is to be experimentally established. One logical conclusion of this condition is the absence of gravitation.

This limited area of application becomes particularly apparent in view of the fact that, in reality, motion is almost solely observable as rotational motion, or as different accelerations, or as non-constant and non-rectilinear motion. Every geostationary location rotates around the earth's axis, on the earth's orbit around the sun, with the solar system in the arm of the galaxy around the centre of the galaxy, and moves with the galaxy in our galactic pile.

The limitation to the absence of gravitation is even more unrealistic with the GTR. According to E. Mach, all inertial effects on the earth are effects of the gravitational masses of our galaxy, and this argument is happily used by the relativists to answer Lenard's critical question as to why in a braking railway wagon everything collapses together, but the church steeple next to the railway line does not fall down. The gravitational masses of the fixed stars of our galaxy are said to invoke forces of inertia on the loose items in the train. But how can any inertial system anywhere be free of gravitational effects if the gravitational masses of the fixed stars can exert such massive effects in each railway wagon on the earth?

From these two findings (no gravity-free space, and no inertial systems) in the real world one must conclude that the STR can exist only on paper and in the so-called thought experiments, that are only ideas without experiments. On no account should any claims of the STR whatsoever be applied to a real world for which the theory cannot apply. Because of these prerequisites, the STR can never provide a basis for supposed changes in our general concepts, e.g. as to space and time.

The relativists ought to decide between the assumption of inertial systems and the assumption of Mach's idea of the effect of the distant masses of the fixed stars. Accepting both at the same time is logically unacceptable.

The contradiction between the inertial system and Mach's principle is naturally only one concrete example of the fundamental incompatibility of the STR and the GTR: The STR works with the inertial system, and the GTR works with Mach's principle, and each excludes the other. This also shows the frailty of the relativistic argumentation. Between both theories there is a transition or a supplementation relationship normally identified by the treatment of the speed of light. The inertial system and Mach's principle, however, are completely independent of questions as to the speed of light.

It is inexplicable how Albert Einstein and all relativists can believe that the statements of such a restricted theory for very rare, special cases (STR) - even if they could be flawlessly derived and empirically confirmed - can deserve to acquire any general, fundamental, global importance.

E: Motion / Error No. 7

The practical realization of two inertial systems (ISs) inevitably leads to inaccuracies and obscurities about the consequences of which the theory knows nothing and its supporters say nothing

Inertial systems (ISs) belong to the elementary, permanent and essential inventory of the STR. A physical theory must prove its worth empirically. This is a requirement recognized by Albert Einstein himself. - With this, the question of the practical realization of ISs is raised, and with the practical realization of an IS, questions as its materials and physical properties. - The following questions represent only a small selection of particularly sensitive points.

(1) A materially realized IS can very easily deviate in the constancy of its motion and it has relationships to various, arbitrary moving systems. Against which of several possible, real reference systems must the magnitude of the deviation be determined?

(2) As regards the choice of the reference system, this depends on whether the deviation, in keeping with physical practice, is to be evaluated "as negligibly small" or not. If the deviation is not to be evaluated as negligible, what is the meaning of a deviation for the alleged relativistic effects of length contraction and time dilation? Do the effects then appear with a reduced percentage value, or do they vanish suddenly?

(3) If the effects appear reduced, at what magnitude of deviation do they vanish completely?

(4) If the effects suddenly vanish vis-à-vis a system, do they remain intact vis-à-vis other systems that undergo the same deviations?

(5) If the non-negligible deviations fluctuate periodically around a zero point, do the effects also fluctuate periodically and is the level of deviation a maximum at the zero point?

(6) If one of two ISs achieves absolute stability in its motion (this case is normally seen by the relativists as the standard case) and that second shows non-negligible fluctuations in its motion, can, according to the principle of relativity, a rigid rod in the stable system evidence a constant length contraction when observed from the non-constantly moving system?

(7) If its contraction in accordance with the speed fluctuations in the non-constantly moving system also fluctuates, how does the rigid rod know which deviation the non-constant system has at any given moment?

(8) If the observed contraction of the rigid rod fluctuates and is also real, then work must be done in the material of the rigid rod. What source of energy powers this work?

(9) If, however, the non-negligible fluctuations of the non-constant system leads to a complete loss of the relativistic effects, what is the physical cause for this?

(10) All of the above questions can also be asked analogously with respect to the alleged effect of time dilation.

(11) All of the questions put must be extended to include yet another variant that envisages a multitude of systems (M. v. Laue: endless great diversity!) with respect to which motion takes place and which mutually observe each other. What, then, are the answers for the multitude of mutual observers?

The silence of the theory and its representatives with respect to these questions on the realization of at least a multitude of the supposedly "endless great diversity" of inertial systems and on the closely related boundary observations in the case of realization shows that the relativists themselves do not regard their theory as real physics at all.

Until the relativists realize their IS and address these questions more closely and answer them, their theory cannot be held to be a theory of physics, but retains the status of non-physical delusion.

E: Motion / Error No. 8

The inclusion of more than the usual 2 inertial systems (ISs) in the thought experiments of the STR results in fundamental contradictions

All of Albert Einstein's considerations, and those of his successors, on assumable processes, the so-called "thought experiments", always work with two systems that mutually observe each other. Only in very rare cases does Albert Einstein introduce a third system (e.g. AE 1905, p. 901), that then fails, however, to lead to consideration of the (now) 6 observer relationships (each of the three systems can observe its conditions relative to two other systems).

This deliberate limitation of the world of relativity must be overcome, since there are, as we know from experience, more than just two moving systems in the universe (the fundamental problems of the existence of inertial systems can be left aside here, cf. Error E 7). M. v. Laue (1913, p. 34) even speaks of a "threefold endless great diversity of equally justified systems". So the theory must also provide information on - to choose a number at will - 100 systems.

An analysis of 100 differently moving ISs, each with an observer, in their mutual, relative relationships in observational space would have to account for the observations of 100 observers, each of whom would be able to observe 99 other systems. All in all, that analysis would have to process 9900 various relative relationships = observations.

Of these 100 observers, each may consider himself to be at rest. All systems regarded by an observer as being non-moving relative to himself, i.e. recognized as being at rest, together form - with the observer's own system - a network of systems jointly and mutually at rest. The same applies to all other observers, from whom, in turn, such a network of systems, jointly and mutually at rest, may possibly also be determined. These networks will penetrate the entirety of observational space; and each network of systems at rest with respect to each other behaves, in terms of its relative relationships, as though the systems were rigidly bound together.

With this scenario the question arises, for the world of relativity, as to how it can maintain and justify the claims of different clock rates, time dilation, "local times" and the "relativity of simultaneity" throughout observational space.

The same applies to length contraction in one system, while it is observed by a multiplicity of other, differently moving systems. For the same "rigid body" there are, in keeping with the claims of the STR, necessarily simultaneously (!) a multitude of different length contractions. In our example there are 99. The same applies to the clocks.

Overcoming the artificial limitation of all relativistic deductions to two inertial systems shows conclusively the untenable nature of the STR and its famous effects.

AE 1905. - M. v. Laue 1913.

E: Motion / Error No. 9

For the alleged effects, complete reciprocity (symmetry) between inertial systems (ISs) of the STR is, on the one hand, required on principle (the principle of relativity), but is repeatedly disregarded and abandoned in the implementation of the theory

Albert Einstein (1905) himself maintains complete reciprocity between all ISs, twice. (1) p. 895, on the principle of relativity: "The laws ... are independent of which of (any) two coordinate systems with constant relative motion, with respect to each other, it is to which these alterations of state relate." (2) p. 903: "It is clear that the same results hold for bodies at rest in a 'system at rest', as observed from a constantly-moving system."

Albert Einstein himself, on the other hand, introduced the breach with reciprocity, in the cause of length contraction (p. 896), in that he contests the identity of the geometry of the body in various states of motion, i.e. he depicts contraction as real, and time dilation (p. 904), in the case of the moved and returning clock, as supposedly really running behind.

This violates a principle and integrates a fundamental error in the theory that, since then, has been cultivated by Albert Einstein himself, and has been adopted by all relativists for all effects, and on top of this has been heralded as a particularly revolutionary discovery. - In such cases the critic need only demand that the principle of relativity be applied, whereby all of the alleged effects lose their reality.

The term "inertial system" cannot be found in AE 1905 and was later introduced, though it designates precisely that constant rectilinear (inertial) moving system (coordinate system).

AE 1905.

E: Motion / Error No. 10

The inferences of the STR are limited to relative motion that is parallel

In all deductions from the so-called thought experiments Albert Einstein describes arrangements of bodies or ordinate systems that are moving parallel to each other. In the real world these are very rare cases from which no knowledge of the entire real world can be won.

An analysis of the problems shows that in the case of movements of bodies in random directions the relative motion crosses at all angles and if they lie in the same level, they cut. This raises the question as to what happens with the alleged effects of the STR in the case of non-parallel motion. Do the effects suddenly vanish upon any deviation from the parallel paths? Or do the effects reduce in dependence on the angles? Do the effects vanish at the angle of 90°, i.e. at directions of motion that are at right angles to each other? What physical causes should be assumed in the event of a gradual change in the relativistic effects?

Before the relativists are in a position to understand and describe this multiplicity of the real world, all claims as to the universality of their effects are void of any foundation.

For the critic who has proven the untenable nature of the alleged effects already in the limited sphere of the parallel movements, these questions do not arise. - Even

Authors from the world of relativity have had to concede that the Lorentz transformations, from which the relativists derive their effects, have a decisive shortcoming: two consecutive transformations for motion in the same direction are equivalent to one transformation; but for motion in different directions in space this no longer applies. "As a physicist I nevertheless expect my transformation to hold without further ado also in (3+1) dimensions." (Galeczki / Marquardt, p. 92). The Lorentz transformation applies only in one spatial dimension, which is why Albert Einstein works only with parallel motion. And this is why no generally valid conclusions can be derived about processes occurring in all directions (all dimensions) in space.

Galeczki / Marquardt (1997, pp 84-96).

E: Motion / Error No. 11

Length contraction, which was introduced by FitzGerald and Lorentz as a hypothesis only and was first presented by Einstein in the STR as a reality, has still not been observed after more than 100 years

Length contraction was introduced by FitzGerald and Lorentz explicitly as an ad hoc hypothesis to explain the supposed null result of the Michelson-Morley experiment. It was also introduced in the context of the ether hypothesis. Lorentz was unable to report an observation of length contraction, in keeping with that of his theory.

Albert Einstein and his successors maintain that length contraction is a real effect, without any use being made of an ether hypothesis. This real effect, too, could not be observed in the intervening 100 years and more. - There is therefore no occasion to present length contraction as a proven effect of the STR. As a consequence there is in particular no justification for the qualification that the STR is the "best-proven theory of physics".

The failure to observe length contraction is hardly surprising, when one analyzes its derivation in AE 1905. Albert Einstein's approach in developing his theory is very remarkable. First of all he asserts the division of the concept of time with the introduction of solely locally valid times. Then he maintains the invalidity of simultaneity for distant clocks and occurrences in relative motion, whereby the limitation of the validity of time is fixed. And after he has divided and relativized the physical concept of time in this way, he applies this concept of time and clocks (!) for measurement of the length of the rigid rod. With an already relativized time the deduction of a relativized length is then no big deal.

In the line of argumentation for length contraction Albert Einstein makes use of a similarly convoluted method to that used in the derivation of the constancy of c (Error B 2). In AE 1905, p. 895, the paragraph title announces the relativity of lengths. On pp 895-896 a thought-experiment setup is described, though the decisive measurement is *not* yet undertaken. Only the results one would find are announced: "The ... length to be found ... will be determined on the basis of our two principles, and we will find that it is different from l" (p. 896). In other words, length contraction has at this stage by no means been justified, but its derivation has been announced. Next, with the experimental setup for length contraction, quite surprisingly, time dilation is first proven (see Error B 2) - with a not-yet-contracted rigid rod, by the way. On pages 897-901 there is then no further mention made of contraction. The Lorentz transformation equations are instead developed; and the contraction of lengths is then derived from these transformation equations on pp 902-903 - and not from the experimental setup of pp 895-896! Since the transformation equations (identical to those of Lorentz) already contain the contraction, it is no wonder that Albert Einstein can deduce a contraction. The rabbit is already

under the top hat. Again Albert Einstein works on the assumption that the reader is unable to retain an overview of 11 pages of text and will not notice the trick. Such trick results are, however, punished by nature through non-recognition.

The peculiar derivation of length contraction from time dilation is repeatedly established in the literature, e.g. Browne (1977, p. 734): "Length contraction in special relativity is a direct consequence of the relativity of simultaneity (as indeed are all relativistic effects)."

Some particularly forgetful, but eager relativists even arrive at the conclusion that the *real* length contraction of the STR is proof of the null result of the Michelson-Morley experiment - to explain which it was initially introduced as an ad hoc hypothesis.

AE 1905. - Browne, Peter F.: Relativity of rotation. In: Journal of physics. A. Ser. 2, Vol. 10. 1977, pp 727-744.

E: Motion / Error No. 12

Length contraction is introduced with contradictory epistemological status (appearance, reality)

In 1905 Albert Einstein introduced length contraction with clearly contradictory statements; with a real version and an apparent version.

The real version can be found on p. 896. The "generally used kinematics" (whereby he means the Newtonian) are thereby characterized such that they assume, "that a moving rigid body ... is fully replaceable, in geometric terms, by the same body at rest in a specific location." Albert Einstein regarded this identity of the geometry of the body in Newtonian kinematics in all its various states of motion as being erroneous and he wishes to dispute it with his theory of kinematics. In the STR kinematics the body is said to lose this geometrical identity because, due to motion or to being at rest, a real change in the rigid body is said to occur. No mention is made here of the principle of relativity.

An apparent version can be found on p. 903: "A rigid body, which has the shape of a round sphere when measured at rest, has, when in motion - as observed from the system at rest - the shape of a rotating ellipsoid ..." In the next paragraph but one the reciprocity is explicitly established.

This contradiction extends throughout the entire world of relativity. Each author can choose an alternative to suit. As long as this contradiction remains unrecognized and unresolved by the world of relativity the alleged length contraction is valid for the critic in neither of the two versions. It is not the task of the critic - and it is also not possible - to help the relativists to develop a consistent theory from one the frailty of which is obvious. Nor is the critic obliged to solicitously disprove both versions.

The critic has nevertheless already done both. He has proven that the great luminaries of the world of relativity do not even agree on whether a rigid body exists at all in the STR (cf. Error E 3). Real contraction in one system only contradicts the principle of relativity (cf. Error E 2). Real contraction in both systems would raise the question for both systems as to why, within the system, objects shorten and clocks run more slowly, merely because another inertial system is in motion relative to it (cf. Error E 2). In the case of the necessary simultaneous observations of a multitude of systems, the problems and the errors multiply (cf. Error E 8). And length contraction has not been observed in either of the two versions (cf. Error E 11). The theory of length contraction cannot be physically saved, whether as an appearance or as a reality.

Whereas AE1905 presents time dilation much more decisively as a real effect (p. 904: the two synchronized clocks, one of which is in relative motion, are in the end

no longer synchronized), his claim of length contraction is clearly contradictory. The relativistic authors, if they no longer know how best to respond, can always duck out by resorting to the possibility of apparent contraction.

The best example is given by Max Born (1920, p. 183), and retained in all further editions. He holds the real-or-apparent debate (what is the true length of the body?) for an annoying error (as though it was not prompted by Albert Einstein himself) and believes he can solve the problem with his proposal; it is like a sausage that one can cut at a variety of angles, thereby obtaining differently large cut areas each time. No cut is preferred or more real than the others. And the matter is now clear, at least for Max Born.

AE 1905. - Born, Max: Die Relativitätstheorie Einsteins und ihre physikalischen Grundlagen : gemeinverständlich dargestellt. Berlin Springer, 1920. 242 pages (Naturwissenschaftliche Monographien und Lehrbücher. 3.)

E: Motion / Error No. 13

In connection with length contraction it is said that the measurements of the contracting body perpendicular to the direction of motion remain unchanged (selective contraction)

The claim of the STR as to length contraction in the direction of motion only, with no change in length whatsoever in the direction perpendicular to the direction of motion, is merely a claim without any physical justification and it has never been observed in the course of 100 years. This does not prevent the relativists from propagating length contraction as an indisputable, guaranteed effect.

This is why it is necessary to confront the relativists with the assumption of a rotating round body (rotor, e.g. a motor armature) which is at rest in an IS, with its rotating plane parallel to the direction of motion of the IS; the rotor with its round cross-section must, in keeping with the STR, deform permanently to an ellipse in the event of real contraction, because its radius in the direction of motion of the IS must permanently shorten (contract), whereas the radius perpendicular to the direction of motion is said to remain unaltered. The material of the rotor would thus permanently deform, whereby two problems arise:

(1) How can the theory on contraction perpetuate solely in the direction of motion?

(2) How could the permanent work of deformation in the body of the rotor be explained, and what could be the source of energy for this work?

With such simple questions as to the physical realization, the theory can here - as in the case of almost all other fundamental claims - be quickly confronted with problems that can't be solved.

The point of criticism presented here does not even relate to the existence of length contraction, but only to the alleged selective consequence of this effect, the problems of which, as applied to the rotation of a body in an IS, can be conclusively demonstrated and must be justified, but cannot be justified, regardless of any justification for length contraction itself.

The origin of this bizarre idea of a multi-selective contraction - namely (1) only in the "length" of the moving body and not in its other two dimensions, and (2) only in that "length" of the body that lies in the direction of motion - is completely clear: because the arms of Michelson-type interferometers are characterized by having their length and alignment in the direction of motion of the sought-after ether drift, and because the length contraction of Fitz-Gerald and Lorentz was only intended to serve as an ad hoc hypothesis to explain the Michelson-Morley experiment, which is why it was integrated in the transformation formulas of Lorentz and then in those of Albert Einstein.

There is no better demonstration of what an ad hoc hypothesis actually is and of the damage it can cause if one forgets its origin and purpose.

By the way, neither Albert Einstein nor his successors have ever discussed the idea that their moving rigid bodies might perhaps have a third dimension - apart from the "length", that is said to contract, and the "dimension perpendicular to this", that is said not to contract. And what happens to this? Does it contract or not?

All propaganda accounts assume as a matter of course that this third dimension too does not contract, although Albert Einstein issues no decree on this. But when one knows that in the Michelson-Morley experiment the "width" of the arms of the interferometer play no role, then one also understands why it fails to play a role by Lorentz or by Albert Einstein. This physics of the ad hoc stopgaps is indeed that primitively organized.

E: Motion / Error No. 14

According to Albert Einstein, at relative speeds approaching the speed of light length contraction leads to shrinkage of the body "to a flat-shaped structure"

The shrinkage due to length contraction to "flat-shaped structures" in keeping with AE (1905, p. 903) is in some texts of the relativists also described as "flattening". In the case of every measurable body travelling at almost the speed of light, each should shrink explicitly to an area, only the difficulty in reaching this speed saving it from such a fate.

For those of the authors of the world of relativity who declare the effects of kinematics (length contraction, time dilation) to be real (a large majority of the authors), an additional need for explanation arises with the question as to how they want to account for the whereabouts of the matter of a measurable body upon its shrinkage to (almost) a disc. The matter must be somewhere, since there is no talk as yet of any destruction or transformation of the material.

The possible explanations chosen by the different authors for length contraction as a real effect vary (cf. Error E 12): (1) elastic change in the body (M. v. Laue); (2) "the consequence of a circumstance" or "attendant circumstances of the fact of the motion" (M. Born), namely the relative velocity between two systems; (3) uncaused (a-causal), unexplained effect (A. Einstein). These explanations are inadequate, however, when it comes to accounting for case of flattening (almost) to a disc and the whereabouts of the matter.

The case is a concrete one in the context of observations of galaxies with escape velocities relative to the earth of the order of 50 % the speed of light, and it will become still more concrete when one observes two such galaxies distancing themselves from the earth in opposite directions, so that the relative velocity between the two galaxies can be doubled. The question as to what law of addition can be applied to relative speeds has no influence on the magnitude of the resulting velocity.

Without a plausible, non-contradictory explanation, the whereabouts of the matter, in the event of shrinkage to a flat structure, must be seen as a mysterious, miraculous "disappearance" and as something which still has to be explained in its own right.

The fact that Albert Einstein's theories lead to a mystification of the natural processes and promote the observable onset of irrationality in many areas of intellectual life is, since Minkowski's declaration of the kinematic effects as a "gift from above" and the reversal of the sequences of occurrences by Albert Einstein himself (as a consequence of his

supposed relativization of simultaneity) clearly documented by the piles of science fiction and of esoteric literature that, when it comes to their time travel, explicitly refer to the theory of relativity.

It would be interesting to learn whether the works of science fiction and of esoteric have already discovered the magical disappearance of matter due to the high relative velocity of the observer - and naturally, by contrast, also the equally magical emergence (reappearance?) of matter upon reduction of the relative velocity of the observer. Perhaps the effects (in both directions) can even be combined with the "fluctuating vacuum" of quantum mechanics or with the explanation of the "mass effects" of cosmology?

AE 1905.

E: Motion / Error No. 15

The slower ageing of the space-travelling twin - as compared with his brother who remained on the earth - is said to have been caused by the accelerations (positive and negative) undergone during the outbound and return journeys

The twins error is treated mainly as a time effect (cf. D 9). In explaining it, many presentations in the world of relativity point to the positive accelerations and decelerations (negative accelerations) on the outbound and return journeys as the causes, thereby pushing the declaration of the twins error into the field of responsibility of the GTR.

This solution is not regarded by all relativists as being correct - e.g. Kanitscheider, 1988 - and it is thus very comfortable for the critic to allow this repeatedly raised line of argumentation to be proven as false by a confessed relativist (pp 134-135): "For this reason it seems as though one needs the GTR to resolve the inconsistency of the STR ... It is nevertheless important to draw attention to the fact that, although twin B in this example naturally undergoes phases of accelerating and deceleration, the acceleration is nonetheless not the cause of the asymmetrical ageing. This can be made clear by the fact that when B undergoes a comparatively longer journey at the same speed, the age difference between the two twins continues to increase. If the acceleration was the cause of the asymmetrical ageing, it would have to be dependent on the strength of the acceleration, and not on the length of the journey." - Kanitscheider then explains the real cause of the travelling twin's remaining younger: "because he is travelling closer to the beam of light. The longer his journey and the greater the separation, the greater the age difference determined upon the return to his twin brother."

Kanitscheider forgets to mention that the beam of light in four-dimensional Minkowski space exists only on the mathematician's millimetre paper, but is no space of physical experience, and that the path "to the beam of light" is only one "world line" of Minkowski's, but no path in the real space of physics and astronomy. Kanitscheider does not move that problem of the explanation to the GTR, but to the fiction of four-dimensionality.

As to the irrelevance of the accelerations in the matter of the twins, there has been agreement for several decades even amongst many of the more important authors of the world of relativity. And the critics have been able to join them on this point.

Every reader can very easily classify the writings of the relativists used by him or her on the basis of their solution for the twins error. These either make

(1) the theory irrefutable on the basis of the supposedly flawless mathematics, or

(2) the acceleration the cause, or

(3) the solution is derived purely fictitiously on the millimetre paper on which Minkowski's mathematics takes place, with the various "world lines" of the twins in the physically intangible fourth dimension; or

(4) the "irrefutable consequence of the underlying principles that experience forces us to accept," according to Albert Einstein, 1911 (cf. Error D 9)".

If, already in 1911, experience was the reason and it even forced its acceptance, then there must already have been several cases of differently aged twins (regardless of the species) that have been well concealed from the public right up to the present day.

cf. Error D 9. - Kanitscheider, Bernulf: Das Weltbild Albert Einsteins. München: Beck 1988. 208 pages.

Electromagnetism

F: Electromagnetism / Error No. 1

The fact that a relative motion between a magnet and a coil always generates the same current, regardless of whether the magnet or the coil is moved, tends to suggest that there is no absolute state of rest

Albert Einstein begins his reflections (1905, p. 891) with Maxwell's electrodynamics (also referred to by him as the "standard view") which, for the interaction (induction) between a magnet and a conductor both of which are in motion, assumes an asymmetry. A moving magnet in the geostationary laboratory generates an electric field, whereas a magnet at rest does not. Due to its electric field, a moving magnet induces a current in a conductor at rest. If, on the other hand, the magnet is at rest and if the conductor is moved, an electromotive force appears in the conductor and this generates an electrical current. In both cases the same current arises for the same relative motion, though the explanation is different. "Similar examples, as well as the unsuccessful experiments to ascertain a motion of the earth relative to the "medium of light", lead to the presumption that the concept of an absolute state of rest is not only characterized by no detectable occurrence in mechanics, but that this also holds for electrodynamics ..." (p. 891).

Only 7 lines later (on p. 891) he elevates this "presumption", without giving any additional reasons for doing so, to the "principle of relativity" and thereby to the "precondition" for his entire theory.

Albert Einstein's consideration is incomplete, because he ignores here unipolar induction (experiments 1832 and 1851) well-known since Faraday's time. This proves that even without any relative motion between the magnet and the conductor, induction takes place, namely due to a joint turning of both elements, the resulting induction having been shown to be a consequence of absolute rotation (vis-à-vis an ether or absolute space). Kennard (1917), with his further-developed experimental setup, has clearly confirmed this fact.

Albert Einstein's presumption that no absolute state of rest (or of motion) could be proven (that it "is characterized by no detectable occurrence") was, according to the state of knowledge of 1905, already incorrect and was conclusively refuted in 1917 at the latest, which was not seen by him, however, as a reason for any correction, which would have inevitably led to the ruin of the theory.

On p. 910 the author again refers to the asymmetry between magnet and conductor mentioned at the outset, because he believes he has made the question "as to the location of the electrodynamic

and electromotive forces (unipolar machines) superfluous". As to the special feature of unipolar induction and Faraday's results, here again he fails to address the issues.

Even after 1917 Albert Einstein does not address this point of his STR, but instead comes quickly to his "presumption" declared in the "principle of relativity", allowing this to be celebrated as the basis of his revolutionary theory.

The relativists discard works like those of Kennard (1917) - because in the title there is talk of a proof of the "ether" - as bizarre, diehard concoctions by obstructive types of persons, with which and with whom serious scientists need not concern themselves.

In many respects the years before 1917 are an epoch for the STR:
- in 1913, after Michelson-Morley and Morley-Miller, Sagnac also clearly measured running-time differences, thereby dismissing all talk of null results;
- in 1916 Albert Einstein himself wrote that the absolute constancy of c would have to be reconsidered;
- in 1916 Albert Einstein published, with the GTR, a theory with variable speeds of light;
- in 1917 Kennard again proved the (already previously known) absolute rotation in unipolar induction.

With this, Albert Einstein's two fundamental suppositions for the STR (the principle of relativity and the constancy of c) are refuted, and it is actually incomprehensible that, from then on, the theses of 1905 should still be seriously discussed and even successfully presented as the greatest work of genius and revolutionary upheaval of our view of the world right up to the present day. Since 1917 at the latest, they (the suppositions) belong in the paper bin of history.

AE 1905. - Kennard, Earle Hesse: Unipolar induction. In: London, Edinburgh, and Dublin Philosophical magazine (The). Ser. 6, Vol. 23. 1912, No. 138, pp 937-941. - Kennard, Earle Hesse: On unipolar induction : another experiment and its significance as evidence for the existence of the aether. In: London, Edinburgh, and Dublin Philosophical magazine (The). Ser. 6, Vol. 33. 1917, pp 179-190. - Galeczki / Marquardt 1997 (pp 172-176).

F: Electromagnetism / Error No. 2

Albert Einstein based his STR on Maxwell's electrodynamics, which has a series of flaws that thus also become flaws in the STR

According to Wesley (1987, p. 193), Maxwell's (otherwise very successful) theory failed in the following points:

(1) It violates Newton's third law, because it is based on the Biot-Savart law (or the Lorentz force).

(2) As a consequence of (1) it can lead to contradictory or absurd results, e.g. the non-conservation of energy.

(3) It does not agree with Cleveland's experiment (1936), which confirms the validity of Newton's third law.

(4) It contradicts Ampère's original law of energy. It denies the strong repulsion between currents moving in the same direction. Ampère's original law of energy, however, has been well confirmed experimentally (Graneau; Pappas; Wesley).

(5) It does not give the correct force for the Ampère bridge.

(6) Its validity is explicitly limited to "closed current loop sources".

(7) It can give no terms of reference for the velocity of charges and electromagnetic waves.

(8) It describes the induction only for "entire closed current loops".

(9) It does not explicitly designate the function of absolute space or of the ether. Galeczki / Marquardt (1997) discuss the problems in very great detail. Some of their main points of criticism on the use of Maxwell's theory:

(1) If one separates Maxwell's equations from their explicit and fundamental reference system (Maxwell's ether) and wishes to apply them as valid to any inertial system, one needs transformation equations, such as the "Voigt-Larmor-Poincaré-Lorentz-Einstein transformation". Since the STR first came into being with this transformation, the STR can be proven by "no electromagnetic (and thus also no optical) experiment" (p. 162).

(2) The aim of constructing, with the STR - versus Maxwell - complete reciprocity (relativity) in the magnet-conductor system, was never achieved. "All electrodynamic laws were formulated for the only available reference system associated with our earth and never for any phantom laboratories travelling at a speed of almost c relative to our planet" (p. 164).

(3) The limits and inherent paradoxes of Maxwell's theory and its effects on the STR (p. 167 ff).

It is not unimportant that Maxwell's theory was developed on the basis of the ether hypothesis. He saw his equations as the "dynamic theory of the ether" (quote in keeping with Galeczki / Marquardt, p. 160). The same holds for the Lorentz theory. The difficulties of the STR are due partly to the attempt, at all costs, to negate the ether presentation as outdated, although irrefutable findings allow one to conclude the existence of a medium or an absolute reference system.

Wesley, James Paul: Weber electrodynamics with fields, waves, and absolute space. In: Progress in space-time physics. Ed.: J. P. Wesley. 1987, pp 193-209. - Galeczki / Marquardt 1997 (pp 159-172).

F: Electromagnetism / Error No. 3

The STR was developed without any knowledge of unipolar induction, which is an induction without relative motion between field and conductor

It is true that Albert Einstein mentions in AE 1905 (p. 910) "unipolar machines", but he does not treat the fundamental findings of unipolar induction. - Unipolar induction has been known since Faraday. This effect has been closely examined since the end of the 19th century, and since 1905 it has become increasingly important as conclusive experimental proof against the validity of the principle of relativity of the STR. As a result, unipolar induction has never been a subject of discussion in the presentations of the relativists.

The experiment on unipolar induction has two different designs: (A) a round bar magnet that can rotate on its longitudinal axis, and a wire loop attached to the bar magnet at two different points (both ends) with sliding contacts; (B) the wire loop is affixed to the bar magnet.

If, in the setup (A), the magnet is rotated once (relative to the laboratory table) and another time the wire loop, i.e. two relative motion whose relativity is completely identical, the location of the electromotive force is different. With this the complete symmetry of the processes is broken.

If the rotation takes place in setup (B), in which the whole (magnet and wire loop) exists as a single moving part, a current is induced. In other words, an induction without relative motion between magnet and conductor, or if one wishes to assume a relative motion, then with respect to the ether or to space. The induction without relative motion is thus evidence of absolute motion or of relative motion with respect to the ether (medium, space), depending on one's interpretation. The relativists may choose which of the two should disprove their theory.

It is no wonder that in the physics establishment no research into unipolar induction takes place. It has therefore been left fully in the hands of the critics. Further proof of how the STR handicaps research in that it prevents it.

Pegram, Kennard and Barnett agree completely on the experimental findings; although they take fundamentally different positions when it comes to interpreting them. Whereas Pegram declares the result to be a confirmation of the STR, Kennard and Barnett see it as a refutation of the STR, though they in turn differ in their interpretations of the individual processes of unipolar induction. Yet despite the obvious need for an explanation: no experiments! They could harm the theory.

Unipolar induction has direct importance für Albert Einstein's deed of 1905, in which he begins with criticism of Maxwell's theory, because it does not work with the complete relativity of motion in the induction between magnet and conductor. The physics textbooks hold tightly to complete symmetry right up to the present day (?); moving magnet and moving conductor give the same induction result. However, unipolar induction shows an asymmetry that Maxwell's theory may confirm. At any rate it refutes the stout assertions made by the STR as to the relativity of motion.

So Albert Einstein, who wanted to revolutionize the entire branch of mechanical and electrodynamic kinematics, did not even know all of the fundamental facts of electromagnetism. The only mitigating circumstance was that most professional colleagues had not concerned themselves either with the problems of unipolar induction. They, on the other hand, did not plan to immediately revolutionize the foundations of physics.

AE 1905. - Pegram, George B.: Unipolar induction and electron theory. In: Physical review (The). Lancaster, PA. Ser. 2, vol. 10. 1917, pp 591-600. - Kennard, Earle Hesse: On unipolar induction : another experiment and its significance as evidence for the existence of the aether. In: London, Edinburgh, and Dublin Philosophical magazine (The). Ser. 6, Vol. 33. 1917, pp 179-190. - Barnett, Samuel Johnson: On electromagnetic induction and relative motion [Part 2]. In: Physical review. Ser. 2, 12. 1918, pp 95-114. - Galeczki/Marquardt 1997.

Minkowski's World

G: Minkowski's World / Error No. 1

Minkowski maintains that "the notions of space and time I would like to develop for you are based on experimental physics. This is their strength."

The cited claim was made by Minkowski in his Cologne lecture (quoted in keeping with the 1923 reprint, p. 54). He provides no proof, however, of any "foundation in experimental physics". In the entire text of the lecture a single experimental result is named (p. 58); the Michelson-Morley experiment, its "negative result", and to explain the Lorentz contraction hypothesis. This is where its strength was thought to lie.

Apart from this Minkowski refers to a publication of his own (1908) and to the publications of W. Voigt (1887), A. Einstein (1905 and 1907), Max Planck (1906 and 1907), I. R. Schütz (1897), A. Liénard (1898), E. Wiechert (1900), and K. Schwarzschild (1903): Minkowski cites them all as sources of theoretical reflections, of mathematical relationships, of a "revision of the entire field of physics" (p. 62), of the "axiomatic development of Newtonian mechanics" (p. 64) and of proposed elementary laws, but not as the source of a single experimental finding.

So Minkowski (1908) rests his case on a single experimental result, the supposed null result, while already in 1904 and 1905 an ether drift of 7.5 km/sec was confirmed by Morley and Miller in Cleveland. - But even the assumed negative result supports none of Minkowski's farther-reaching claims - "based on experimental physics" - as to time and space, and fails to lend his mathematical constructions any physical "strength".

To maintain that the perceptions of space and time outlined are based on experimental physics is pure fantasy. Where in physical reality is there a fourth dimension that one can measure with measuring instruments? Where is a time coordinate with an imaginary value measured? Where in the three-dimensional space of our experience does a world line run? Can, for example, a "world line" run between London and Paris? How can a measurable body in our experience enter Minkowski's world? Everything can only take place - if at all - on the mathematician's/geometrician's millimetre paper.

Minkowski's notions are in fact only an illustration of Albert Einstein's special theory of relativity and have no more experimental basis than the theory itself, namely none at all. There is, here, no basis of experimental physics, and no strength, but only tolerant paper and a fleecy way of talking, such as a "gift from above" (p. 59), and "the mystical formula" (p. 64): 3 times 10[to the 5th] km = [root -1] secs.

Unfortunately Minkowski died too early (1909), so that we will never know whether and how he would have reacted to the new "basis of experimental physics" provided by the interferometry experiments of 1904, 1905, 1913, 1921 and 1925. - The fact, however, that Minkowski sees a "strong" physical basis solely and alone in a negative result obtained with a then newly - and still by no means fully - developed instrument of Michelson's (the interferometer), speaks against him.

Minkowski's randomly nonchalant handling of physical reality, as documented by his lecture, suggests that no serious argument, with experimental findings that are not expedient to his constructions and claims, is to be expected. One who can assume "endlessly many volumes of space", who can twist space around his "null point" (What could the null point of real space be? And what would happen to measurable bodies in space in the event of the rotation of space?) and can make out length contraction, for which there is not the slightest trace of empirical evidence, to be a "gift from above" and can praise the equation km = secs as a mystical formula, proves that he has lost his path on the way from the mathematics to the physics.

Minkowski, Hermann: Raum und Zeit : Lecture, 80. Naturforscher-Vers., Köln 1908, 21st Sept. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, pp 4-9. Also in: Physikalische Zeitschrift. 20. 1909, pp 104-111. Reprinted in: "Das Relativitätsprinzip" Lorentz, Einstein, Minkowski. 5th edition. 1923, pp 54-66; Comments by A. Sommerfeld: pp 67-71.

G: Minkowski's World / Error No. 2

Space (3 space coordinates) and time (1 time coordinate) are said to preserve their independence only "in a sort of union"

In the first paragraph of his lecture (1908, p. 54) Minkowski says "only another type of union" of space and time can "preserve independence". This idea of a union is typically intensified by most relativists until some form of identity is reached. The 3 space coordinates and one time coordinate are designated as equal-ranking or as of equal value. Some of these authors maintain, however, at another place in the same text, and despite the supposed "union", the known distinction between space and time. So on this issue, too, there are contradictions.

Minkowski showed them how. Just one page further (p. 55) he starts to retreat: "I still respect the dogma that has it that space and time each have an independent meaning." What then does the union mean? This is a revocation, though one that is limited, since one does not know how much longer he will continue to respect, and the devaluation as a "dogma" is already a signal that the independence of space and time is not his heart's desire.

The criticism of the equation and identification of space coordinates and time coordinates was already massively advanced during the first phase of criticism (1909-1914), e.g. Paul Bernays (1911); all equation and union is erroneous, because space is isotropic, whereas time has a direction.

Bernays' argumentation is that no universal analogy exists between space and time. In space all directions are equal, whereas time has a marked direction. Therefore both are not equal (p. 477). - The sequences of time correspond to causal relationships, whereas spatial vicinity corresponds to no physical linking (pp 477-478). - The theory provides no new findings as to the relationship of space and time (p. 478). - Bernays' arguments are raised repeatedly in the period following by the critics and could never be invalidated by the relativists.

The relativists demonstrate, by their internal contradictions, that they always want to leave themselves a way out. If things come to the worst, they are not responsible. Their pendulum swinging between "union" and "independence" has two great advantages for the relativists. Only with the "union" can they enter the fictitious paradise of Minkowski's world with its four dimensions and come directly to the coordinates to be handled, in which everything can be mathematically proven and the great freedom from the constraints of the physical world rules, because it all just takes place on millimetre paper. On the way back to the world of three-dimensional reality they would like to sell their wonderful results of four dimensionality as something completely normal and as mathematically secured findings. As to the irrelevance of this import in three dimensionality, here they deceive themselves.

Albert Einstein's method of building clear contradictions into his text of 1905 and in this way to protect his constructions against criticism by disinformation, is also adopted by Minkowski. Once only the union of space and time, then again their independence. In this way one has occupied all positions and is always right.

Minkowski, Hermann: Raum und Zeit : Lecture, 80. Naturforscher-Vers., Köln 1908, 21st Sept. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, pp 4-9. Also in: Physikalische Zeitschrift. 20. 1909, pp 104-111. Reprinted in: Das Relativitätsprinzip. Lorentz, Einstein, Minkowski. 6th edition. 1958, pp 54-66. - Bernays, Paul: Über die Bedenklichkeiten der neueren Relativitätstheorie : (Revision of a lecture given in June 1911 within the "Fries'schen Schule"). In: Abhandlungen der Fries'schen Schule. Vol. 4, Issue 3. 1914, pp 457-482.

G: Minkowski's World / Error No. 3

The time coordinate is said to have an imaginary value [the square root of -1]

Minkowski introduces the imaginary time coordinate with a comment, as though this was the most natural thing in the world (p. 64). - But how can a physically imaginary coordinate arise when according to the noble principles of the extolled mathematics fundamentally no (positive or negative) measurements can represent a number that, multiplied by itself, gives a negative value? - Minkowski simply appears to have forgotten to show us his supposedly strong "basis in experimental physics", from which his imaginary time coordinate "arises".

Minkowski's empirically impossible recourse to an imaginary coordinate for time also shows that the alleged union of space and time already, in the different

mathematical nature of its coordinates, has no justification. - The fact that Minkowski wastes no time on considerations as to how such a coordinate might be practically (empirically) measured shows his complete disinterest in the physics of the real world.

Minkowski, Hermann: Raum und Zeit : Lecture, 80. Naturforscher-Vers., Köln 1908, 21st Sept. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, pp 4-9. Also in: Physikalische Zeitschrift. 20. 1909, pp 104-111. Reprinted in: Das Relativitätsprinzip. Lorentz, Einstein, Minkowski. 6th edition 1958, pp 54-66.

G: Minkowski's World / Error No. 4

Minkowski introduces a multitude of spaces without justifying them physically, demarcating one from another or furnishing empirical proof

Repeatedly during his 1908 lecture Minkowski makes the following statements as to his perceptions of space (cited from the 1958 reprint):

(1) there is a "space presupposed as being at rest" (p. 54);

(2) a volume of space can "find itself in a constant translation" (p. 54);

(3) space has a null point (p. 56);

(4) the volume of space can be rotated around the null point (p. 56);

(5) the space null point - and the time null point identical with it - can be displaced at will (p. 56);

(6) there are endlessly many volumes of space in the world (p. 57).

Minkowski is clearly unable to explain - or uninterested in explaining - what the null point of a physical volume of space is supposed to be, and how one is to find this null point in a physical volume of space, that one can then supposedly even displace at will. Nor does he explain how the displacement of such a null point is to be interpreted in physical terms (is the volume of space displaced with it? Are the measurable bodies existing in this space also displaced with it? Or does he only want to displace a coordinate system?). Furthermore, he fails to explain how the rotation of space is to be analyzed in terms of its physical effects, how the demarcation of one physical volume of space from another physical volume of space is to be indicated, and the physical effects, e.g. how the transition of a measurable body from one volume of space to the other is to be described. As long as all this remains unclear, Minkowski's perceptions of space remain physically irrelevant.

The diagnosis for this masterpiece is not difficult; Minkowski constructs his four-dimensional world of the time cone, just as Albert Einstein did with his three-dimensional coordinate systems, and then he confuses his construction with the physical realities. He artfully disguises the difference between his construction (null point of space) with which he can do as he pleases (displacement, rotating) and physical space, with which he cannot do as he pleases, but which he maintains he can "rotate" and find "at rest" or "in motion". Minkowski relies, then, on the inability of the public to decide between construction and reality, and has, in this respect, clearly found a sound basis.

With the division of one volume of observational space, as seen by the geostationary observer, into a multitude of volumes of space, Minkowski further developed the ideas first broached by Albert Einstein in 1905, though now addressing them directly and openly.

The mathematics allows the construction of arbitrarily many volumes of space, since it need not pay any consideration to the physical interpretation. This wins Minkowski's claims all the more favour by the relativists. It was Minkowski's clear depictions of his four-dimensional world - with cones of light (forward-cones, backward-cones), world points and world lines, space-like and time-like dimensions and the speed of light as a unit of measurement - that made a decisive contribution to the recognition of the STR by the public and in the mass media, and advanced the

author to the third co-creator of the theory, after Lorentz and Albert Einstein.

If one takes Minkowski's speculations seriously, at the physical level, one comes to the following conclusion: space is to have a null point; this must itself obviously exist in space; when he moves the null point, he moves the null point of space through this same space; if when moving the null point space itself is moved, then one volume of space is moved through the other, or a volume of space is moved through itself. If he rotates space around its null point, the same occurs corresponding to the movement; the rotating of space through another space, or through the same space. On moving and rotating the volumes of space the physical fates of the measurable bodies in the existing volumes of space must still be examined, as must the physical fates of the existing (gravitational, magnetic, and electric) fields.

The rotation of the physical volume of space is naturally still much better, since, if the measurable bodies are also to be rotated, this gives rise to those funny old centrifugal accelerations that the "rotator" of space produces at will! Physics has never been more fun. The mathematician Minkowski does not, of course, concern himself with such physical problems. He has himself stated for the record, however, that he was fully aware of what he was doing (p. 60), referring on the other hand, to Albert Einstein: "To stride over the concept of space in such a way can probably only be assessed as a piece of daring mathematical culture."

Even the physical critics could not have put it any better. They accuse the relativists, from Albert Einstein and Minkowski up to the great luminaries of the present day, only of this daring disregard of the physical circumstances. In 1908 Minkowski had still triumphantly celebrated the "daring", as though physics was all about winning a victory through boldness and daring (victory over whom?).

Minkowski, Hermann: Raum und Zeit : Lecture, 80. Naturforscher-Vers., Köln 1908, 21st Sept. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, pp 4-9. Also in: Physikalische Zeitschrift. 20. 1909, pp 104-111. Reprinted in: Das Relativitätsprinzip. Lorentz, Einstein, Minkowski. 6th edition 1958, pp 54-66.

G: Minkowski's World / Error No. 5

An interpretation of the four-dimensional Minkowski world as physical space is impossible

In his lecture (1908, p. 55) Minkowski defines "a point in space as a point in time", as a "world point", to which he attributes the 3 space coordinates and one time coordinate. This makes altogether 4 coordinates, which he designates as four dimensions.

According to Minkowski himself, therefore, his "world point" is clearly ***no*** *point in space, since he would not then need to introduce a new term "world point". However, all relativists after Minkowski, when they handle his four-dimensional space-time, do so as though Minkowski's "world" is a space, his "world points" points in space, and his "world lines" paths in space, and the general public cannot, of course, interest itself in Minkowski's subtle reservations, which he only expresses through a conceptualization of his own.*

The falsification von Minkowski's "world" to "space" - namely to the world space per se - intentionally pursued by the relativists can be conclusively refuted by the challenge, given that Minkowski's four-dimensional "world" is a space, to incorporate a measurable body in it, e.g. a table with a rectangular table-top and four table legs, the size of this body and its location in the alleged space-time being unimportant.

The space occupied by the table is a rectangular parallelepiped, and when the relativists draw it into Minkowski's four-dimensional space-time, the corners of the table-top and the feet of the table legs (i.e. the corners of the rectangular parallelepiped) will belong to different times. This result is independent of the choice of the depiction. The drawing in the perspective of the time cone (with only 2 space coordinates and one time coordinate) or the level depiction (with only one space coordinate that is somehow to integrate the three space coordinates - which is completely puzzling - and one time coordinate).

Because the three-dimensional bodies of our physical reality would only reveal absurd relationships in Minkowski's space-time, which has not been confirmed by any empirical findings, Minkowski himself, in his drawings and calculations, cautiously works only with "world points", never with bodies - although he subsequently makes concrete claims relating to bodies!

All in all a peculiar world. Lots of "volumes of space", no bodies whatsoever, only "points" and "lines", and an empirically non-measurable time coordinate, because it is said to produce a negative value when multiplied by itself, something that unfortunately does not exist - instead we have four dimensions. Where can London and Paris be found in this Minkowski world and what kind of lines connect these two places?

To be fair, the criticism ought not to be directed against Minkowski's cautious formulations, but primarily against the followers and successors. Minkowski himself must, however, be confronted with the reproach that, in his 1908 lecture, he comes close to equating his "world" to space (outer space) and to suggesting this to his public; a public comprised of people who, although those attending his lecture were mainly "German scientists", generally think less (than they believe), associating instead and "presenting". And then the way from Minkowski's "world" to the familiar space of our experience is - associatively - none too far, although erroneous. All of the proofs based on this error are superfluous.

Minkowski, Hermann: Raum und Zeit : Lecture, 80. Naturforscher-Vers., Köln 1908, 21st Sept. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, pp 4-9. Also in: Physikalische Zeitschrift. 20. 1909, pp 104-111. Reprinted in: Das Relativitätsprinzip. Lorentz, Einstein, Minkowski. 6th edition 1958, pp 54-66.

G: Minkowski's World / Error No. 6

Minkowski's "world lines" are interpreted by the relativists as real paths in space

In explaining the "twins paradox" - as also in the case of other connections in the world of relativity - the relativists interpret the "world lines" of the two twins as real paths. This interpretation is impermissible, because Minkowski's four-dimensional "world" (space-time) is no space (cf. Error G 5). And because Minkowski himself distinguishes between a point in space and a world point, and does not equate them, such an interpretation is therefore deliberately falsified.

The untenable nature of the interpretation of the "world lines" as paths in space can be seen in the following reflections: if, instead of space coordinates (as in Minkowski's space-time), one measures another value against time, such as the fever readings of a patient, then we have, instead of the "world line", a "fever curve", and nobody would interpret a section of the fever curve as the fever itself. Similarly one might measure print counts or speed levels against time and again the resulting sections of the curves would not be a print or a speed.

The relativists exploit the lack of analytical capabilities of their profession-specific public and the unawareness of the general public to deceive them as to the true situation in Minkowski's four-dimensional space-time, although their cause is favoured here by closely related associations.

G: Minkowski's World / Error No. 7

Minkowski attempts to interpret his fictitious, four-dimensional coordinate system space-time as the material world

In his 1908 lecture (cited in keeping with the 1958 reprint) Minkowski defines, as basic elements and operations in his four-dimensional "world" (instead of our inverted commas, Minkowski sometimes uses italics):

- (p. 55:) the "world point", which is said to be "one point in space at a point in time", determined by the four coordinates;

- the "world line", a "résumé of the substantial points", a "curve in the world", this referring, of course, to his four-dimensional "world";

- the "world", which is intended to stand for the entirety of all world points, in his formulation: "the great diversity of all imaginable systems of value x, y, z, t";

- in this "world" there is a "null point of space and time";

- (p. 56:) there are "rotations of space around the null point" and

- "arbitrarily many displacements of space null points and time null points".

- (p. 60:) "I decide to make a random world point O to the space-time null point."

Up to here it is perfectly clear that his "world point" with four coordinates is no point in our three-dimensional physical space. His "world line" is also no path in our space, and his "world" is not our outer space or geostationary observational space. Minkowski constructs a geometry, a light cone, etc. that can only exist on the mathematician's millimetre paper and can be constructed there without contradiction.

He first introduces a logical and mathematical contradiction when he tries (p. 55) to define the four "axes" of his world system. with "orthogonality in space" and "complete freedom of the time axis upwards", i.e. the three space axes are still to be perpendicular (!) with respect to each other and the time axis is permitted to somehow grow "upwards" and at will. It remains Minkowski's sweet secret as to how he wants to accommodate the four axes in his "space null point and time null point".

Minkowski attempts to present this mathematical construction, which as compared with our three-dimensional reality is but a fiction - as the peculiarity of his axes already adequately proves - as real by introducing a series of other claims:

- (p. 55:) "So as not to leave a gaping void, we now want to imagine that at all places and at all times something perceptible is present. And so as not to have to say matter or electricity, I will use the word "substance" for this something. We will now focus our attention on the existing substantial point in the world point x, y, z, t and imagine that we are able to recognize this substantial point at any other point in time."

- (p. 63:) on the fourth-last page of his text Minkowski at last speaks clearly, without any disguise or abstraction, of "a substantial point with constant mechanical mass m", which is said to describe a "world line".

"We want to imagine ...": Minkowski suggests concepts that are familiar to us in our three-dimensional world and he wants to claim them for his four-dimensional "world". Instead he has to prove the feasibility of his concepts. On top of this, he attempts in the process to veil the concrete circumstances with rules of language. Why does he not want to use words like matter and electricity, when he means matter and electricity? Why does he prefer to use the abstract concept "substance" and then speak of a "substantial point" when it actually does have to do with matter and a point of matter? It is not until later that he speaks openly of a "mechanical mass m". He is clearly afraid that the use of a clearer and more direct language will immediately invite the question as to how one can accommodate the material

bodies of our world in a four dimensionality of his "world". This question in fact necessarily reveals the fiction of Minkowski's "world" and "world points" and "world lines". If one were to try to place a table, for example, in Minkowski's four-dimensional "world" one would see that the four corners of the table-top and the table legs would have to have different time coordinates. No matter how one arranges the table, it is simply not possible to accommodate a three-dimensional object in a four-dimensionally constructed "world". It is not without reason that in the endless images of Minkowski's world - with light cones, forward-cones and backward-cones - only points appear, never bodies from our world. This is something that the mathematician Minkowski knows, of course, which is the reason for his flight into abstractions. Only ... the physicists and the general public do not realize this, and they find it absolutely tremendous.

Alone with the question as to where in the three-dimensional space of our reality Minkowski would like to place his supposedly arbitrarily selectable "space-time null point", his project comes to grief. Whether at the earth's North Pole, in New York or on the moon, he finds a four-dimensional "world point" of his construction nowhere in our observational space but only points in space right out to the horizon of our cosmos, because a "world point" by definition is no point in space, a "world line" no path and his "world" is no space.

Minkowski begins with the harmless construction of a coordinate system, with which he can jump about at will (e.g. selecting, displacing and rotating a null point). Then he introduces matter in point form (!), disguised by a rule of language, and maintains that his coordinate system is reality, in which a "substantial point with constant mechanical mass m" represents a "world line". If this construction is supposed to be reality, then Minkowski must be able to show what a "null point" in this reality should be and which path in three-dimensional space is occupied by the "substantial point with the mass m". The "world null-points", "world points" and "world lines" can only exist in Minkowski's geometry, but not in reality.

The rules of language and linguistic tricks by means of which they convey their message to the public is characteristic for Albert Einstein, for Minkowski and for the other relativists right up to the present day. "Requirements" become "principles" just like that and then "laws" without further ado. And because the introduction of matter would immediately give rise to physical consequences, the more abstract term "substance" is introduced and only later let out of the bag as the "mechanical mass". And all of these tricks are announced as simple "linguistic measures", although they are in fact introduced disguised as hard physical facts. Readers who protest too late can no longer escape the trap. Albert Einstein and Hermann Minkowski are masters of this technique and can rely on the fact that many readers do not realize what is going on.

Minkowski, Hermann: Raum und Zeit : Lecture, 80. Naturforscher-Vers., Köln 1908, 21st Sept. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, pp 4-9. Also in: Physikalische Zeitschrift. 20. 1909, pp 104-111. Reprinted in: Das Relativitätsprinzip. Lorentz, Einstein, Minkowski. 6. Edition 1958, pp 54-66.

G: Minkowski's World / Error No. 8

According to Minkowski, length contraction is "a gift from above"

In his lecture of 1908 Minkowski addresses length contraction (pp 58-59). Lorentz had introduced this as a hypothesis for explaining the Michelson-Morley experiment. "This hypothesis sounds extremely fantastic, since the contraction is not to be seen as a consequence of resistance in the ether, but purely as a gift from above, as an attendant circumstance of the state of motion."

Whereas Lorentz indeed saw contraction hypothetically as a physical effect of motion against the ether, in the form of elastic deformation of the absolutely moving

body, as did M. v. Laue without the ether hypothesis, Minkowski wants to get rid of the inevitable and disagreeable question as to the cause of the alleged contraction and he asserts, to this end, the following three aspects of contraction:

(1) it is not a consequence of resistance in the ether;

(2) it is the attendant circumstance of a circumstance;

(3) it is a gift from above.

Only the first of these assertions is clear. A negative assertion that is not, as such, of much value. The term "attendant circumstance of a circumstance" embodies something of the notion of consequence, of cause and effect, though this idea is not pursued in a physically context. The third statement, the true explanation, is at least astonishing for someone who plans to revolutionize physics, particularly when one recalls how the relativists rant and rave against Newton's religious concepts as to absolute space.

For the physicists, at any rate, "a gift from above" is not a physical explanation, but merely an unexpected admittance of helplessness that notably contrasts with the high spirits with which Minkowski otherwise describes his magnificent "remodelling of our conception of nature". Contraction as a consequence of relative motion is linguistically conceded in a roundabout way, but cannot be physically explained. And with the assurance as to what is not the cause (i.e. the ether), Minkowski merely restricts his own alternatives. All in all, the effort is more of a non-explanation.

The subsequent treatment of length contraction by Minkowski (p. 59) is not uninteresting. He gives assurances that the Lorentz hypothesis is "fully equivalent" to his own "new view of space and time", "whereby it becomes much more understandable in the process". Finally, Minkowski again gives assurances as to the complete symmetry (reciprocity) of length contraction: "We will find the same shortened relationship between the first electron and the second one". With this, however, Minkowski finds himself, contrary to his belief, at opposites with Lorentz, who sees his contraction as real. Although one of the fathers of the STR, Minkowski (1908) with his commitment to reciprocity, would have been no witness on behalf of the alleged one-sided effects of contraction, or of time dilation extending to the twins paradox.

Minkowski, Hermann: Raum und Zeit : Lecture, 80. Naturforscher-Vers., Köln 1908, 21st Sept. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, pp 4-9. Also in: Physikalische Zeitschrift. 20. 1909, pp 104-111. Reprinted in: Das Relativitätsprinzip. Lorentz, Einstein, Minkowski. 6. Edition 1958, pp 54-66; cited from this.

Mathematics

H: Mathematics / Error No. 1

Albert Einstein's mathematical derivations of the Lorentz transformations contain fundamental errors

Pagels (1985, pp 9-34) first criticizes Albert Einstein's derivations of the Lorentz transformations of 1916 (in a later edition dating from 1969) and subsequently those of 1905. A central point of criticism (pp 11-12): "The formulas of the TF [Lorentz transformation] represent ... always and everywhere, a function equation the independent variables of which are variable within a functional relationship. On principle, therefore, the independent variables of the TF may not be seen and treated as freely selectable variables. In other words, if one has determined the value of a variable of the TF - then one has, at the same time,

also determined the other two variables." Since the STR disregards this condition, its kinematics are "mathematically incorrect and thus without any scientific value" (p. 12).

Albert Einstein (1969, pp 91-96) introduces the speed equation (velocity = distance per time), solves it for distance x:

$x = ct$

and writes it for both systems in the form:

$x - ct = 0$ *and* $x' - ct' = 0$

For his further calculations he introduces the condition x' = 0. To this Pagels remarks (p. 15): "If one now puts, in (2), x' = 0 , then inevitably ct' = 0 and thus also c= 0!" So these Einstein mathematics lead, for the supposedly absolute constant speed of light c, to the value null, and thereby contradict the second theory of his principle. Moreover, as a result of c = 0, also x = 0 and not, as Einstein further calculates, x = bct / a.

With the condition x' = 0, as set by Albert Einstein, and one further formal calculation, one arrives at results that are clearly physically absurd.

What physical meaning does Albert Einstein's condition x' = 0 have for his subsequent calculations? The x' in his treatise is the path of the light signal relative to the system K'. If x' = 0, the light signal traces no path back, i.e. the alleged process does not take place at all, and the physical consideration is limited to the null point of the coordinate system. From this null point, however, without a physical process no physical findings whatsoever can be won. All (formally correct) mathematical deductions based on this condition are physically meaningless, and claims as to their supposed physical meaning are incorrect.

Pagels uncovers in Albert Einstein's leaflet "Über die spezielle und die allgemeine ..." [On the special and the general ...] (1969) further mathematical errors and criticizes subsequently (pp 17-26) the mathematics of Albert Einstein's derivation in his original work (AE 1905). He points to mathematical errors - not formal mathematical errors, but incorrect and impermissible physical references that lead to contradictions and to meaninglessness (p. 19): "Already here, at a very elementary level, we can see a general confusion in Einstein's argumentation. With respect to K, the argument rests on classically justified relative speeds [c+v , c-v] - although these relative speeds can in fact only be valid in the moving system K'!" Summing up his criticism, Pagels says (p. 21): "Thus this Einstein "derivation" of the TF [= Lorentz transformation] takes the form of a ceaselessly intensified mathematical error". And finally (p. 26): "That such a mathematically incorrect and unprincipled formalism, as represented by this Einstein "derivation" of the TF, should be held to be high wisdom for far more than half a century ... and be followed as an almost omnipotent "view of the world" - that is indeed depressing."

With this, the core of Albert Einstein's procedure is exposed in an example. Without regard for the physical meaning of the equations, a solely formally correct mathematics is presented. In the process, the author relies on the public's widespread and mistaken opinion that mathematics is something purely formal. Something which the author can subsequently fill up at will with his or her random content. The mathematics of the STR, however, processes avowedly physical measurements and as such is subject to the control of the physical meanings. Conclusion: " x' = 0 " are not mere chalk scratches on the board, but has a physical meaning. Disregard of this is what Pagels denounces as "lacking principles".

The relativists like to dismiss critical enquiries with the claim that the theory is mathematically flawless and completely perfect and is therefore already fully justified, regardless of any small defects or blemishes and not-yet fully provided proofs. In other words, a supposedly flawless mathematics is held to be the guarantee of a correct physics.

This position is fundamentally contested by the critics. In particular the supposedly flawless mathematics of the STR has been repeatedly analyzed and errors in the mathematical derivations of the equations have been proven, the main focus in this connection being placed on the transformations of H. A. Lorentz, which are central to the theory and were taken over by Albert Einstein in 1905. In the literature there are more than half a dozen (!) various derivations of the transformations, some of these based on purely classical assumptions.

AE 1905 (pp 892-902). - Strasser, Hans: Die Grundlage der allgemeinen Relativitätstheorie. eine kritische Untersuchung. Bern: Haupt, 1922. 110 pages - Braccialini, Scipione: Discussione sulle formule di Lorentz. In: Politecnico (Il). 16. 1924, pp 353-375. - Einstein, A.: Über die spezielle und die allgemeine Relativitätstheorie : with 4 "Abb." / 21st edition 1969, reprint Braunschweig etc.: Vieweg, 1984. 130 pages (Wissenschaftliche Taschenbücher. 59.) - Pagels, Kurt: Mathematische Kritik der Speziellen Relativitätstheorie / 2., bound edition. Oberwil b. Zug: Kugler, 1985. 112 pages.

H: Mathematics / Error No. 2

The group properties are missing in the Lorentz transformations

Albert Einstein maintains that, mathematically speaking, the Lorentz transformations form one group, so that two consecutive transformations with (co-linear) speeds in the same direction are of equal value to a transformation with the sum of the speeds. This claim is repeated by M. v. Laue (1913, p. 41).

This claim is nevertheless clearly incorrect (cf. Galeczki / Marquardt 1997, pp 92-96). Two such transformations cannot be replaced by one, because they are not transitive and are not commutative. The problems intensify in the case of non-parallel speeds.

With this the Lorentz transformations used by Albert Einstein lose their supposed general validity and the alleged grand effects every foundation. - The defect of the mathematical group properties for relativistic rules of addition for speeds was already recognized at a very early stage by Sommerfeldt (1909), a supporter of the theory.

Phipps (1980, p. 291) designates the Lorentz transformations as being too small, because they were developed for the one-dimensional problem of parallel motion: "To hope that such a small group would suffice was pardonable optimism, but to anticipate it so single-mindedly as to ignore evidence of its failure was folly."

The cause of the lack of group properties is the development of the transformations solely at a level that in no way permits an automatic transfer to processes in three-dimensional space. This is the sense of Phipps' stipulation of the "small group" and the "evidence of its failure".

If the derivations of length contraction and time dilations with the help of the Lorentz transformations are already mathematically incorrect, then it is no wonder that these famous effects have never been observed either. And all the more efforts must be made by the relativists in order to obscure this situation.

Sommerfeld, Arnold in: Verhandlungen der Deutschen Physikalischen Gesellschaft. 9. AE 1909. - Laue, Max v.: Das Relativitätsprinzip. 2., verm. edition. Braunschweig: Vieweg, 1913. 272 pages. - Phipps, Thomas E., jr.: Do metric standards contract? In: Foundations of physics. 10. 1980, pp 289-307. (response by Cantoni, V.: p. 809. - response by Phipps: p. 811.) - Galeczki / Marquardt 1997, pp 92-96.

H: Mathematics / Error No. 3

Albert Einstein's and Max von Laue's derivations of length contraction and time dilation contain fundamental errors

Pagels (1985, pp 38-40) analyzes the mathematical deductions of both authors and discovers analogous errors for contraction and dilation.

On the derivation of contraction (p. 38): "If, with respect to [x(index 1) not equal to x(index 2)], one sets the equation [t(index 1] = t(index 2)], then, in accordance with (4), one has stated physically that the absolute constant speed c for two unequal paths [x(index 1) not equal to x(index 2)] requires two equal times [t(index 1] = t(index 2)] - which is fully absurd and completely devoid of principles.

On the derivation of dilation (p. 39), as a clear analogy: "... then, in accordance with (4), one has stated physically that the absolutely constant speed c for two equal paths [formula] requires two unequal times [formula] - which is fully absurd and completely devoid of principles!"

The parallels to Error H 1 are obvious.

Pagels, Kurt: Mathematische Kritik der Speziellen Relativitätstheorie / 2., bound edition. Oberwil b. Zug: Kugler, 1985. 112 pages.

H: Mathematics / Error No. 4

In the STR it is claimed that, in constant motion relationships, lengths are contracted and times are dilated

Pagels (1985, pp 40-45) draws attention to the fact that "the principle of the absolute constancy of the speed c ... [can] only be satisfied with covariant dimensions". The covariance of all dimensions means contraction or dilation both for length and for time. Only under these conditions can the quotient [distance per time], which gives speed, remain constant. If the distance is contracted (shortened) and the time dilated (lengthened), the value of the quotient alters, in contradiction to the announced principle.

With this, Pagels touches on another weak point of the theory; whereas in the case of rigid bodies and the rigid measuring rod one has an explicit idea of what "shorter" and what "longer" is intended to mean, in the case of the concept of time it is difficult to distinguish between the subject matter (time) and its unit of measure (the clock). It must be clear here whether the time, in its rate of passage or expiry, supposedly changes or whether it is only the unit of measure, as represented by the clock indicators, that changes.

This also makes it immediately understandable why arbitrary natural processes cannot serve as clocks. Because with these one cannot distinguish in the least between the measured subject matter and the unit of measure. Instead, for such supposed "clocks", the subject matter is always the unit of measure at one and the same time. The clock is an instrument created by man, an artificial product that establishes a standard. Without such standards, nothing can be measured anywhere. Only the relativists want to determine the time without any clearly established standard.

Pagels' insistence on similar types of change in distance and time, so that the quotient can be retained as the measured constant of the speed of light, shows the complete naivety of the theory in this respect.

With his point of criticism Pagels draws attention to the consequence that a supposed contraction of length and dilation of time need not apply to rigid bodies and clocks alone, but to all processes in observational space, i.e. also to

light propagation. A ray of light that runs parallel to the rigid rod would receive an altered quotient for its speed, namely a "shorter path" per "extended time", which implies a reduction (!) of the speed of light. Only for a "shortened path" per "shortened time" - with the same factor of shortening for both values (!) - could the quotient (the speed) remain unaltered.

The unremitting calculations of the relativists have failed to address the question of the supposed change in the concrete units of measure to be applied and the corresponding adaptations for calculation of the supposedly absolutely constant speed of light. The relativists calculate keenly to show how many years younger the travelling twin returns, but they are unable to demonstrate mathematically the central, supposed constant of their theory. The reason? The implications of an "extension of time" depends on whether it is the "matter" of time that changes or its unit of measure, and what consequences a physical and a mathematical interpretation have. The concept of the "extension of time" implies a reference to the initial size, the "non-extended time". Other than in the case of the rigid rod and the recorded unit of measure, one cannot make a concrete distinction, in the case of time, between "matter" and its "unit of measure". Poking around in this fog does not release one from the obligation to answer the question as to whether it is the subject matter (time) or the ascribed unit that changes, and as to how the supposed constant speed of light (a quotient) can remain constant. Pagels called for an answer, and naturally the relativists were unable to give it.

Pagels, Kurt: Mathematische Kritik der Speziellen Relativitätstheorie / 2., bound edition. Oberwil b. Zug: Kugler, 1985. 112 pages.

H: Mathematics / Error No. 5

The claim of the validity of a non-Euclidean geometry in space conceals the fact that the realization of a non-Euclidean geometry requires a measurement of curvature that can only be given in Euclidean geometry

Albert Einstein introduces a non-Euclidean geometry in the GTR, which is fundamentally just as possible as the introduction of any other non-contradictory geometrical structure. For realization of this non-Euclidean geometry in physical space, however, a measurement of curvature must be given. And this measurement of curvature can only be given in Euclidean geometry, because Euclidean geometry is the only geometry characterized by the fact that it can be constructed without a metrical precondition.

The allusion to the need for a solely Euclidean measurement of curvature was, for example, given by Hugo Dingler in 1969 (p. 164). With this it is clear at the same time why Euclidean geometry is also the predecessor and the fundament for all other conceivable geometries. It is the only geometry that can be concretely realized in physical space without extra conditions derived from another geometry; all other geometries can only be developed when embedded in Euclidean geometry.

With the measurement of curvature from Euclidean geometry, as many non-Euclidean geometries as one wants can be developed and applied simultaneously and next to each other, and with all of these geometries existing in the same, one and only available space of physical experience. This proves that in physical space not only one geometry applies, and that space, if it has properties, can be depicted with these properties in all of these geometries. The favourite idea of all relativists of completely determined "geometrical properties" of space is not only totally without any justification, since its emergence it has been clearly refuted by the sheer variety of non-Euclidean geometries.

Dingler's allusion to the necessary measurement of curvature for realization of a non-Euclidean geometry does not prove that only Euclidean geometry applies in space,

but that *only* Euclidean geometry can be developed without a metrical stipulation (a measurement): This is what makes it superior to all other geometries. The other geometries, to the extent that they require a measurement of curvature, are constructions dependent on Euclidean geometry, embedded in Euclidean geometry. The relativists do not appear to know this, or to want to believe it.

A. R. Forsyth: Geometry of four dimensions. 1930, S. X. - Dingler, Hugo: Die Ergreifung des Wirklichen [Teilausg.] : Chapters 1-4. Einleitung v. Kuno Lorenz u. Jürgen Mittelstraß. Frankfurt a. M.: Suhrkamp, 1969. 273 pages.

H: Mathematics / Error No. 6

The conditions for orthogonality are said to hold in four-dimensional space

In his criticism of the derivation of the Lorentz transformations by Albert Einstein, K. Pagels (1985, p. 30) draws attention to the fact that the relativists operate in four-dimensional (Minkowski-)space with conditions for orthogonality. Quoted on the example of Kopff (1923, p. 33), who demanded that the time coordinate "be applied as an imaginary number on a real axis that is perpendicular to the three space axes".

Pagels: "The mathematics must protest, however, if with respect to the 'four-dimensionality' of (7) the conditions for orthogonality of (8) are used! In principle it is always possible to argue with a 3+n-dimensional geometry - but conditions for orthogonality can never ever be applied to a 3+n-dimensional geometry! Only in Euclidean geometry do the conditions for orthogonality hold - and it is the very fact that the conditions for orthogonality hold only in Euclidean geometry that distinguishes Euclidean geometry from all other possible geometries!"

When they want to parry against the criticism the relativists always refer to the inevitable unintuitive nature of their creation and even present this as a merit. In producing their creation, on the other hand, they inevitably make use of intuitive ideas, and - to top this - of incorrect ones such as the supposed "orthogonality in four-dimensional geometry", or of other incorrect, intuitive ideas such as "Minkowski's World" as space and the "world line" as distance. Anyone who practices physics in the real macro-world fails to escape the intuitive ideas and must be careful not to talk nonsense.

Kopff, A.: Grundzüge der Einsteinschen Relativitätstheorie / 2nd edition. Leipzig: Hirzel, 1923. - Einstein, Albert: Über die spezielle und die allgemeine Relativitätstheorie : with 4 "Abb." / 21st edition 1969, reprint Braunschweig etc.: Vieweg, 1984. 130 pages (Wissenschaftliche Taschenbücher. 59.) - Pagels, Kurt: Mathematische Kritik der Speziellen Relativitätstheorie / 2., bound edition. Oberwil b. Zug: Kugler, 1985. 112 pages.

H: Mathematics / Error No. 7

Different geometries are said to hold in the space of the STR and in the space of the GTR (STR: plane geometry; GTR: curved geometry)

Since the world of relativity has only one physical space of experience available for its two different geometries, the relativist author must state specifically, before each of his comments, which of these geometries he is currently using. He certainly has the choice and he also makes use of it, if he supports both theories. This is why - on the basis of his own practice - he must not maintain that in space only one specific geometry applies, that expresses the characteristic properties of space.

If one were to take the claim of the alternative validity of two different geometries that also express the properties of space seriously, then relativity, with

the (permissible) change from one geometry to the other, would (impermissibly) alter the properties of space. Seen systematically, this is a case of magic and esoterics (How, after all, should space know what a relativist happens to be assuming about it? And how is space supposed to behave when two relativists simultaneously assume different geometries?). Seen epistemologically, it is a clear case of overestimation of one's own possibilities, or in plain language megalomania.

The relativists apparently see no problems at all in the claim of two mutually exclusive geometries, because they believe they can construct transitions between the two geometries. They maintain transitions, but only in observed phenomena, such as variations in the speed of light, or changes in the strengths of gravitational forces, but they cannot show how their two totally different geometries can simultaneous exist in proximity to each other, or how they can physically (!) combine, or what happens with the transition from one geometry to the other, physically (!) speaking. And they must also show in the process that reality indeed changes, depending on the choice of geometry assumed.

Mass-Velocity Relationship

J: Mass-Velocity Relationship / Error No. 1

According to Albert Einstein, velocity-dependent mass is a relativistic effect

Albert Einstein derives the claim of velocity-dependent mass for electrons (AE 1905, pp 917-919) and limits this to slowly moved electrons that release no energy in the form of radiation. Then he expands his deduction (p. 919) to "ponderable materielle Punkte" [measurable material points], from which he "makes an electron (in our sense) by adding a randomly small electrical charge". The artificiality of the assumptions accumulates to completely unlikely objects:

- electrons that do not radiate, because they are only moved slowly (does the alleged speed dependency no longer apply to fast-moving, radiating electrons?)

- then, measurable points of matter become electrons, in the sense of Albert Einstein, by charging them (Were his electrons not normal electrons? And how can, in physics, a measurable point of matter become a particle of particle physics, in whatever sense?)

- What generally valid conclusions should be drawn from these assumptions?

Galeczki / Marquardt (1997, pp 135-136): "Strictly speaking, Newton's 2nd law divides the universe into 'our examinable system' and 'the rest'. The velocity-dependent mass must therefore be an absolute effect that reflects the influence of the hierarchically structured 'rest system'. This rest system is a one-and-only and is therefore the identified global reference system ... per se, with respect to which the definition of an absolute velocity ... is both desirable and absolutely necessary." And finally (p. 138): "At any rate, the speed dependency of masses, as verified by 'Kaufmann-like' experiments ... is already sufficient from the start to disqualify any relativistic formulation of the mechanics and the believe in endlessly many inertial systems of equal standing. Mass increase at velocity w only makes physical sense as an absolute effect in the only identified reference system."

Theimer (1977, pp 83-84): "In the case of experiment a physical process must be postulated which, under acceleration, produces additional mass (and does away with it again on decelerating). Purely metrical impressions cannot create mass. Two physical mechanisms have been proposed: an electromagnetic effect that creates an apparent mass; and a materialization of the kinetic energy of the moving object that results in real mass. It becomes immediately apparent that both processes are conceivable within the framework of absolute time and three-dimensional space, without any need for time-change, Lorentz transformations, impulse rescue, etc., i.e. they are independent of the theory of relativity." - Theimer (p. 82) reported the opinion of M. Jammer (1964): "According to Jammer, in the theory of relativity "mass" is nothing other than the result of certain operations in terms of which the definitions are closely bound up with space-time considerations. Thanks solely to these connections, the result of the measurements is dependent upon the velocity. In other words, confirmation of the theory of relativity presupposes the theory of relativity." Jammer (1964, pp 180-184) had cited the revision of all experiments conducted by Farago / Janossy (1957) with the result (p. 180) that they "support the validity of the relativistic formula far less than is normally assumed."

Jammer points out (p. 182), that the equation could also be differently formulated (p. 182), "without any mention whatsoever having to be made of a 'variable mass'." (p. 183): "In the theory of relativity "mass" is nothing other than the result of certain operations in terms of which the definitions or specifications are closely bound up with space-time considerations. Thanks solely to these connections, the result of the measurements is dependent upon the velocity."

As a basic follower of Einstein's theory, Jammer at least admits that the statements as to the speed dependency of mass is a question of the chosen terms and definitions, and that the measurements can even be interpreted without the ideas of variable mass.

Galeczki / Marquardt dispute each relativistic aspect of the measured values. Theimer too emphasizes the non-relativistic nature of the found effects and intensifies the criticism on the point that, here, the confirmation of the theory of relativity requires the presupposition of the theory of relativity. As regards the STR, this is virtually a standard result.

AE 1905. - Faragó, P. S.: Review of the experimental evidence for the law of variation of the electron mass with velocity / P. S. Faragó, L. Jánossy. In: Nuovo cimento. Ser. 10, Vol. 5. 1957, No. 6, pp 1411-1436. - Jammer, Max: Der Begriff der Masse in der Physik / translated from the Engl. by Hans Hartmann. Darmstadt 1964. 248 pages - Theimer, Walter: Die Relativitätstheorie : Die Relativitätstheorie : Lehre - Wirkung - Kritik. Bern (etc.): Francke 1977. 192 pages - Galeczki / Marquardt: Requiem für die Spezielle Relativität / Georg Galeczki, Peter Marquardt. Frankfurt a. M.: Haag u. Herchen, 1997. 271 pages.

J: Mass-Velocity Relationship / Error No. 2

The experiments conducted by Kaufmann (1901, 1902, and 1906) are said to have provided proof of a relativistic increase in mass with increasing velocity

Galeczki / Marquardt (1997, pp 140-145) draw attention to the following facts:

(1) The Kaufmann experiments with the proof of a mass-increase effect were conducted long before the development of relativistic dynamics.

(2) Kaufmann's apparatus used fast electrons from a beta-radiation source and examined their motion between two conductor plates in an electrical field and a magnetic field perpendicular to this (p. 141): "this apparatus has clearly nothing in common with the interaction-free inertial system of an STR observer."

(3) As regards the inclusion of the Kaufmann-like experiments in the world of relativity (p. 140): "The access of relativity to m(v) occurs naturally via the Lorentz transformation, since v

is the same velocity of which it is demanded that it dilates times and contracts lengths. In the cases of lengths and times it is already hard to swallow that they follow the dictates of a transformation. That masses are created through a mere transformation, however, is highly absurd."

(4) Allusion to the critical-survey article by Faragó and Jánossy (1957) on the experiments conducted by Kaufmann and his successors from 1907-1940.

Theimer 1977 (p. 82): "If the change in mass is real, then the observer no longer has a need to thank a Lorentz transformation for this impression. He already sees a real mass ... and reports, unchanged, a mass ... as a 'classic' observer. His measurement is not relativistic and the result is not derivable from the theory of relativity. A truly relativistic measurement would be one for which it [the formula] would transform in keeping with Lorentz, but then some other result would be given. If he makes m[index 0] the starting point of his calculation he has already anticipated Einstein's hypothesis as to the generation of [formula], and so cannot prove it."

Ives (1943) had, by the way, derived a dependency of the mass without STR, in keeping with Newtonian conservation and with the assumption of the classical properties of wave systems.

Every single attempt of the relativists to depict the experiments of Kaufmann and his successors as confirmation of their STR comes to grief on two irrefutable circumstances: (1) the results are won from electrons and not from the interaction-free inertial systems of the theory; and (2) the calculated effect is absolute and has nothing relativistic about it. Theimer refers to the consequences of a truly relativistic treatment.

Ives, Herbert Eugene: Impact of a wave-packet and a reflecting partikel. In: Journal of the Optical Society of America. 33. 1943, pp 163-166. Reprinted in: The Einstein myth and the Ives papers. 1979, pp 101-104. - Faragó, P. S.: Review of the experimental evidence for the law of variation of the electron mass with velocity / P. S. Faragó, L. Jánossy. In: Nuovo cimento. Ser. 10, Vol. 5. 1957, No. 6, pp 1411- 1436. - Theimer 1977. - Galeczki / Marquardt 1997. -

Mass-Energy Relationship

K: Mass-Energy Relationship / Error No. 1

The mass-energy relationship ($E = mc^2$) is said to define the transformation from mass into energy

The mass-energy relationship is seen as the world formula and Albert Einstein as its author, and it is said to stand for the transformation of mass into energy.

Hasenöhrl (1905) deduced the formula classically.

Ives (1952) showed the derivation by Albert Einstein in 1905 to be a circular argument.

Heisenberg (1959, cited from the 1981 issue, pp 95-96) designates the mass-energy relationship as secure findings, though he describes the usual interpretation, a transformation of mass into energy, as a misunderstanding: "It is occasionally maintained that the enormous amounts of energy released during the explosion of an atomic bomb come directly from the conversion of mass into energy and that one could only predict this gigantic amount of energy on the basis of the theory of relativity. However, this attitude arises from a misunderstanding. That great amounts of energy are stored in the atomic nuclei has been known since the experiments of Becquerel, Curie and Rutherford on radioactive decay. [...] The energy associated with the splitting of the uranium nucleus has the same origins

as in the case of the [alpha-]decay of a radium nucleus, i.e. mainly from the electrostatic repulsion of the two parts into which the atomic nucleus is split. The energy released by an atomic explosion thus comes directly from this source and does not derive from a conversion of mass into energy."

Theimer (1977, pp 94-95) analyzes the problematic situation of the transformation: "In the case of the experiments with moving charges, which are often put forward as proof of the theory of relativity, Einstein's theory of the massive nature of kinetic energy appears in contrast to the electromagnetic theory, which he himself accepted at the outset. The two models rule each other out. They cannot both hold at one and the same time. Otherwise the effect must appear doubled. If the mass effect of kinetic energy applies, the inductive braking effect must be axed. This means disregarding secured laws of electromagnetics. If, on the other hand, the electromagnetic inertial effects apply, the kinetic energy of the particle cannot have any mass. [...] Both of these theses can only be tested on charged particles that are electromagnetically accelerated. Uncharged objects cannot be accelerated up to the enormous speeds required. The relativistic postulate of the extension of mass increase to uncharged, moved objects cannot therefore be proven. The formulation of the mass-energy relationship is valued as the main achievement of the theory of relativity. As regards electromagnetic phenomena, however, this was already known before Einstein. The kinetic generalization, too, had already been advanced by Poincaré and Langevin. Einstein may therefore have introduced the formula $E = mc^2$ into the theory of relativity, but he did not discover it. It is incorrect when textbooks typically speak of "relativistic" mass increase of electrons and everyone thinks of Einstein, but not of Kaufmann."

And on the decades of relativistic propaganda (Theimer, p. 102): "For decades, with Einstein's endorsement, the claim has been circulated that, in keeping with this formula, every gram of any substance contains an energy of 25 million kilowatt hours and that this represents an inexhaustible source of energy for mankind. In reality, only about a thousandth of this energy can be won through nuclear processes and even this applies to only to a few special fissile types of atoms. All the rest remains mass and cannot be split."

The relativists present mass-energy conversion, which was not discovered by Albert Einstein and is not a relative phenomenon, as Einstein's greatest achievement and as a consequence of the STR, and they would also like to confirm, at the same time, the derivation of Albert Einstein's kinematics, with length contraction and time dilation. But none of this is true. Einstein did not discover the conversion, and it is not relativistic, and it does not prove anything of his alleged wonder of kinematics, and - as one of the ironies of physics - it doesn't have anything whatsoever to do with a conversion of mass, but with a release of nuclear energy that, according to Heisenberg, is not dependent on the mass. - It is hard to imagine a more complete, deliberate accumulation of errors, and never has disinformation of the public been conducted on such a scale or had a longer-lasting period of success than "Einstein's formula".

In the context of his STR Albert Einstein never prophesied the winning of energy from atomic nuclei. Nuclear fission is the result of empirical research that developed independent of the theory of relativity. Rutherford, who achieved the first nuclear transformation, rejected the theory of relativity (cf. Theimer, 1977, p. 97). - The supposedly greatest performance of Albert Einstein proves to be the most fantastic construction imaginable, the apotheosis of our new Copernicus-Galilei-Newton; the world's new wise man and genius of the century.

Hasenöhrl, Fritz: Über den Druck des Lichtes. In: Jahrbuch der Radioaktivität und Elektronik. 2. 1905, pp 267-304. - Ives, Herbert Eugene: Derivation of the mass-energy relation. In: Journal of the Optical Society of America. 42. 1952, pp 540-543. Reprinted in: The Einstein myth and the Ives papers. 1979, S. 182-185; extensions pp 186-187. - Jammer, Max: Der Begriff der Masse in der Physik / translated from the Engl. by Hans Hartmann.

Darmstadt 1964. 248 pages - Heisenberg, Werner: Physik und Philosophie. 83.- 86. tsd Frankfurt a. M. (usw.): Ullstein, 1981. 196 pages. (Ullstein Buch. 35132.) Frühere Ausg. 1959. - Theimer 1977.

K: Mass-Energy Relationship / Error No. 2

The mass-energy relationship $E = mc^2$ is said (1) to have been discovered by Albert Einstein in the context of the STR, and (2) only to be interpreted by relativity

Both claims can be easily refuted, as the critical literature has demonstrated, without contradiction. Since the treatment the mass-energy relationship in the literature is mostly fairly complex, i.e. the "speed dependency" and the "conversion" and the pre-relativistic discoveries also being treated in this connection, several standpoints have already been addressed in the accounts of Errors J 1, J 2 and K 1.

Ives (1952) has proven that the derivation of $E = mc^2$ selected by Albert Einstein (1905, inertia of a body) is logically incorrect, because it is based on a circular argument that already takes the proof to be given as a prerequisite.

Jammer (1964, pp 190-193) reports on Ives and confirms (pp 190-191): "It is indeed the case that what the layman knows as 'the most famous mathematical formula in science" is merely the result of a 'petitio principii', i.e. a conclusion based on the assumption that the claim has already been proven."

The relationship between mass and energy (or: matter and energy) has, according to the corresponding statements of various authors, nothing relativistic about it: Heisenberg 1981 (initially: 1959); Galeczki / Marquard, 1997 (pp 145-158) treat the mass-energy relationship, though they begin by treating the mass-velocity relationship (pp 133-145). - Theimer (1977, pp 78-105): treats in detail (pp 84-92) the historical development: Thomson 1881, Wien 1900, Poincaré 1900 and 1904, Kaufmann 1901-1905, Hasenöhrl 1904 and 1905, Zahn and Spees 1938, Faragó and Jánossy 1957. - Gut 1981 (pp 66-90) provides a masterly and thorough study of the 6 or so different derivations together with their errors.

Jammer, 1964 (cf. above quote) found the discovery of Albert Einstein's logical error, in his derivation of the famous formula, so embarrassing that he proceeded, immediately after the above quote (p. 191), with: "This stipulation does not, of course, diminish the importance of Einstein's contribution to the problem in the least ..." For relativists, Albert Einstein can do whatever he wants, it is always good and important.

Jammer's opening of the paragraph in question can also only be fully appreciated after reading the full text. Jammer writes: "It is a strange coincidence in the history of human reasoning that Einstein's own derivation ... was not logically flawless." In the present catalogue of errors on Albert Einstein's theories Jammer could have convinced himself that the circular argument here was no strange coincidence, but a strangely repetitive stylistic feature of both of Einstein's theories, and as such, perhaps indeed something special in "the history of human reasoning".

One cannot repeat the truth as often as the propaganda of the relativists repeatedly spreads their deceptions. The critical literature clearly proves that the mass-energy relationship $E = mc^2$ was discovered long before Einstein and without the assumptions of his relativity. In other words, it is independent of the STR and needs, as an absolute effect, its own non-relativistic interpretation.

The energy released from nuclear fission (an atom bomb, or nuclear power stations) is no longer dependent on which observer in which inertial system organizes the nuclear fission, or on which observer in which other inertial system observes it and

on how their observations differ, but only on the released forces of bonding in the atom, which escape as electromagnetic radiation, thereby introducing the speed of light c into the formula. After the fission of the atomic nuclei there is a mass defect for the residues that is also non-dependent on any observers in whatever inertial systems.

The mention of the speed of light c will certainly have contributed towards the willing and gullible acceptance of the propaganda by the broad public of specialists, because the relativists happily report everything to do with "c" as being "relativistic" - as though Albert Einstein and the relativists have patented the speed of light.

For a correct evaluation of the circular argument it must be recalled that something supposedly proven by it need not automatically be incorrect - it is only not proven by the circular argument, though it may well indeed be correct if another, more correct method of proof is found for $E = mc^2$, repeatedly and also in the classical way.

In the context of his STR Albert Einstein never prophesied the winning of energy from atomic nuclei. Nuclear fission is the result of empirical research that developed independent of the theory of relativity. Rutherford, who achieved the first nuclear transformation, rejected the theory of relativity (cf. Theimer, 1977, p. 97).

Einstein, Albert: Ist die Trägheit eines Körpers von seinem Energiegehalt abhängig? In: Annalen der Physik. 18. 1905. pp 639-641. Reprinted in: Albert Einsteins Relativitätstheorie. Publ.: K. v. Meyenn. 1990. pp 156-159. - Corbino, O. M.: La massa dell'energia / O. M. Corbino. - In: Nuovo cimento. Anno 56. Ser. 5, Vol. 20. 1910, 2. sem., fasc. 11/12, pp 462-469. - Ives, Herbert Eugene: Derivation of the mass-energy relation. In: Journal of the Optical Society of America. 42. 1952, pp 540-543. Reprinted in: The Einstein myth and the Ives papers. 1979, pp 182-185; Ergänzungen: pp 186-187. - Jammer, Max: Der Begriff der Masse in der Physik / translated from the Engl. by Hans Hartmann. Darmstadt 1964. 248 pages. - Faragó, P. S.: Review of the experimental evidence for the law of variation of the electron mass with velocity / P. S. Faragó, L. Jánossy. In: Nuovo cimento. Ser. 10, Vol. 5. 1957, No. 6, pp 1411-1436. - Heisenberg, Werner: Physik und Philosophie. Original extract 83.-86. Tsd. Frankfurt a. M. (etc.): Ullstein, 1981. 196 pages. (Ullstein Buch. 35132.) Earlier edition 1971. - Theimer 1977, pp 78-105. - Gut, Bernardo Juan: Immanent-logische Kritik der Relativitätstheorie. Oberwil b. Zug: Kugler, 1981. 151 pages - Galeczki / Marquardt 1997, pp 133- 158.

Gravitation

L: Gravitation / Error No. 1

In the STR, there are said to be inertial systems that are subject to no gravitational effects

As to the question of the existence of inertial systems, attention must be drawn to the following:

(1) It is held as generally accepted that the structures of matter in the cosmos are determined by gravitation.

(2) The relativists themselves make use of Mach's principle, according to which processes on the earth are determined by the masses of the fixed stars of our galaxy and their gravitational effects, to respond to Lenard's question as to why, with the sudden braking of a train, all objects within the train that are not fastened down collapse together, due to their inertia, but the church steeple next to the railway does not fall down: the gravitating masses of the fixed stars are said to cause the forces of inertia of the objects.

(3) Die limitation of a theory to inertial systems leads to a limitation of the perspective to pure kinematics. According to Galeczki / Marquardt (1997, p. 47) kinematics is "the presentation of a motion without concerning oneself with its physical relationships.

In terms of the kinematic way of looking at things it makes no difference whether the earth moves around the sun ... or vice versa."

In view of these three preconditions the relativists want to justify the existence of their gravitation-free inertial systems with the usual "ignoring" of smaller effects in physics: the gravitational effects are said to be so small that one need not include them in the calculation. Such ignoring would only be legitimate for as long as the theory consequently held to the "ignoring" - which it clearly does not do. For this reason the concept of the inertial system and even the assumption of a "threefold endless great diversity of equally justified systems" (v. Laue, 1913, p. 34) is only a fiction of the STR, without any basis in physical reality. If the fixed stars (distant masses) can exert an effect on objects in an railway carriage on the earth by means of their gravitational forces, then there is no place in our galaxy for an inertial system that is free of the effects of gravitation. The relativists themselves regard the gravitational forces as not small enough to ignore. Otherwise they would not use them to justify the forces of inertia of the non-fastened objects in the braked train.

From a fiction such as the inertial systems no generalized conclusions can be derived for all of reality. There is no physically real transition from an initial limitation to fictitious inertial systems to a reality that is dominated by gravitation and other forces and almost exclusively shows non-inertial (!) motion.

Galeczki / Marquardt (1997) analyze in detail the problems of inertial systems (pp 45-46): "Everything here takes place with the wonderful straightness and regularity that the critical observer, without drastically ignoring the hierarchy of motion surrounding him, *never* finds in nature; rotations, changes of direction, braking and acceleration, etc. are excluded from what's going on. Inertial systems, the ideal of a jerk-free moving wagon, are loved in the field of mechanics, because the question as to what it is ... actually good for, always moving only at constant speed with respect to something else, is never asked. [...] There are already difficulties in reconciling one constant linear velocity with a local approximation. Despite (or perhaps because of?) the usefulness of textbooks, an endless multitude of inertial systems is a concept that is too unrealistic for dynamic happenings, whereas *one* fundamental inertial system is indispensable. The influence of all existing masses [cannot be] dismissed by words - something which also applies to these masses themselves. There is no point in speaking about the uniform relative speeds of only two lonesome masses in outer space, to say nothing of a single mass on which a single force is said to be exerted. All possible forms of motion can be attributed to such pathologically skeletonized systems. Their generalization is then only one small step, but one with far-reaching consequences. It is therefore important never to lose sight of the difference between dynamics and kinematics. Nature knows no strictly kinematic motion that is isolated from all energy-related considerations."

In the cosmos there is no "place" without fields of gravity, and there is no place for an STR without gravitational effects. As the master of the cosmos, gravitation brings all attempts to escape it, by means of a theory, to grief. Albert Einstein's presentation of the GTR as a theory of gravitation seeks to avoid this defeat, which is why the GTR is also interpreted and welcomed by Max Abraham as a revocation of the STR.

M. v. Laue, 1913, p 34. - Galeczki / Marquardt, 1997, pp 45-51.

L: Gravitation / Error No. 2

Albert Einstein maintains that, in the GTR, a gravitational field can be generated by merely changing the coordinate system

Albert Einstein (1916, cited in keeping with the 1923 reprint, p.): "one can 'generate' a gravitational field by merely changing the coordinate system" (the inverted commas for "generate" are from Albert Einstein). The physical mode of action of changing coordinates has so far not been outlined. It is therefore no surprise that so far no fields of gravity have been physically proven by relativists by changing the coordinates of a coordinate system.

If one can generate a gravitational field by changing coordinates, then one thereby alters, according to Albert Einstein's own teachings, the curvature of space. But how does the space in question know which coordinates Albert Einstein has just selected on his paper, so that it (the space in question) can curve or straighten accordingly?

The criticism therefore contests the generation of gravitational fields by means of changing coordinates for two reasons: firstly, because Albert Einstein has not shown how, through a change of coordinates, a physical effect on reality can take place; and secondly, because so far no proof of gravitational fields generated in this way has been given.

Even the inverted commas used by Albert Einstein for "generate" cannot disguise the fact that this is yet another case of pure magic in Albert Einstein's thinking. The intelligence in the natural sciences of the past hundred years has not only become used to the universal element of magic in two theories of relativity, but has even extolled this as the greatest research performance. And these theories are explained to our students and also to our pupils so that, properly conditioned, they will in future believe everything that one tells them at this level.

Albert Einstein has already been accoladed with an entitlement to philosophize ("Albert Einstein - philosopher-scientist", 1949). Only the magicians have so far apparently hesitated in accepting him as one of them.

The continuous, excessive use of inverted commas in Albert Einstein's texts, as well as in those of his propaganda perpetrators at all levels, without ever clearly stating the intended difference between use of the same terms with and without inverted commas, entitles one to classify at least the STR as inverted-comma physics. One knows nothing precisely, but all escape exits should remain open, so that in the worst-case scenario, as regards the criticism, there is always "another" way out.

Einstein, Albert: Die Grundlage der allgemeinen Relativitätstheorie. In: Annalen der Physik. 49. 1916, pp 769-822. Reprinted in: Das Relativitätsprinzip. Lorentz / Einstein / Minkowski. 1923 and repeatedly, pp 81-124.

The General Theory of Relativity

M: The General Theory of Relativity / Error No. 1

A relationship of transition exists between the STR and the GTR

The alleged transition between the STR and the GTR always claimed by the relativists was already refuted by the critics at a very early stage. In several

significant points there are, instead of a gradual transition, fundamental differences:

(1) In the absolute constancy of the speed of light. A supposed absolute constancy misses, by definition, the flexibility for any sort of transition whatsoever. It has therefore no connection to the variable speed of light of the GTR (variable due to different gravitational fields).

(2) In the speed of light as a maximum speed. In the GTR there is no longer any limit speed, so that all considerations and conclusions based on this assumption are superfluous, and as Theimer (1977, p. 114) emphasizes: "the elegant mathematical formulae in favour of this are invalid".

(3) In the straightness of the spreading of radiation. This standpoint is abandoned in the GTR, thereby withdrawing the basis for the construction of Minkowski's world.

(4) In the straightness of the motion of measurable bodies as inertial systems. In the omnipresent gravitational field of the GTR, they are subject to curvatures, whereby the existence of inertial systems approaches zero.

(5) In the constancy of the motion of measurable bodies as inertial systems. With the curvature of motions in the GTR, the constancy of inertial motion becomes an absolute rarity, and the existence of inertial systems is banned from the macro world.

(6) In the rigid body with Euclidean geometry. It is mislaid in the GTR, and is replaced by Albert Einstein's "Bezugsmollusken" [reference molluscs].

When the new theory (the GTR) negates the foundations of the older theory (the STR), one can no longer speak of the relationship of a transition. - The question arises, as to what, in the opinion of the relativists themselves, remains of the STR. According to Theimer (1977, p. 114) Albert Einstein regarded it as being only valid to a limited degree, namely limited to gravity-free regions. Such can only be constructed as infinitesimal gravity-free regions (= points). These, however, cannot be added. In limited, larger regions the STR is now said to be only approximately valid. He takes over time dilation and length contraction in the GTR, though now with the justification of gravitation. Conclusion: "This is all that remains of the theory that recently shattered the world" (Theimer, p. 114).

The GTR has brilliantly confirmed almost all of the criticism expressed up to about 1914 (Sagnac experiment) as refutations of the STR and has revoked the refuted claims, and in particular, the completely untenable and nonsensical postulate of the absolute constancy of c. And all of this came from Albert Einstein's own hand: Max Abraham already acknowledged this with satisfaction in 1912. This says nothing about the quality of the new theory, the GTR.

Max Abraham, at a very early stage (1912), had already diagnosed from Albert Einstein's gradually developed concepts on the subsequent GTR, the official end of the STR. According to Abraham, Einstein had already, in 1911, assumed "an influence of the gravitational potential on the speed of light" and had thereby "abandoned the postulate of the constancy of the speed of light that was so essential to his former theory" (p. 1056). Shortly before Einstein had also given up the invariance of the equations of motion for Lorentz transformations and had "thereby given the relative theory the coup de grâce". Abraham welcomed it "with satisfaction .., that its author had persuaded himself of its untenable nature" (p. 1056). If gravitation influences the speed of light, then there are also two reference systems that are no longer equal, one of these being the system at rest in the gravitational field, and the other being the system in constant motion (p. 1057). The STR has had a fascinating effect "particularly on the youngest mathematical physicists" and has thereby impeded the progress of physics (p. 1056).

For the relativists the claim of a transition between two theories was of great strategic importance. The STR, which until 1920 had remained fully unconfirmed, should now profit from the media furore over the alleged and at that time propagated as sensational, experimental

confirmation of the GTR. It should be carried along by the success of the GTR, as a step on the way there, something which had also already been achieved in that the media and many popular accounts no longer attached any value to distinguishing between two theories, speaking now solely of "the theory of relativity". The average member of the public had no chance of seeing through the underlying rebooking of the supposed success of the GTR onto the account of the STR.

Abraham, Max: Relativität und Gravitation; Erwiderung auf eine Bemerkung des Hrn. A. Einstein. In: Annalen der Physik. F. 4, Vol. 38 (=343). 1912, pp 1056-1058. Replies to a criticism of Einstein, pp 355 and 443. Followed by a statement by Einstein, p. 1059. - Einstein, Albert: Die Grundlage der allgemeinen Relativitätstheorie. In: Annalen der Physik. 49. 1916, pp 769-822. Reprinted in: Das RP. Lorentz / Einstein / Minkowski. 1923 and repeatedly, pp 81-124. - Theimer 1977, pp 111-145.

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 Ptolemée 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.

M: The General Theory of Relativity / Error No. 3

The principle of equivalence of the GTR is said to apply in the dimensions of the cosmos

For the alleged equivalence - whatever this may mean - between acceleration and gravitation Albert Einstein claims that gravitation, due to its effects in the practically unlimited dimensions of the visible cosmos, also has practically unlimited validity.

Against this standpoint V. Fok (Fock) 1952 points out the following critical circumstances. The principle of equivalence has solely local meaning. The lift (in Einstein's thought experiment) can only fall for a limited period. The earth's gravitational field cannot be switched off. The principle of equivalence cannot be applied to the solar system. Gravitational fields and acceleration cannot be mutually replaced. Acceleration has no relative character.

According to Fok, there is no reason whatsoever for a generalization of the principle of equivalence. - The meaning of the alleged "equivalence" remains completely unclear and leads to different claims, so that everyone can derive what he or she wants from the GTR. Strictly speaking, equivalence initially means only of equal value, not equality. In the present connection equal value is said to be clearly interpreted as having indistinguishability. A further interpretation as equality can relate to the equality of effects and/or of equality of measured values. And yet another step towards generalization is taken in the interpretation as identity.

Each relativistic author must therefore say in advance with which interpretation of GTR equivalence he or she is working, which occurs - of course - only in very rare cases. An identity of two opposing forces would be absurd, as would an equality of effects. Only an equality of measured value can be considered seriously. A decisive aspect of every interpretation of measured values, however, is the physical connection.

Fok, Vladimir Aleksandrovich: Le système de Ptolemée 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. Reprinted from: Questions de philosophie [Voprosy filosofii]. Moskau. 1951, No. 5.

M: The General Theory of Relativity / Error No. 4

The principle of equivalence of the GTR is said to provide proof of the equivalence of the inertial system and the rotational system

Albert Einstein developed the following thought experiment in a space without a gravitational field. There is an inertial system. There is also a rotational system (a rotating disc) next to it.

(1) First an observer on the rotating disc must measure the diameter of the disc and the circumference (outer edge) of the disc, both with the help of a measuring rod (which should be chosen sufficiently small for an approximate measurement of the round circumference). At the edge that corresponds to the direction of motion the measuring rod, or ruler, suffers Lorentz contraction. On the diameter that is perpendicular to the direction of motion at the edge, the ruler suffers no contraction. The quotient derived from circumference divided by diameter will have a value greater than that of Pi, from which it is clear that Euclidean geometry no longer applies to the rotating disc.

(2) Two clocks are placed on the rotating disc, one at the edge and one at the centre-point of the rotating disc. Albert Einstein, 1916 (1923 reprint, p. 85): "According to a well-known result of the special theory of relativity it holds - observed from K [the inertial system] - that the clock located on the peripheral circle will run more slowly than the

clock located at the starting point, because the first clock is in motion, whereas the latter is not." Immediately subsequently to this he writes: "An observer located at the same initial coordinates and also able to observe the clock located at the periphery by means of light, would also see the clock located at the periphery as running more slowly than the clock located next to him."

In the context of the GTR Albert Einstein now wants to take an excursion into the STR, in the gravity-free space and to Lorentz contraction and time dilation. However, this is impermissible on the basis of the STR, which has already been refuted by the fundamental assumptions of the GTR and relinquished: After proposing the GTR Albert Einstein himself had only claimed validity for the STR at the micro-level of particle physics (cf. Error M 1).

B. J. Gut (1981, pp 95-100) analyzes all of the assumptions and conclusions and finds them entirely untenable. He lists their most important defects:

(1) application of the STR to systems adverse to the theory;

(2) surrender of the constitutive symmetrical condition for the STR;

(3) failure to recognize the system-specific nature of the applied formulae;

(4) assumption of a universal nature for results calculated from K (the inertial system);

(5) reinterpretation of the assumed universal nature of the results from K in supposed effects of a (rotating disc) in a K' prevailing gravitational field (that, according to Albert Einstein, should not - by definition - be present);

(6) utilization of the transformation equations, for which no logically tenable relativistic derivation is known.

The conditions for the rotating disc have also been analyzed in very great detail by many other critics and Albert Einstein's reflections have been shown to be completely untenable. - For example, Theimer (1977, p. 120) in his conclusion on the rotating disc points out that the measurement of the circumference in keeping with the STR must not give any other result for Pi, because according to the STR the edge of the disc will also have shortened together with the ruler. - O. Kraus (1925, open letters, pp 58-65) analyzes the problems of the supposed clock rates in the rotational system and puts the decisive questions to Albert Einstein and M. v. Laue. Albert Einstein never answered them, whereas v. Laue, who also failed to answer them specifically, nevertheless explained in a letter to a magazine, that when a philosopher criticizes the theory for internal contradictions, then he, v. Laue, by no means pursues the critical line of thought in great detail, but instead tells the philosopher to his face that he, the philosopher, has not quite understood the issue. With this attitude, v. Laue has "thus already adopted the dogma of infallibility" (Kraus, p. 93).

Einstein, Albert: Die Grundlage der allgemeinen Relativitätstheorie. In: Annalen der Physik. 49. 1916, pp 769-822. Reprinted in: Das Relativitätsprinzip. Lorentz / Einstein / Minkowski. 1923 and repeatedly, pp 81-124. - Einstein, Albert: Grundzüge der Relativitätstheorie. 5th edition 1969, reprint Braunschweig etc.: Vieweg, 1984. 166 pages (Wissenschaftliche Taschenbücher. 58.) At the same time, 7th extended edition of 'Vier Vorlesungen über Relativitätstheorie'. - Kraus, Oskar: Offene Briefe an Albert Einstein u. Max v. Laue über die gedanklichen Grundlagen der speziellen und allgemeinen Relativitätstheorie. Wien (etc.): Braumüller, 1925, 104 pages - Theimer 1977, pp 118-120. - Gut, Bernardo Juan: Immanent-logische Kritik der Relativitätstheorie. Oberwil b. Zug: Kugler 1981. pp 95-100.

M: The General Theory of Relativity / Error No. 5

Albert Einstein's claim that light is deflected by gravitational forces is said to be a fundamental achievement of his GTR and its confirmation is said to confirm the GTR

The question as to from whom and when a certain claim in physics was made must be put in the context of the available documentation, not on the basis of biographical fairness or for the satisfaction of any vanity (the first would be a matter for the History of Science the second for the newspapers), but due to the

question of the factual interdependencies. An effect that is explained by several theories can no longer be claimed by any of these theories as compelling proof of the validity of this particular theory. An effect that has already been described cannot be subsequently claimed as the special performance of a later-developed theory, and its empirical confirmation is no compelling confirmation of the later theory.- The last-mentioned circumstances apply to light deflection; this was already described in 1801 by Johann v. Soldner and the deflection due to the sun was calculated.

Theimer (1977, p. 142): "A gravitational deflection of light was already predicted by Newton and was calculated in 1801 by the astronomer v. Soldner. His value amounted to only half that of Einstein's. In 1911 the value predicted by Einstein was still the same as that of v. Soldner. It was not until 1917 that he changed it to twice the value."

P. Lenard first received notification in 1921 of the publication by v. Soldner in 1801 and he therefore republished it in 1921 in "Annalen der Physik". In his preface Lenard remarks that Soldner - without the assumptions of the GTR - had calculated the deflection of light due to gravity and had found a value that agreed with the results of observations of the eclipse of the sun in 1919.

The reason for reprinting the work of Soldner is its limited degree of familiarity and its importance, since "nobody can say to what extent the older performance served as a reason and a support for subsequent preoccupation with the same subject matter" (p. 594). - Soldner believed that light from hot matter itself had material characteristics and was therefore also affected by gravity. This opinion fell into oblivion in the 19th century due to the prevailing wave theory of light (p. 595). - Soldner made his findings without the help of the STR/GTR and their depictions of space and time (p. 596). "An entangled theory with very far-reaching claims that are not at all necessary for derivation of a result can never be confirmed by the validation of the result." In this case the theory would be "only artificial and apparently intertwined with the result".

For relativists it was only natural that they showed themselves to be very angry in 1921 about the reprint of the work of v. Soldner, as though this was a defamation of Albert Einstein. How could v. Soldner, even in the year 1801, have the audacity ... Since Lenard in the following year - for the first time in a critical physical publication - made anti-Semitic comments, it also proved possible to publicly dismiss the Soldner affair in the context of Lenard's anti-Semitism and thus, in a very elegant way, to avoid addressing the matter in the future in relativistic presentations, right up to the present day.

The unholy anti-Semitism has also buried free debate in the field of physics, and the findings in the Soldner text were one of its first victims.

Soldner, Johann v.: Über die Ablenkung eines Lichtstrahls von seiner geradlinigen Bewegung, durch die Attraktion eines Weltkörpers, an welchem er nahe vorbeigeht. In: Astronomisches Jahrbuch für das Jahr 1804. Berlin 1801, pp 161-172. - Lenard, Philipp: Vorbemerkung [zum Abdruck einer Arbeit von Soldner aus dem Jahr 1801] In: Annalen der Physik. F. 4, Bd. 65. 1921, H. 7, pp 593-600. Then extracts from Soldner's text: pp 600-604. - Theimer 1977, pp 141-142.

M: The General Theory of Relativity / Error No. 6

Albert Einstein's claim that light is deflected by gravitational forces is said to have been confirmed by the observations of the eclipse of the sun in 1919

The British expedition of 1919 to Principe (an island off the coast of West Africa) and Sobral (Brazil) photographed the star locations close to the obscured sun. By comparison with photos taken of the same star locations without the sun, it was to be subsequently checked whether the star locations had been displaced by light deflection at the sun. In a meeting held on 6th Nov. 1919, Eddington, the leader of the expedition, announced as the result

that the deflection of the rays of light previously calculated by Albert Einstein had been precisely confirmed. Since then, right up to the present day, the relativists maintain that this magnificent confirmation the GTR proves the correctness of the entire theory.

Detailed analyses of the observations of 1919, their conditions and results, and the evaluation presented by Eddington led to the following findings:

(1) G. B. Brown summed up, in the year 1956 (p. 630): "But worse ... is the tendency to ignore contrary instances. Extraordinary examples of finding what was expected are the early attempts to prove the formula for the 'bending of light' by the Sun. When the eclipse photographs were examined, some of the star images had moved t o w a r d s the Sun, the exact opposite of what was predicted, and others had moved sideways. Hardly any star image had moved radially, but only the radial components were considered; the tangential components, although of similar magnitude, were regarded as accidental errors and ignored. The mean deflections measured changed markedly during the passage of the Moon's shadow, as did the mean directions as well. Moreover, Einstein's formula for the variation of the deflection with distance from the Sun was a s s u m e d in determining the 'scale contents' of the photographic plates, from which the deflections were derived which were supposed to prove it. With the help of this procedure ... results were obtained which were held to be 'in exact accord with the requirements of Einstein's theory'. ... Nowadays it is fairly generally admitted that this prediction has not been proven."

(2) According to Collins / Pinch 1998 (Golem, 2nd ed.), as regards Eddington's results: "As we shall see, they were very inexact and some of them conflicted with others. When he chose which observations to count as data, and which to count as 'noise', that is, when he chose which to keep and which to discard, Eddington had Einstein's prediction very much in mind. Therefore Eddington could only claim to have confirmed Einstein because he used Einstein's derivation in deciding what his observations really were, while Einstein's derivations only became accepted because Eddington's observation seemed to confirm them. [...] Observation and prediction were linked in a circle of mutual confirmation ..." (p.45). They describe in detail the technical conditions under which the observations of 1919 took place and analyze the official interpretations (pp 46-52). Conclusion: the results were not obtained in the manner officially maintained, and they do not prove what they supposedly prove (pp 52- 55). H. v. Klüber (1960, Einstein's light deflection) gave a thorough, complete and critical overview of all observations of eclipses of the son carried out until 1959, with a compilation of all of the data. His findings (pp 73-75): there is a light deflection close to the sun. "But the observations are not sufficient to show decisively whether the deflection really follows the hyperbolic law predicted by the General Theory of Relativity, mainly because so far it has not been possible to obtain a satisfactory number of star-images sufficiently near to the Sun. As things are at present, most observations could be represented quite well even by straight lines (Mikhailov, 1956)."

H. v. Klüber thinks that, in view of the importance of these observations for the GTR, they should be repeated in future, though only under the condition that decisively better technical preconditions for the mobile use of the equipment can be assured, because otherwise no significantly better photos could be expected on which to base a decision as to the true meaning of the observations.

The observations of 1919 were to be, according to Eddington (the only authoritative interpreter), already the triumph - and in 1960 H. v. Klüber sees further and significantly more precise observations as being necessary, in order to be able to first decide the issue. Even in 1980 there were still no more-precise observations known.

For the world of relativity it is as a matter of course that it hides the existence of often-devastating criticism, or simply makes it out to be unfounded, if the world of relativity cannot refute the facts of the case uncovered. - The process of proof for the relativists rests, in case of

light deflection, on (1) the elimination of all obvious and clearly present, contradictory findings, and (2) the introduction of the claims of Albert Einstein under the preconditions that they will be interpreted such that it would be almost a miracle if Albert Einstein's claims were not to be confirmed by the result.

This handling of empiricism by the relativists was denounced by F. Soddy in 1954 at the Nobel-Prize Winners' Conference in Lindau (p. 17): "the attempt to verify this during a recent solar eclipse, provided the world with the most disgusting spectacle perhaps ever witnessed of the lengths to which a preconceived notion can bias what was supposed to be an impartial scientific inquiry. For Eddington, who was one of the party, and ought to have been excluded as an ardent supporter of the theory that was under examination, in his description spoke of the feeling of dismay which ran through the expedition when it appeared at one time that Einstein may be wrong! Remembering that in this particular astronomical investigation, the corrections for the normal errors of observation - due to diffraction, temperature changes, and the like - exceeded by many times the magnitude of the predicted deflection of the star's ray being looked for, one wonders exactly what this sort of 'science' is really worth."

As the summit of this type of 'science', the 'ardent supporter' Eddington was himself permitted, already in 1919, to interpret the results fully alone and decisively: This is what one calls sovereignty.

Whereas the propaganda of the relativists has drummed in the fairy-tale of triumph (e.g. P.C.W. Davies, 1977: "triumphantly verified") for 80 years now, it would be easy to describe the true process, if one were to regard those involved as somewhat stupid, as wishful thinking. Otherwise it is downright deceit. Soddy tends openly to the latter option, which, as a Nobel-Prize winner, he can afford to do.

The swindle already begins with the fact that experiments on both of the theories are conducted solely in the presence of their followers, which is why their findings can first acquire the status of being objective under the control of non-relativists. The critics thus tend, from experience, not to believe a word of the claims of a relativists with respect to his experiments, unless a critic was present and confirms the findings.

Joint Eclipse Meeting of the Royal Society and the Royal Astronomical Society : 1919, November 6 / chairman: Sir Joseph Thomson; [participants:] Crommelin, Eddington, Fowler, Lindemann, Newall, Silberstein. In: Observatory. 42. 1919, pp 389-398; 405: Eclipse photographs; reproduction of photography before p. 389 and before p. 405. summary in: Nature. London. 104. 1919, pp 361-362. - Soddy, Frederick: The wider aspects of the discovery of atomic disintegration : contrasting the experimental facts with the mathematical theories; [a revised version of the text of the lecture at the 4th Conference of the Nobel-Prize Winners in Lindau, 30.6.54]. In: Atomic digest. For the layman. London. 2. 1954, No. 3, pp 3-17. - Brown, George Burniston: Have we abandoned the physical theory of nature? In: Science progress. 44. 1956, No. 176, pp 619-634. - Klüber, H. von: The determination of Einstein's light-deflection in the gravitational field of the sun. In: Vistas in astronomy. Ed.: A. Beer. 3. 1960, pp 47-77. - Collins, Harry M.: The Golem: What You Should Know About Science / Harry Collins, Trevor Pinch. 2nd ed. Cambridge: Univ. Pr., 1998. 192 pages (1st ed. 1993).

M: The General Theory of Relativity / Error No. 7

Albert Einstein's alleged explanation of the perihelion advance of Mercury is said to be a fundamental achievement of his GTR and its confirmation is said to confirm the GTR

Here, the introduction to Error M 5 can be repeated, shortened and varied. The question as to from whom and when a certain explanation in physics was given must be put due to the question of the factual interdependencies. An explanation that is given by several theories can no longer be claimed by any of these theories as compelling proof of the validity of this particular theory. An explanation that has already been given cannot be subsequently claimed as the special performance of a later-developed theory, and

its empirical confirmation is no compelling confirmation of the later theory, but shows at best the compatibility of the subsequent theory with the earlier explanation.

The last-mentioned circumstances apply to Albert Einstein's explanation and calculation of the advance of the Mercury perihelion. The ellipse of the orbit of Mercury around the sun turns constantly at a very small angle, the point of the shortest distance to the sun (the perihelion) travelling ahead of it (advance). The circumstances of the advance are known from Le Verrier since 1859 (Roseveare 1982, p. 1).;The observed value amounts to 5600'' per century; of which 5557'' can be explained by the gravity of other celestial bodies and other factors in keeping with Newton's classical theory. A remainder of 43'' still needs explaining. Albert Einstein maintains his ability to account for this remainder in terms of the GTR, and to deliver compelling proof of his theory with this explanation.

Contesting the evidential force of Albert Einstein's explanation as confirmation of the GTR, critics have pointed to the explanation of the remainder in the work of Paul Gerber published initially in 1898 and in more detail in 1902. Gerber's publications were cited in 1903 in the Enzyklopädie der mathematischen Wissenschaften [Encyclopaedia of the Mathematical Sciences] and in 1904 in E. Mach: Die Mechanik in ihrer Entwicklung. [Mechanics and its Development] 5. edition. This allusion is not unimportant, since the relativists later attempt to put down Gerber's achievements as irrelevant.

Gerber explains the remainder of the perihelion rotation without relativity, solely on the assumption that gravity spreads at the speed of light. In view of this, Albert Einstein's explanation can no longer be held to be compelling proof of the GTR. No mention of Gerber's work is made in the accounts of Albert Einstein and the relativists.

In view of the possibilities of explanation without relativity the Mercury perihelion is no support for the GTR: The explanation of the Mercury perihelion proves only the non-contradiction between the theory and a certain circumstance. The importance of the Mercury-perihelion explanation appears in a completely different light if one considers the perihelion motion that occurs in the case of all of the planets of the solar system, these being of different magnitudes and, in the case of Venus, even negative, i.e. a retreating perihelion. These are values that the GTR cannot explain.

A fundamental argument as to the importance of empirical findings for the correctness of a theory can be found in Hugo Dingler's "Die Ergreifung des Wirklichen." (Munich, 1955. Reprint 1969, p. 207). This criticizes the mistaken inference, frequently encountered in physics, from a differential equation (for experimental measurements) to the correctness of the premises of the experiment. First interpolations and smoothing effects are applied to the equations, these having by no means empirical origins, and second, the correctness of the premises can be relied on only after the furnishing of proof that the same differential equation cannot also be deduced from other premises. Without this evidence, the inference to the correctness of the premises is "also a purely logically untenable claim, i.e. a logical error" (p. 207).

The mistaken inference to the premises is virtually the basis of justification for the STR and the GTR. Proof of its inadmissibility has been furnished repeatedly, (1) by Hasenöhrl for the mass-energy relationship; (2) by Soldner for aberration; (3) by Gerber for the Mercury perihelion.

The relativists would like to dismiss these proofs as a ridiculous squabble over priorities. Dingler shows their true methodical importance for the inadmissibility of quick inferences to premises.

Gerber, Paul: Die räumliche und zeitliche Ausbreitung der Gravitation. In: Zeitschrift für Mathematik und Physik. 43. 1898, H. 2, pp 93-104. - Gerber, Paul: Die Fortpflanzungsgeschwindigkeit der Gravitation. Schulschrift. Stargard: F. Hendess [Drucker], 1902. 24 pages (Stargard i. Pommern, Städt. Realgymnasium. Programmabhandlung 1902.) - Wiechert, Johann Emil: Perihelbewegung des Merkur und die allgemeine Mechanik. In: Physikalische Zeitschrift. 17. 1916, pp 442-448. - Gerber, Paul: Die Fortpflanzungsgeschwindigkeit der Gravitation / Note, p. 415: E. Gehrcke. In: Annalen der Physik. Ser. 4, Vol. 52. 1917, H. 4, pp 415-444. (page number "444" is correct; page number "441" referred to in the literature is due to unclear print). - Glaser, L. C.: Über Versuche zur Bestätigung der Relativitätstheorie an der

Beobachtung [Teil 1]. In: Annalen für Gewerbe und Bauwesen. 87. 1920, No. 1036, pp 29-33. - Brown, George Burniston: A theory of action-at-a-distance. In: Physical Society. London. Proceedings. Sect. B. 68. 1955, pp 672-678. - Roseveare, N. T.: Mercury's perihelion : from Leverrier to Einstein. Oxford 1982. 208 S.

M: The General Theory of Relativity / Error No. 8

Albert Einstein's alleged gravitation-induced red shift of the spectral lines is said (1) to be based on the GTR, and its confirmation is said (2) to confirm the GTR

Spectral lines in the light from bodies with strong gravitational fields (the sun, stars) should be displaced to form longer frequencies (red shift) as compared to the same spectral lines in the geostationary laboratory.

According to Theimer (1977, p. 143) a physical explanation "is sought in the effect of gravity on the light quantum. They must work their way out against gravitational resistance and lose energy in the process, which is expressed as a reduction in frequency, i.e. in a displacement of the spectral lines towards the red end of the spectrum."

The process is explained solely in terms of gravitational effects and energy loss and has no connection with the principle of equivalence of the GTR. For this reason a confirmation of the prediction made by Albert Einstein cannot be held as a confirmation of the GTR.

The empirical findings and their possible findings were summarized by Theimer (1977, p. 143) as follows: "Astronomically observed displacements of this sort are difficult to distinguish from the Doppler effect due to the motion of departing stars and from the effects of fluctuations in the atmospheres of the stars. The masses and radii of the large stars are not precisely known, and the calculations done on small stars are uncertain. The average value of the red shift on the surface of the sun agrees, it is true, with Einstein's prediction, but there are strong local fluctuations. At the centre of the sun the observed value is too small, at the outer edge it is too large. Only in the sun's atmosphere was a local value found that was in agreement."

In 1955 the evaluation of the results of observations were still very much disputed. According to Theimer, Finlay-Freundlich and Hoyle considered the results to be unsatisfactory or doubtful.

Theimer (1977, p. 144) also reports on the experiment of Pound and Rebka (1960) in a 22 m high steeple in which gamma radiation moves between the floor and the spire and a spectrum displacement is measured with the Mössbauer effect, this corresponding to the prediction made by Einstein. As interpretations, two possibilities are presented, one with and one without the principle of equivalence of the GTR.

The red shift is an effect due solely to the gravitational theory, and its alleged connection with the GTR is a systematic error of the theory. The interpretation as an effect of the gravitational field alone is uncertain, since the Doppler effect can also exert an influence, which is why the interpretation of the measurement data is a matter of controversy. Brown (1956, p. 631), by the way, still holds the red shift as not having been satisfactorily proven.

The early results of Charles Edward St. John are interesting. He worked with the best available equipment, and was unable to detect any red shift in keeping with Albert Einstein. Whereas he was unable to detect any red shift up to 1919 and also thereafter, other scientists were - strangely enough - also able to detect the red shift after 1919, i.e. after the media event of Eddingston's "tremendous confirmation of the GTR" by the observations of the eclipse of the sun. What the media celebrates is promptly found. When a theory has been published in the media, it must no longer be doubted.

St. John, Charles Edward: The principle of generalized relativity and the displacement of Fraunhoferlines toward the red. In: Astrophysical journal. 46. 1917, pp 249-265. - St. John, Charles Edward: A search for an Einstein relativity-gravitational effect in the sun. In: National Academy of Sciences (USA). Proceedings. 3. 1917, pp 450-452. - St. John, Charles Edward: Relativity and shifts of Fraunhofer lines [report on St. John's publication in: Astrophysical journal. 46. 1917, pp 249-265]. In: Nature. London. 100. 1918, No. 2518, p. 433. - St. John, Charles Edward: The displacement of solar lines. In: Nature. London. Vol. 106. 1921, No. 2677: Special number: Relativity; pp 789-790. - St. John, Charles Edward: Bemerkung zur Rotverschiebung. In: Physikalische Zeitschrift. 23. 1922, p. 197. - St. John, Charles Edward: Evidence for the gravitational displacement of lines in the solar spectrum predicted by Einstein's theory. In: Astrophysical journal. 67. 1928, April, pp 195-239. - Freundlich, Erwin Finlay: Über Rotverschiebungen der Spektrallinien kosmischer Lichtquellen. In: Forschungen und Fortschritte. 28. 1954, pp 353-357. - Brown, George Burniston: Have we abandoned the physical theory of nature? : substance of a lecture, Royal Institute of Philosophy, Oct. 1955. In: Science progress. 44. 1956, No. 176, pp 619-634. - Theimer 1977.

M: The General Theory of Relativity / Error No. 9

According to Albert Einstein, no rigid bodies with Euclidean properties exist in fields of gravity; instead one "uses" non-rigid reference bodies that "suffer arbitrary changes in shape during their motion" ("Bezugsmollusken" [reference molluscs])

Albert Einstein (1917, cited from the reprint of 1984) maintains, as a conclusion derived from the GTR (pp 78- 79): "Rigid bodies with Euclidean properties do not, however, exist in fields of gravity. The fiction of the rigid reference body thus fails in the general theory of relativity. [...] One therefore uses non-rigid reference bodies, which not only move arbitrarily as entireties, but also suffer changes in shape during their motion. Clocks of arbitrary rates serve for the definition of time, with a just as irregular law of rates ... These non-rigid reference bodies, which one could not unjustly refer to as "Bezugsmolluske" [reference molluscs], are essentially equivalent to an arbitrary GAUSS-type four-dimensional coordinate system." Clocks should be positioned at each point on the reference mollusc.

First there is talk of bodies that exist, then of reference bodies that one uses. The striking qualities are "non-rigid" and "arbitrary" and characterizing bodies, their forms and motion as well as the clock rates.

In view of these claims the critical analysis has addressed two aspects in particular: (1) the conspicuous logical and factual contradictions, and (2) the total absence of a method for determining the time.

Nordenson (1969, p. 109) addresses Albert Einstein's only condition for the clocks used: "that the simultaneity of observable details deviates, in the case of locally neighbouring clocks, by an infinitely small amount" (Albert Einstein, p. 79). The idea of "simultaneity" requires precise agreement. Any "deviation" is a deviation, no matter how small, i.e. the two conditions are logically incompatible. Albert Einstein should already have decided whether the clocks next to each other show simultaneity or not. Since all of the clocks are supposed to run arbitrarily, it is furthermore unlikely that two neighbouring clocks will show the same time, and any such case will be a matter of coincidence. In other words, either arbitrary-running of all clocks, or close agreement of neighbouring clocks. Both at the same time is a contradiction and cannot exist in the real world.

Since he makes use of the model of the "neighbouring clocks" from the STR, Albert Einstein suggests at the same time (!) a "simultaneity" for reading the clocks and an inequality of the clock values. And a one-time reading of two neighbouring clocks directly thereafter would, due to the presupposed "random" running of all clocks, lose every bit of meaning.

The Gauß-type coordinate system mentioned above is located in the fourth dimension and is unable to change anything with respect to the problem of the missing simultaneity in the third dimension of our reality.

Nordenson sums things up: "... the characterization of the time-constituting clocks appears obscure in the extreme, not to say meaningless" (p. 109).

Theimer (1972, p. 115-116), in summing up, takes the view that Albert Einstein abandons the entire system of tools of the STR, from synchronous clocks and definitions of simultaneity, whereby "all of the principles deduced from these also fall. Only on the grave of the special theory of relativity can the multi-clocked mollusc dwell" (p. 116).

Already with the STR, Albert Einstein had, with the abolition of simultaneity (the supposed "relativization" of which meant nothing other than its abolition), introduced a general epistemological relativity - a claim that is rejected by all relativists with indignation as an incorrect insinuation, because he had made the speed of light an absolute constant.

With the GTR the epistemological relativity is carried too far, since now determining the time from reading the clock in each case is completely meaningless, because all the other arbitrarily running clocks can no longer relate to each other - unless Albert Einstein (or some other relativist) takes his or her own wrist watch as the clandestine measure for all of them, thereby reintroducing absolute time. In view of his permanently randomly shaped reference molluscs and randomly running clocks, Albert Einstein can no longer say what sense his words for length and time can have. Nordenson provided the right key: "meaningless", i.e. not even incorrect.

Albert Einstein's reference mollusc is a farce that has meanwhile been consumed for decades by our intelligentsia as a work of genius. Theimer (p. 116) provides a nice Cassirer quote from 1921: "The assumed embodiment of all these molluscs requires the demand for a distinctive description from natural." That is the true embodiment of all molluscs.

Einstein, Albert: Über die spezielle und die allgemeine Relativitätstheorie. 21st edition. 1969; Reprint. Braunschweig etc.: Vieweg, 1984. 130 pages. (Wissenschaftliche Taschenbücher. 59.) 1st edition. 1917. - 16th extended edition 1954. - 17th extended. edition 1956. - Nordenson, Harald: Relativity, time, and reality : a critical investigation of the Einstein Theory of Relativity from a logical point of view. London: Allen and Unwin, 1969. 214 pages - Theimer 1972.

M: The General Theory of Relativity / Error No. 10

The relativists maintain that one can also regard the earth as being at rest and the fixed-star sky as rotating; a rotating earth (the Copernican view of the world) and a rotating fixed-star sky (Ptolemaic view of the world) are equivalent

H. Reichenbach (1921), following Albert Einstein, has described both explanations (rotation of the earth and rotation of the fixed stars) as equivalent. According to Reichenbach, a gravitational field should be generated by the apparent movements of the stars.

Anderson (1921) analyzed these claims:

(1) The fixed stars do not, as claimed, (apparently) rotate at all around the centre-point of the earth, but (apparently) around the earth's axis.

(2) According to Reichenbach, a gravitational field should be generated by the motion of the stars; "In other words, each star makes itself, so to speak, a gravitational field, which drives the star in question in a circle around the heavenly axis. But why do the centre-points of all of these circles form a straight line (the heavenly axis)? Through blind coincidence? And why does this straight line pass through the centre of the earth? Also through coincidence?

And why do all of the stars move parallel and in the same direction? Each star could generate an arbitrary gravitational field by its motion in an arbitrary direction!" Col. 35-36).

Anderson foregoes the next logical step of the criticism. The claims of the relativists for the earth (rotation of the fixed-star sky) would have to apply just as well for all other rotating celestial bodies, i.e. the very same fixed-star sky must rotate at the same time (!) in all of the different (!) axes of these celestial bodies. With this, the illusion in Reichenbach's claim is exposed: The Ptolemaic view of the world comes to grief logically in view of several rotating celestial bodies, and there can no longer be any doubt as to the known superiority of the Copernican view of the world.

In the Bad Nauheim discussion Lenard (1920, p. 667) raised yet a further objection to the rotation of the fixed-star sky. In view of its enormous distances from the earth, faster-than-light speeds arose for the fixed stars.

This extravagant case of wilful abandonment of the Copernican findings by the relativists shows two ever-recurring methodical errors of the theories of relativity:

(1) reduction of the findings to purely kinematic relationships and denial of dynamics, which is better-suited to grasping physical reality.

(2) limitation of the fundamental considerations always to only two objects, and subsequently the claim of general conclusions for the entire universe with a multitude of objects.

Logically, this gives rise to a successful strategy for criticism, namely to set all of the claims of relativity in the context of dynamics and then to test them for their physical content, breaking with the artificial limitation to - normally - only two objects and including the multitude of similar objects. Anderson has provided a classical example.

Several authors also discuss the analogous example of the merry-go-round at the fair. Whereas our everyday experience tells us that the centrifugal forces and inertial effects appear only at the merry-go-round and not in the vicinity, the relativists wish to take the view that an equally good explanation is that the merry-go-round is at rest and the surrounding world is rotating. For relativists nothing is impossible.

Reichenbach, Hans in: Astronomische Nachrichten. 213. 1921, No. 5107, Col. 307-310. - Lenard, Philipp: [contribution to:] Allgemeine Diskussion über die Relativitätstheorie; (86. Naturforscher-Verslg, Nauheim 1920, 19.-25.9.) In: Physikalische Zeitschrift. 21. 1920, No. 23/24, pp 666-668. - Anderson, W.: Zur Kontroverse zwischen den Herren Th. Wulf und H. Reichenbach. In: Astronomische Nachrichten. 214. 1921, No. 5114, Col. 35-38.

Thermodynamics

N: Thermodynamics / Error No. 1

According to Albert Einstein (1907) and Max Planck (1908), a system in motion should appear colder to an observer, and the flow of heat should appear diminished

Galeczki/Marquardt (1997, pp 192-195) draw attention to the fact that, with respect to the above-mentioned claims two other relativists - Ott (1963) and Arzeliès (1966) - infer "exactly the opposite" and consequently put the decisive question (p. 193): "Is the temperature of the sun, for light, zero or infinite?"

This striking, but fundamental contradiction between relativistic authors shows the untenable nature and "the failure of relativistic thermodynamics".

The reason for the failure of all efforts of the world of relativity to further extend thermodynamics is, according to Galeczki/Marquardt, that thermodynamics is based on the central concept of the system, whereas the STR, by contrast, "does not recognize the concept of the system as a physical unity" (p. 192). They quote Landsberg (1970), as a further author against a relativistic thermodynamics, with the following statement: "... nobody with any sense would conduct a thermodynamic calculation for anything but a reference system at rest."

Galeczki / Marquardt show the fundamental problems that stand in the way of a relativistic thermodynamics (p. 192). There have never been direct or indirect "measurements ..., that have compelled the explanation of a 'special relativistic thermodynamics'. It is impossible to measure any thermodynamic characteristic of a moving system whatsoever that is not thermally interacting with another system." It has never proved possible to create a thermodynamic or thermostatic balance between two systems: "consequently every system loses heat 'outwards'. This is, of course, absurd when the world, in terms of prerequisites, only consists of these two systems without eternal heat loss. The definition of temperature would lose its meaning."

Einstein, Albert: Über das Relativitätsprinzip und die aus demselben gezogenen Folgerungen. In: Jahrbuch der Radioaktivität und Elektronik. 4.1907, 411-462; 5. 1908, pp 98-99. Reprinted in: Albert Einsteins Relativitätstheorie. Publ.: K. v. Meyenn. 1990. pp 160-214. - Einstein, Albert: Über die Möglichkeit einer neuen Prüfung des Relativitätsprinzips. In: Annalen der Physik. F. 4, Vol. 23 (=328). 1907, pp 197-198. - Planck, Max: Zur Dynamik bewegter Systeme. In: Annalen der Physik. 26. 1908, pp 1-34. - Ott, H.: Lorentz-Transformation der Wärme und der Temperatur. In: Zeitschrift für Physik. 175. 1963, pp 70-104. - Arzéliès, Henri: Relativistic kinematics. Oxford: Pergamon, 1966. 298 pages. - Landsberg, P. T.: Concepts in special relativistic thermodynamics. In: Essays in physics. Ed.: G. T. K. Conn, G. N. Fowler. London 1970.

N: Thermodynamics / Error No. 2

Relativistic treatment of thermodynamics by Albert Einstein (1907), Fritz Hasenöhrl (1907) and Max Planck (1907 and 1908) is incorrect

According to Möller (1967, pp 5-6), the errors were first recognized by H. Ott (1963), though his work "remained unnoticed until quite recently". Until then the incorrect claims were further spread unknowingly in works by R. C. Tolman (1950), C. Möller (1952), M. v. Laue (1952), W. Pauli (1958) and W. H. McCrea (1960). Independently from Ott, H. Arzéliès (1965) came to the same result as Ott. Möller (p. 6): "The paper by Arzéliès caused a whole avalanche of mutually contradicting papers on the subject." Möller sums up (p. 5): "It is a strange and rather unique incident in the history of physics that a fundamental mistake in the original derivation remained overlooked for such a long period of time."
- The bibliographies of all of the named works can be found via Möller.

For the critics it is extremely exalting that in the case of thermodynamics, for a change, instead of convinced representatives of the theories of relativity, even the conditions in the world of relativity are shown to be wanting. That all of the great luminaries - from Albert Einstein via Planck, v. Laue and W. Pauli, and on to the minor masters of reproduction - were able to demonstrate and prove the validity of the STR, even in thermodynamics, uncritically and uncriticized for 6 decades shows the frame of mind of the entire branch, that typically relies on blind faith in authority and on self-praise for their earth-shaking findings.

All the more reason to recognize the willingness of Ott, Arzéliès and Möller to engage in self-correction. In the end, Möller was only mistaken as to the unmatched nature of this "unique incident".

The results of the efforts of the named authors to save "relativistic thermodynamics" were summed up by Galeczki/Marquardt (1997).

Ott, H.: Lorentz-Transformation der Wärme und der Temperatur. In: Zeitschrift für Physik. 175. 1963, pp 70-104. - Arzéliès, Henri in: Nuovo cimento. 35. 1965, p. 792. - Möller, Christian: Relativistic thermodynamics : a strange incident in the history of physics. Koebenhavn: Munksgaard [in Komm.], 1967. 26 pages. (Kongelige Danske Videnskabernes Selskab. Mat.-fys. meddelelser. 35, 1.) - Galeczki / Marquardt 1997, pp 192-195.

Experiment

O: Experiment / Error No. 1

Although Lorentz' ether theory and Albert Einstein's STR do not differ mathematically, it is said that experimental results prove the correctness of the STR

Even the authors of the world of relativity must concede that the mathematical apparatus of the two theories of Lorentz and Albert Einstein is the same. This forces one to the unavoidable conclusion that all calculations of experimental results undertaken in the context of this mathematical apparatus must always prove - or refute - both theories. The fundamental difference first arises with the interpretation of the results of the calculation, namely with or without a hypothesis of the ether.

Since without a change in the structure of the mathematics for one or for both theories, no different calculation results can be derived, and since such a change in one or in both theories has not taken place, the search for an experiment to differentiate between the two theories has remained unsuccessful, something which, for reasons of logic, will not change until a change in the mathematical structure occurs.

For this we have an unsuspected chief witness in the relativist M. v. Laue (1913, p. 20): "A true experimental decision between the extended Lorentz theory and the theory of relativity, on the other hand, cannot be provided, and if the first [of these theories] has nevertheless assumed more of a background role, this has mainly to do with the fact that, although it so closely approaches the theory of relativity, it fails to possess the great, simple, general principle which lends the theory of relativity something imposing right from the start." One is unable to decide between the two theories empirically, but the STR is more imposing. The ideological dogmatic preference for the imposing is said to be a physical justification.

All claims of the relativists as to experimental confirmation of their STR are therefore incorrect and misleading. In the event of such supposed proof, should it ever be provided, they would have to honestly admit that both theories had been confirmed, but that it remains unclear which of the two (if either of the two) is correct.

The previous state of affairs regarding the identical mathematics of both theories was a position also taken by Lorentz (1910, p. 1236), i.e. that it was purely a matter of opinion, a "way of thinking", determining which of both theories one adopted: "One thus arrives at the same results, as when one follows EINSTEIN and MINKOWSKI in denying the existence of the ether and of the true time and sees all reference systems as being equivalent. Which of these two ways of thinking one adopts, is up to each individual to decide."

Theimer (1977, p. 77): "The theory of relativity and the Lorentz theory have the same mathematical structure (Maxwell + Lorentz transformation), though the physical interpretation is different. The electromagnetic experiments prove only that, in certain cases, Maxwell must indeed be corrected by the Lorentz transformation."

The proofs and information on the indistinguishability of the theories due to the identity of the mathematical structures are given repeatedly, e.g. Raschevsky (1923, p. 108): "... so that every experiment, regardless of its results, can always be interpreted in the sense of both the theory of relativity and the absolute theory."

A nice ditty on this topic is told by Herbert Eugene Ives, who in 1938 allowed himself to explain his atomic clock to the visiting Harvard professors with the Lorentz theory (and not, as expected, with Albert Einstein's STR), which didn't amuse them at all, which is why the "Princeton lads", as he amusedly reports in 1950, thereafter no longer greeted him on the street. - Due to his great renown, Ives got off lightly with the refused greetings. Herbert Dingle's report on his years-long vain enquiry in Great Britain (Science at the crossroads, 1972) is less amusing.

Lorentz, Hendrik Antoon: Alte und neue Fragen der Physik : 6 lectures, Göttingen, Oct. 1910, on: Äther; RP; Gravitation; Strahlung; in Referaten v. Max Born. In: Physikalische Zeitschrift. 11. 1910, p. 1234-1257. - Laue, Max v.: Das Relativitätsprinzip. 2., verm. edition. Braunschweig: Vieweg, 1913. 272 S. (Die Wissenschaft. 38.) - Raschevsky, Nicolas v.: Kritische Untersuchungen zu den physikalischen Grundlagen der Relativitätstheorie. In: Zeitschrift für Physik. 14. 1923, 107-149. - Ives, Herbert Eugene: [Discussion, 24.10.1950] In: The Einstein myth and the Ives papers. Ed.: R. Hazelett, D. Turner. 1979, p. 90. - Theimer 1977, p. 77.

O: Experiment / Error No. 2

Albert Einstein and the relativists claim, for their thought experiments, the status of [real] experiments and refer to "thought [i.e. imagined] experiences"

Albert Einstein has introduced the tool of the so-called thought experiment as a means of justifying his theories and proving them. A large part of the discussion in the world of relativity concerns itself with more or less correct accounts of these thought experiments, with interpretations, corrections and reinterpretations, that are always presented as decisive findings in physics which nobody dare "repudiate".

Only a small number of the critics address the topic of the methodical problems of the thought experiments, which are no experiments at all, but are thoughts without experiments, and [these critics] come to devastating judgements as to the methods employed and the results obtained. The following aspects are discussed:

(1) The so-called "thought experiment" consists solely of thoughts and lacks every aspect of experiment. The very use of the term "experiment" is misleading and serves only as part of the psychological manipulation of the public and the worming towards an experience-oriented status that is not given here.

(2) In these thoughts without experiments the narrator, Albert Einstein, determines how nature is made, what measuring devices show, and what observers see, and he processes the results obtained in this way, from supposed experiments to mathematical calculations that then serve as fundamental facts of the theory and are presented as physical laws. With the obtainment of experimental status and the subsequent mathematical ado, a thought blockage is already created, purely psychologically, amongst the profession-specific public, whereas the general public is downright deceived.

(3) These thoughts without experiments can also never fail, because the experiment is missing. The appearance of irrefutability is thereby awakened and cultivated.

(4) The status of the thoughts without experiments in the world of relativity tends to lead to non-attention to and a non-conducting of experiments, particularly if the results of the experiments do not confirm the theories or even refute them. This is the case with the universal non-attention paid to the interference experiments with positive running-time differences of Sagnac and Dayton C. Miller in which the accounts of the STR of the world of relativity were particularly easy to ignore. This was also the case with the experimental findings on unipolar induction which, had they become generally known, could have ruined the standing of the theory [of relativity] in the eyes of the public.

(5) The elevation of thoughts without experiments to the basis of the formation of theory has distanced the so-called "theoretical" or "mathematical" physics from experimental physics, has devalued experimental physics and has hindered a fruitful debate between experience and reflection in the field of electrodynamics, and thereby the progress of publicly financed research.

(6) The typical, almost exclusive handling of thoughts without experiments blossomed particularly in the presentations of Albert Einstein, when he speaks,. for example, of "thought experiences" (AE 1905, p. 894): "certain (thought-out) physical experiences", or when he believes that an appropriate choice of the coordinate system "alters" the gravitation. These indications of megalomania are, of course, seen by the youngsters in the world of relativity as a sign of their superiority.

(7) Theimer (1977, p. 36): "In his thought experiments Einstein always lets the figures think in such a way that the theory of relativity results. In logic one calls this a petitio principii." What Theimer diagnoses as a circular argument, by which, due to the suggestive effects of the production and to the fictional dialogue, we lose an appearance of reality, can these days be still more strongly abused with the help of modern presentation techniques and the use of the AV media in lessons and courses of study.

Galeczki/Marquardt (1997) were fairly frequently able to point to contra-relativistic assumptions in the thoughts without experiments, these assumptions leading inevitably to an incorrect physics, e.g.: p. 42: "A thought experiment is like a tightrope act in which, if necessary, one can also do without the tightrope." - p. 47: "The constant rectilinear motion is a particularly delicate chapter in the history of physics, though especially this is always *presupposed* in order to make a *thought-out* process as easy as possible. How they ever come to exist in observed nature is of little interest." One furthermore assumes friction-free systems - moving point-like masses without any interaction, without mass yet stable reference systems. "With this all of the requisites for *fantasy mechanics* have been selected and one can now 'observe' as one pleases." - p. 99: Accelerated particles are not permitted to expend energy in the form of radiation. - p. 99: An increase in particle speeds without the help of any forces whatsoever, "since accelerations per decree are excluded".

All of the conditions mentioned violate physical experience. And in the case of the "*thought experiences*" one really does not know whether one ought to laugh or to cry.

A branch that is no longer able to distinguish between suggestions for, and reflections on, experiments and experiments as such, is living dangerously. A branch that already regards reflections as experiments is no longer living at all. A branch that sells reflections to the general public as experiments is highly dangerous and must be publicly called to account.

AE 1905, p. 894. - Theimer 1977. - Galeczki/Marquardt 1997.

O: Experiment / Error No. 3

Relativists declare certain effects as being negligibly small; at the same time they present the smallest effects of all as proof

As preconditions for the proposition of physical theories, certain minor physical effects are often declared negligible as a means of reducing the number of factors to a minimum, and in order to avoid having to introduce more unknowns in the theory than the mathematical relationships can cope with. After all, a theory with more unknowns than fundamental equations cannot be calculated.

This essentially legitimate approach in the proposition of physical theories nevertheless has the consequence that, for the theory, all of the relevant empirical findings must lie above the level of magnitude of that which has previously been declared negligible. For logical reasons, empirical findings on the same scale as measurements previously discarded have no evidential force for the theory. In this connection the question as to proper consideration arises as a matter of course.

The STR works with inertial systems without the influence of gravity (such systems being practically non-existent). In the case of atomic-clock transportation, for example, without the gravitational field of the earth being taken into account, i.e. the theory declares the gravitational effects negligible. On the other hand, in the context of atomic-clock transportation (Hafele/Keating, 1972; cf. Error D 7) the theory bases its argument on the supposedly positive proof on the scale of several nanoseconds.

So far relativistic authors prefer not to comment at all on this aspect, limiting themselves instead to discussion of the level of efficiency and error limits of their instruments. Even a justification of extremely little value as any sort of evidence, in view of the more decisive aspects previously discarded, has not as yet been observed by the relativists. This would be essential, however, to make the results at all serious enough to discuss.

The proof that the order of magnitude of the alleged evidential effects was above the order of magnitude of the discarded effects would not, in itself, constitute proof of the theory, but only the precondition for a serious discussion of the interpretation of the results. - The problem addressed here is not identical, but relates to the many direct errors in both theories, in which logical incompatibilities are maintained, e.g.: points that have mass, or moving particles that do not radiate energy.

Epistemology

P: Epistemology / Error No. 1

Advancement of pure speculation, supposition and demands to "principles", and adoption of their claims as "laws", without detailed justification

Albert Einstein gives an example of this advancement process already in his publication of 1905 (pp 891-892): due to the "unsuccessful attempts to discover the motion of the earth relative to the 'medium of light'", whereby he can only refer - without naming it - to the Michelson-Morley experiment (MME) of 1887, he initially arrives (paragraph 2, line 3) at the "supposition" that the concept of an absolute state of rest does not correspond to any observable properties, and that for all coordinate systems, in which the

mechanical equations hold, the same electrodynamic and optical laws also hold.

In line 10 he already elevates "this presumption (the content of which is subsequently referred to as the "principle of relativity") to a precondition"

In the process he presents this elevation to a "principle" as a harmless question of linguistic designation, which it is not, because everyone associates a secured state of knowledge with a "principle". But Albert Einstein does not provide such justification for his presumption as to the non-existence of an absolute state of rest. He has not even analyzed the MME and has not outlined why he concludes the non-existence of an absolute state of rest from this experimental result. Even if one believes in its supposed null result, the MME allows only the conclusion that the ether at rest, as assumed by Michelson, is not at rest, because it had not given rise to the expected running-time differences.

There are, in other words, already in the opening passages of the first publication on the STR three serious errors:

(1) The presumption is by no means justified from the literature (that Albert Einstein does not even bother to refer to), nor is it justified anywhere in the treatise.

(2) The presumption is advanced to a "principle" without further justification.

(3) This advancement to a principle is misleadingly declared as purely a question of designation, which it is not. If the author, in the further course of his treatise, had properly referred to his so-called "principle" as just a "presumption" throughout, the uncertainty of a presumption would then have gone into all of his deductions. In clear contrast to this, however, Albert Einstein presents his presumption in the highly styled form of a "principle", as a compelling justification for the subsequently deduced claims about the relativity of simultaneity, time dilation and length contraction.

On p. 895 the "principle" is again defined, a principle that is even above the validity of laws (!). As from p. 896 compelling physical findings are then deduced on the purely presumptive status of the principle: "According to the principle of relativity it is necessary ..." (p. 896); "... that we must not attach an absolute meaning to the terms of simultaneity ..." (p. 897); on the further pages, at the level of "must" and "may", all of the other findings are then sold, now as clearly proven and completely valid, as a matter of course, and are from then on established in the simple indicative, boldly and irrevocably: p. 904 on the round tour of a clock: " ... after the arrival of this clock at B the two clocks are no longer synchronized ..."; "One sees immediately that this result also still applies ..."; "... so that the latter clock, upon its arrival at A ... is running behind."

This is the epistemological basis for the findings of all relativists, a basis of pure speculation and sheer claims on which to construct the supposedly unavoidably-real findings.

Another case is Albert Einstein's claim (1917, cited according to the 1984 edition) that the propagation of light in a vacuum (that in AE 1905, p. 895, was still a "principle") was a "law" (p. 18), and indeed that there was "hardly a simpler law" in the whole of physics.

In this connection the critics have remarked,

(1) that the question of the speed of expansion of light is by no means a law, but a question of the empirical measurement of distance per time,

(2) that the question of the constancy of the readings is again no law, but methodically at best an assumption that can be refuted at any time by a single deviating reading,

(3) and that the measured running-time differences of Michelson-Morley via Sagnac to Dayton C. Miller have already proven the non-constancy, (4) and that by 1916 at the latest, with his GTR, Albert Einstein himself had already abandoned this constancy.

It is a puzzle to the critics why, one year later (1917), he propagated his fairy-tale of the "simplest law of physics" throughout the world, and maintained this stance throughout the subsequent decades.

The trick of presenting incredible claims as conclusively proven on the basis of a presumption is nothing against the trick of propagating this clever procedure over several generations of physicists and mathematicians absolutely successfully. In view of the sweeping success already enjoyed for more than a century, the disinclination of the relativists to take note of any criticism whatsoever, or even of counter-proofs meanwhile furnished, is understandable. No one is ever happy about being driven out of his paradise.

AE 1905. - Einstein, Albert: Über die spezielle und die allgemeine Relativitätstheorie : 21st edition 1969, reprint Braunschweig (etc.) 1984. 130 pages (Wissenschaftliche Taschenbücher. 59.) 1st edition 1917; 16th extended edition 1954; 17th extended edition 1956.

P: Epistemology / Error No. 2

From negative statements, positive claims are to be derived

Both theories are founded on negative statements that are listed below as key points so as to show their conspicuous accumulation, an intrinsic evaluation of each statement being given under the corresponding error category:

(1) No fluctuations in the speed of light.
(2) No motion faster than the propagation of light.
(3) No dependence of the speed of light on the state of motion of the source.
(4) No absolute motion.
(5) No absolute space.
(6) No rigid bodies.
(7) No absolute time.
(8) No absolute simultaneity.
(9) No exact-running (undisturbed) clocks.
(10) No explicit sequence of events for all observers.
(11) No ether (1905-1920).
(12) No ether drift.
(13) No space in its own right.
(14) No time in its own right.
(15) No cause for length contraction.
(16) No cause for time dilation.
(17) No difference between acceleration due to gravitation and acceleration due to energy-based propulsion.
(18) No difference between inertia and gravitation.
(19) No effects of gravitation on the inertial systems of the STR.
(20) No difference between mechanics and electrodynamics (supposed standardization).
(21) No explanation of phenomena (e.g.: the MME; light deflection; Mercury's perihelion) possible without the two theories of relativity.

Most of these cases are negative statements on existence that are epistemologically high-risk, i.e. fundamentally speaking they cannot be proven, and a single positive result alone can conclusively refute the negative claim. Several cases construct ideal concepts that cannot be found anywhere within our galaxy. There is therefore no reason to discuss their existence outside our galaxy.

In those cases in which a negative claim is not refuted, i.e. a claim that still retains a certain plausibility or at least the appearance of such, this also brings no useful benefit for the theory, because from a negative claim no positive claim can be deduced and conclusively justified.

Such an impermissible claim is the basis of the theory, as M. v. Laue (1913, p. 16) states in all clarity: "The list of the experiments in which an influence exerted by the motion of the earth was sought could even be greatly increased. None of these showed the sought-after result and in this we have the soundest support for the conviction of the existence of a principle of relativity." In the year 1905 Morley/Miller obtained a measurement of 8.7 km/sec for the drift and in the year of v. Laue's 2nd edition, 1913, Sagnac announced the next positive result of his interferometry experiment with clearly positive running-time differences. M. v. Laue admittedly added a completely correct recognition to his commitment to the "soundest support", though one that he himself failed to follow: "Of course, in generalizing from negative experiences one must be very careful; since a single experiment with a positive result can prove one's position to be impermissible."

With this purely rhetorical exercise in seriousness and caution, the world of relativity has left it at that right up to the present day, preferring to ignore all of the positive proofs of running-time differences available, preferring to deny and suppress, and preferring instead to incessantly extol Albert Einstein's "boldness" as a momentous act.

His bad conscience brings M. v. Laue (1913) to repeatedly justify the STR. In view of its serious conclusions, the STR needs (p. 19) "perhaps more than other theories, evidence of its necessity. Every physical theory can, of course, only find its true support in itself and in the reference to facts." Mere "references", however, do not suffice. Empirical proofs are required, and since v. Laue has nothing of the sort to report, he grasps again for the sheet anchor of the negative claims (p. 19): "After all, there is also in this field a sort of historical necessity that lies in the failure of all other attempts to arrive at a satisfactory understanding of the facts."

The failure of other explanations and the historical necessity is that in which, still in 1913, the supposed physical foundation and necessity of the STR lie.

Later on, these inadequate foundations are no longer conceded so openly by the relativists, because after 1919 the mass media, with the celebration of the observations of the eclipse of the sun, supposedly also saved the STR.

The risk case has already occurred for almost all of the negative statements mentioned, as can be seen in the presentations and proofs relating to the other theoretical errors. This prohibitive physics of the world of relativity must therefore be seen as having failed on two counts: epistemologically, because one cannot derive a positive claim from negative statements; and empirically, because meanwhile most of the negative statements have also been proven false. The theory is based on incorrect assumptions and an incorrect epistemology. It is hardly possible to be wrong more thoroughly.

The conspicuous rhetoric of prohibitive physics (there is no ...; there can be no ...;) finds its logical and stylistic pendant in the equally frequent incantation of the propaganda as to how everything in nature "has to" be, as though we could dictate to nature. Very often these dictates are more carefully bound up with conditional phrases, such as "according to Einstein ...", "if the principle of relativity applies ...", or else more triumphantly, "as Einstein teaches us ..."

In the physics that concerns itself with the phenomena of nature and with findings derived from experiments, by contrast, it is important to recognize the existing relationships and, sometime or other, also to say how nature is without the favourite ideas of revered personalities.

Laue, Max v. 1913. - Sagnac, Georges: L'éther lumineux démontré par l'effet du vent relatif d'éther dans un interféromètre en rotation uniforme. In: Académie des Sciences. Paris. Comptes rendus. 157. 1913, pp 708-710. Contd. pp 1410-1413: Sur la preuve de la réalité de l'éther lumineux par l'expérience de l'interférographe tournant. - Engl. translation in: The Einstein myth and the Ives papers [The luminiferous ether demonstrated by the effect of the relative motion of the ether in an interferometer in uniform rotation].

P: Epistemology / Error No. 3

For relativists, "non-violation of something" is seen as confirmation of the theory

The earliest and most prominent representative of this justification approach is Max v. Laue (1913, p. 7): "We come into contradiction with no empirical result if we transfer the principle of relativity of electrodynamics to mechanics. The reverse procedure, by contrast, would not be possible." From this he concludes: "Admittedly, the fundamental equations of mechanics would then require amendment, as would thermodynamics."

This line of argumentation is repeatedly to be found in the presentations of the world of relativity, as a last line of defence that appears to be incontestable and with respect to which one can easily claim more than it delivers. Epistemologically speaking, however, "non-contradiction" is meaningless for the theory. Many untenable theories are imaginable, for which it could be said that they do not, for example, contradict the ten-times table, which nevertheless makes them no more correct.

Another example is that of Frau Holle [Holda, who on shaking the feathers out of her blanket claimed that it was snowing]. Her claim does not contradict the meteorological theory as to snowfall, because a fantasy idea and an empirically secured theory cannot refute each other. Both want to provide proof of snowfall, but empirically the second of the two theories appears to be much better confirmed. The relativity fantasy of Albert Einstein is completely lacking in empirical confirmation and can, vis-à-vis the Lorentz theory, provide no such experimental proof, as v. Laue himself admits (p. 20). And all that is left is the "non-contradiction" as a last excuse, that cannot however compensate for positive proof.

Laue, Max v.: Das Relativitätsprinzip. 2., verm. edition. Braunschweig: Vieweg, 1913. 272 pages. (Die Wissenschaft. 38.)

P: Epistemology / Error No. 4

Appearance and existence: AE 1905 changes his expressed position on length contraction and time dilation several times, wavering between "appears to be" and "is" and thereby implanting a fundamental contradiction in his theory

With this Albert Einstein himself introduces an element of uncertainty into the theory, that neither he nor any of his authoritative followers has ever corrected. The criticism has refuted both possibilities, A (= appearance) and R (= reality): (A) if the effects are only "apparent", then they cannot at the same time be claimed to be real; (R) if the effects are "real", they cannot be proven, nor can a cause be given.

The fundamental contradiction is often addressed in the presentations and then, at the whim of the authors, dismissed again by way of a high-handed decision. In this connection first two, then three clearly separate groups have appeared amongst the relativists:

The A group (appearance) insists on complete symmetry of the inertial systems, and thereby on complete reciprocity of the effects (length contraction, time dilation) that therefore appear simultaneously in the two systems that are always considered, and as a consequence are "not real". This A group can fall back on Albert Einstein's own statements (1905, p. 895): "The laws ... are independent of which of (any) two coordinate systems with constant relative motion, with respect to each other, it is to which these alterations of state relate." (p. 903): "It is clear that the same results hold for bodies at rest in a system "at rest", as observed from a constantly-moving system." Moreover, as regards the effects Albert Einstein also speaks repeatedly of "appears" or

"as observed from the system at rest". As a consequence the two said effects are only apparent, and after the meeting of both systems length contraction and time dilation have vanished again, i.e. rulers and clocks again agree with each other.

The concepts of symmetry and reciprocity are judged to be so significant by some mistrusting authors that they explicitly formulate reciprocity as an additional principle, so that nobody can overlook it. These authors can then no longer accept the clock paradox / twins paradox and opt instead for one of two alternatives: either they dispute the effect (whereby they break the ranks of the orthodox in the world of relativity) or they do not mention it at all (whereby they retain their devoutness via their silence). Both alternatives within (A) do not prevent their representatives from declaring themselves to be faithful followers of the theory. There are, however, also authors who, by opting for this alternative, then take their leave of the world of relativity and join the ranks of the critics. The most prominent example is Herbert Dingle.

The R group (reality) declares both effects (length contraction, time dilation) to be real and are able to fall back on the words of Albert Einstein himself (1905, p. 904): "If there are two synchronized-running clocks at A and if one moves one of these clocks along a closed curve at constant speed until it returns to A again, ... the latter clock, upon its arrival at A, is found to be running behind the clock that has remained unmoved by [formula]." This claim by Albert Einstein himself in favour of reality is expressed indisputably and absolutely. The only difficulty that authors of this group see is in justifying the round trip undertaken by the moved clock as inertial motion (not rectilinear, and - due to changes in direction - not without acceleration). They therefore want to "correct" Albert Einstein's "error" of 1905 by claiming that the real time difference arises exactly from this inertial motion, something about which Albert Einstein says nothing. His theory is therefore, without his help and against him, corrected and justified. With this the erroneous nature of the theory is confirmed in this point by the relativists themselves, for which the critics must be very thankful.

Due to the appearance of acceleration, some authors subsequently explain this process outlined in 1905 as a case for the GTR of 1916. With this they accuse Albert Einstein of having made a grave and categorical error, namely that he had entirely failed to recognize the inadmissibility of the process in his theory of 1905.

Furthermore, a not-unimportant "A/R group" of authors has also emerged, a group which begins its presentation with the A alternative and then, sometime or other, elegantly switches to the R alternative without announcing this to their public, and perhaps even without noticing this themselves. These people naturally have an easy time. They win over their public with the harmless and, by each gullible reader, easy-to-understand A alternative and then surprise them suddenly with the wonderful real effects and an explanation in keeping with the R alternative. For the informed reader, this step is actually easy to recognize. The uninformed reader, though, has normally little chance, since his credulity gives the world of relativity a trust advantage, and he cannot imagine the true situation and wouldn't believe it if he could.

The allusion that not all of the authors of the world of relativity have maintained their position in the course the years, but have altered it, which is everyone's good right, is nevertheless imperative. Some change their opinions, though, without pointing out to their readers this change with respect to their former position in earlier publications. Before discussing the position of a relativistic author one should therefore first ascertain that one is referring to the same publication.

The critics have repeatedly demanded a correction of the fundamental contradiction of the STR, e.g. H. C. Browne (1922). He refers to the contradictory statements as to the discussion with Einstein in Paris in April 1922 on the twins paradox. Bergson maintains that paradoxes are a compelling consequence of the theory; and Nordmann maintains that it is a fiction that does not derive from Einstein. Both refer to supposed

statements made by Einstein. Browne demands clarification of this discrepancy. The world of relativity, however, appears to have had no interest in this - for the past 8 decades. Quite the contrary, in fact; the more contradictions there are, the more versions of the theory there are, and correspondingly more excuses for use against the critics.

Some authors of the world of relativity find Albert Einstein's fundamental contradiction so disagreeable and embarrassing that they opt for very peculiar ways of avoiding it. Some of them simply deny explicitly that Albert Einstein has made any contradictory statements at all, and declare the alternatives chosen by him as the only available solutions. The others declare the very impression of a contradiction as "senseless" and want to dismiss it by means of particularly clever explanations. One such is the famous "slice of sausage" explanation from Max Born (from the 1st edition in 1920, p. 183, until the last edition in 1969, p. 219), who simply declared all of the different possible cuts of sausage to be equally real and believed, with this explanation, to have solved the problem. The motto? Everyone may cut a slice of sausage for himself at random - and each slice is indeed real? Whereby, of course, the question under discussion is not in the least explained. The "slice of sausage" from Max Born confirms, if one is to take it seriously, only the reproach of general relativity against the theory, simply making the matter all the worse.

Authors of the A group (symmetry, reciprocity, appearance of the effects): H. Dingle; Nordmann; Sexl 1978.

Authors of the R group (asymmetry, no reciprocity, reality of the effects): Langevin; McCrea; Rindler. Essential relativity.

Authors of the A/R group (all imaginable variants mixed): Albert Einstein; Born.

AE 1905. - Browne, H. C.: Einstein's paradox. In: Nature. London. Vol. 110. 1922, No. 2768, 18th Nov., pp 668-669. - Born, Max: Die Relativitätstheorie : with 143 photos / Max Born; under cowork from Walter Biem. Unchanged reprint of the 5th edition.. Berlin etc.: Springer, 1969. 328 pages. (Heidelberger Taschenbücher. 1.) 1. edition 1920.

P: Epistemology / Error No. 5

The two fundamental postulates of the STR (the principle of relativity; the constancy of the speed of light) are said to be compatible with each other

When Albert Einstein combines the principle of relativity (PR) of the STR with the claim of the constancy of the speed of light (constancy of c) in a vacuum (AE 1905, pp 891-892), he describes the constancy of c as being "only apparently incompatible" with the PR. In the definition of the constancy of c given 3 pages later (p. 895) he adds, as a further condition, the independence of the speed of light from the motion of the source. First on p. 899 he explicitly unfolds the farther-reaching condition that the constancy of c is also to be measured with the same value in different moving systems, i.e. independent of the state of motion of the measuring observers, whereby he introduces for the speed of light a supposed non-relativity.

With this, all 4 aspects of his "principle" of the constancy of c have been given:

(1) vacuum,

(2) independent of source,

(3) independent of the observer,

(4) non-relativity.

Most critics analyze Albert Einstein's principle of the constancy of c, which in this sense is his own creation, and come to the conclusion that it is not "only apparently incompatible" with the PR, but completely contradicts it. And there are, for a principle with these 4 characteristics, no physical indicators and no proof.

Neither Albert Einstein nor any of his followers have been able to prove the alleged non-relativity of light propagation.

In a careful analysis of the statements of the STR, B. J. Gut (1981) points two things out: (1) that the postulate of a constant speed of light in a vacuum for all inertial systems and the postulate that the laws found in one inertial system are also valid in all others inertial systems are incompatible; and (2) that even the usual derivations of the transformations are logically untenable.

Since Albert Einstein's justification for a non-relativity of the speed of light makes use of the Lorentz transformations and is thereby derived from his interpretation of the supposedly null result of the entirely incompletely implemented Michelson-Morley experiment of 1887 (supposedly no running-time differences), every positive experimental result of the running-time differences must logically invalidate the justification for non-relativity. Through the Sagnac results (1913) and later those of D. C. Miller (1925 and 1926) this has happened repeatedly and irrefutably.

The compatibility claimed by Albert Einstein has not only been shown by the criticism to be logically untenable, one of the two components, the non-relativity of the propagation of light, has even been dispelled by empirical proofs, so that the question of compatibility no longer presents itself. The proven untenable nature of the compatibility as presented by Gut (1981) attacks the very substance of the theory and has so far not even been addressed by the relativists (cf. Errors B 1 and B 2).

The matter relates to the incompatibility of the principle of relativity and the absolute constancy of c. B. J. Gut shows that the all-embracing inconsistency in the relativistic accounts have their origins in an unbelievable lack of care already found in the elementary concepts and claims introduced by Albert Einstein. The physicists in the world of relativity occupy themselves preferentially with mathematical constructions and they believe that the mathematics can serve is a justification for all and any claims. For this reason they disregard the indispensable rule applicable to every scientific speech, namely that contradictions and logical errors identified must be explained by all of those involved and must be argumentatively resolved, if a new state of knowledge is to be plausibly justified.

With their systematic denial and suppression of every bit of criticism the relativists rob not only the public at large, but also themselves of the knowledge of the current state of the debate. By their non-reception of such works as those of B. J. Gut they find themselves in a position in which they cannot even know why their theory is already inherently devoid of every basis, quite apart from their incorrect assumptions as to experimental findings and the consequent suppression of clear experimental refutations.

Evaluation of the Science Citation Index for the years 1982-2000 reveals, for example, that the work of B. J. Gut (1981) has not been cited in the 19 years since its appearance. This case shows conclusively that the relativists only accept flattery from the epistemological and natural philosophers (e.g. Schlick, 1917; Cassirer, 1921) and adorn themselves with this. If, however, any criticism is expressed this is normally dismissed as "non-physical" and as non-authoritative due to a lack of mathematical competence, and is officially ignored. M. v. Laue has explicitly declared that he does not even read anything of the sort.

AE 1905. - Gut, Bernardo Juan: Immanent-logische Kritik der Relativitätstheorie. Oberwil b. Zug: Kugler, 1981. 151 pages.

P: Epistemology / Error No. 6

Relativity works with the known and standard approach of concluding the correctness of its premises from experimental results, without any proof that the theory provides the sole explanation

The world of relativity always works with the presumption that only the theories of Albert Einstein could explain the effects alleged by it. This presumption is already invalidated by the identical mathematical structure of Lorentz' theory and the STR (cf. Error O 1). As for the effects alleged or explained by the GTR, Errors M 6, M 6, M 7 and M 8 give verified alternative and independent explanations. For this reason, the conclusion that an observation or measurement shows the correctness of the premises of the theories of relativity is invalid.

Dingler (1955, cited according to the 1969 edition) criticizes the mistaken inference from a differential equation (for experimental measurements) to the correctness of the premises of the experiment for the following reasons: firstly, the equation incorporates interpolations and smoothing effects that by no means have empirical origins; and secondly, one would only have been justified in concluding the correctness of the premises once the proof had been furnished that the same differential equation cannot be derived from other premises. Without this evidence, the inference to the correctness the premises is "also a purely logically untenable claim, i.e. a logical error" (p. 207).

Whereas the indistinguishability between Einstein's STR and Lorentz' absolute theory (cf. Error O 1) is conceded by at least some relativists, these completely ignore the objection to the mistaken inference from experimental results to the correctness of the theory, if the sole possibility of explanation is not proven, or even in view of refutations of the theory based on already-verified alternative explanations, and, as a consequence, they avoid discussing these in their works. It would be interesting to know whether the relativists are unfamiliar with this objection, or fundamentally refuse to recognize it, or only regard it as irrelevant in the case of the STR.

Dingler, Hugo: Die Ergreifung des Wirklichen / Hugo Dingler. München: Eidos-Verl., 1955. 238 pages. - Dingler, Hugo: Die Ergreifung des Wirklichen [partial edition] : Chapters 1-4. Introduction by Kuno Lorenz and Jürgen Mittelstraß. Frankfurt a. M.: Suhrkamp, 1969. 273 pages.

P: Epistemology / Error No. 7

The authors of relativity defame so-called sound common sense as incompetent and thereby indirectly base their own claims on some other, as yet unknown power of reasoning

Not Albert Einstein, but many followers of his theories defame, in their publications, sound common sense. With this they suggest to the public that they are in possession of some other, unknown power of reasoning, though they fail to periodically reveal the nature of this special understanding. - So far, at any rate, the relativists have submitted no different form of logic of their own, but continue to make use of the forms of conclusion and lines of argumentation of occidental logic.

This claim of a special, better epistemological basis for the relativists and their theories is therefore empty posturing and an easy-to-see-through trick, in order to be able to dismiss criticism of the theory as incompetent and the critics as too stupid to be able to assess the theory. Some prominent examples:

(1) P. Jordan (Physik im Vordringen. 1949, p. 55): The theory of relativity is "a means of perfectly recording foreign realities" that "lie too far beyond the framework

of everyday experience to be describable in terms of everyday ideas."

(2) P. C. W. Davies (1997, p. 17): "With the overthrow of the old view of the world - a paradigm change that has drastically altered our understanding of reality - it is "sound common sense" that is the sacrificial offering." p. 19: "Science began as an extension of our everyday understanding ..." p. 24: "Some people, in their view of reality, are so captivated by "sound common sense" that they even doubt the findings of modern physics." On the rear cover, the NEW YORK TIMES BOOK REVIEW certifies: "Davies knows the mysteries of physics like his waistcoat pocket ..."

(3) D. Deutsch (2000, p. 7) in the Foreword: "After all, if we do not want to understand the world only superficially, we must understand it on the basis of these theories and our reason, not however on the basis of prejudiced opinions, conventional views or because this corresponds to sound common sense. Our best theories are not only more fitting than sound common sense, but are also much more sensible." In what the previously unknown, special power of reasoning of the relativists is supposed to exist, however, is unfortunately kept a secret from the public.

As regards their calling to a special power of reasoning, the relativists cannot refer here to Albert Einstein, whose presentation "Über die spezielle und die allgemeine Relativitätstheorie" [About the Special and the General Theories of Relativity] was first published in 1917 and was still explicitly referred to in the 1920 edition as being "generally intelligible". In the Foreword the author says that he wants "to convey as exact an insight as possible into the theory of relativity". And as regards the prerequisites for understanding, he says: "The reading matter presupposes a university-entrance-level education."

Common sense and a school-leaving-level education is therefore what Albert Einstein regards as sufficient for a basic understanding. This is not something that any relativist can fall back on. In the realization of their theory the relativists even go a daring step further and demand the treatment of the theories of relativity already in the senior grades of the higher schools, i.e. two to three years b e f o r e the final school-leaving examination, thereby themselves further reducing the requirements.

Particularly business-oriented authors in the world of relativity do not shrink back from this challenge, e.g. B. R. Stannard, "an internationally recognized professor of physics", gives "An 'Easy-to-Understand' Introduction to the Foundations of the Theory of Relativity" (publisher's blurb) to be written under the title: "Durch Raum und Zeit mit Onkel Albert" [Through Space and Time with Uncle Albert], aimed at young people aged approx. 13 or 14 (neither the author nor the publisher specifies more closely). Here one begins to suspect in what it is that the special understanding of the relativist might lie. The brainwashing must begin in good time, since only those who have the young have the future, and it also brings a bit of money. Any awkward questions from the children can be snubbed with appeasement: we don't want to worry Uncle Albert! And everything published via top addresses: Fischer Taschenbuch Verlag, Frankfurt am Main; the original via Faber und Faber in London. The publishers have the sound common sense.

These authors normally begin to polemicize against "so-called sound common sense" already in the Foreword, so as to intimidate their public. In view of the general credulity and respect shown towards the natural scientists, who are generally regarded as intelligent, sober and objective in their strivings for the truth, there are many people whom this polemic will not fail to influence.

The hatred of the relativists for the power of reasoning of the others is naturally easy to explain, because the errors of the theories of Albert Einstein are quickly recognizable to each more or less intelligent person (Einstein: final-school-leaving-examination level) with an independent opinion. Davies, who at any rate knows his waistcoat pocket, shows with his wonderful indignation what the true horror is for a relativist: that these people, who think independently, "even doubt the findings of modern physics" - Ugh! How can they!

That the relativists should fear their sharpest oponent in sound common sense is quite justified. There is hardly a critic, after all, who would ever think of "accusing" them, the relativists, of displaying sound common sense.

Einstein, Albert: Über die spezielle und die allgemeine Relativitätstheorie : (generally intelligible). 10., extended edition (36.-45. thousand). Braunschweig: Vieweg, 1920. 91 pages. (Sammlung Vieweg. 38.) 1. edition 1917. - Stannard, Russell: Durch Raum und Zeit mit Onkel Albert : eine Geschichte um Einstein u. seine Theorie / translated from the Engl. by Ulli u. Herbert Günther, with photos by John Levers. Frankfurt a. M.: Fischer Taschenb. Verl., 1996. 142 pages. (Fischer. 80015. Schatzinsel.) - Davies, Paul C. W.: Auf dem Weg zur Weltformel : Superstrings, Chaos, Complexity - und was dann? Der große Überblick über den neuesten Stand der Physik / Paul Davies & John Gribbin. Berlin Byblos Verl., 1997. 292 pages. Original edition: The matter myth. New York 1992. - Deutsch, David: Die Physik der Welterkenntnis : auf dem Weg zum universellen Verstehen. München: Dt. Taschenbuch Verl., 2000. 356 pages. (Dtv. 33051.)

Methodology

Q: Methodology / Error No. 1

The transfer of the "principle of the relativity of electrodynamics" to mechanics is said to contradict no empirical result

M. v. Laue (1913, p. 1-7) develops the foundation connections and the real purpose of Albert Einstein's STR as follows

(1) There is a principle of relativity for mechanics (Galilei);

(2) There is a principle of relativity for electrodynamics (Maxwell);

(3) p. 7: "If both of the principles of relativity were valid, one for electrodynamic phenomena and the other for mechanical phenomena, both together would create an excellent system. They would mutually enhance their respective importance. In processes that are neither purely mechanical nor purely electrodynamic - purely electrodynamic processes can anyway only be found in empty space, otherwise there is always some other body involved, with its mechanical properties - absolute motion must be detectable." A footnote is also entered here in which he points out the possibility that "the velocity of the earth" can also be determined "by measurement of the speed of light relative to the earth, parallel and opposite to the velocity of the earth." Directly thereafter he continues, in spaced-out print: "There can therefore be only one principle of relativity in the whole of physics, if it is truly to deserve the name."

(4) After the supposed compulsion towards unity the question arises as to which of two principles of relativity the physicists will allow to be victorious: "We come into contradiction with no empirical result if we transfer the principle of relativity of electrodynamics to mechanics. The reverse procedure, by contrast, would not be possible." Subsequent text in spaced-out print: "It is therefore the principle of relativity of electrodynamics to which we must ascribe universal validity if we do not want to relinquish it."

Under point 3, M. v. Laue openly reveals the core of all motives: "an absolute motion would then have to be recognizable". That is the true horror! At this point M. v. Laue does not even contest that the absolute motion can be empirically established, but presents this possibility as something that must be prevented!

There are, then, clearly possible findings in physics that are unwelcome and that must therefore be prevented, e.g. proof of absolute motion. This, too, is physics and deserves to be made known to a wider circle of the public. Several pages later (pp 13-16) M. v. Laue (1913) presents the well-known, supposed

result of the Michelson-Morley experiment, stating that "no trace" of a displacement of the interference bands had been observed. Because he had in fact found only a trace, Michelson had given up and had discontinued the experiment without even fully completing it. Previously (in 1905) Morley / Miller in Cleveland had measured a drift of 8.7 km/sec, and in the same year in which v. Laue's 2nd edition appeared (1913), Sagnac in France published his measured running-time differences.

Since it is therefore the declared main objective of the relativity organization to prevent the measurement of an absolute velocity (e.g. of the earth against light), it is understandable why the minor running-time differences detected by Michelson in 1887 had to be denied as "no trace". The supposed null result was to serve as the foundation of the theory and must therefore never be revised. Unfortunately it was conclusively demolished by Sagnac already in 1913 and by Dayton C. Miller in 1925/1926, though fortunately this never leaked through to the public in the course of 80 years.

For a layman it is difficult to understand why the physicists barricade themselves up against the possibility of a discovery so persistently. Who would be harmed by the possible proof of an absolute motion (of the earth, for example)? Why would this knowledge, if it could be attained, be of no value? Why must the advancement of knowledge, which in principle is already faced with enough difficulties, be further and deliberately prevented?

M. v. Laue also gives us an explanation or motive for this (p. 6): "In this way the question of relativity would become very closely associated with the old controversy: action at a distance or transfer with finite velocity through an interim medium?" The interim medium is the ether. And the old controversy is indeed old. One cannot give a clear answer. Because the Michelson-Morley experiment brought "no trace" of a running-time difference. One would prefer to have no unresolved controversies. One would like to have controversies that one can resolve - and finds as a remedy the theory of Albert Einstein. Naturally one does not want to allow this nice change to a new controversy to be taken away again at once. That is physics, from 1913 right up to the present day.

The findings in the year 2000:

(1) the running-time differences of the beams of light have been measured and the drift of the earth in the space-ether or ether-space has been confirmed,

(2) unipolar induction without relative motion between the instruments, but alone with respect to the space-ether or ether-space, is empirically observable at any time,

(3) rotation as an absolute motion has in any case never been domesticated by the STR,

(4) the mass-energy relationship $E = mc^2$ stipulates an absolute effect that is not subject to relativity,

(5) and thermodynamics is also non-dependent on relativity.

With these five examples of absolute motion and "transformations", the principle of relativity of the STR has been robbed of its general applicability, and all notions of compulsion in the world of relativity have lost their footing. M. v. Laue's ideological program of 1913 is in contradiction to five non-relative empirical findings and has thereby, in keeping with his own criterion, failed. All that remains is the alternative that he himself identified: "to relinquish it [namely a principle of relativity]".

What strange justifications were held valid in physics in 1913: "There can therefore be only one principle of relativity in the whole of physics, if it is truly to deserve the name." Why "only one"? If there is only to be one principle, it must be physically conclusively justified - nothing more. It need not deserve a name. And for two principles the same applies. And the same holds for the transfer of a principle from one field to another. On basic issues only compelling reasons can be accepted, but not merely the absence of contradiction to facts, or the danger of discovering absolute motion. One must clearly distinguish between natural discoveries and the fulfilment of the favourite ideas of major physicists.

M. v. Laue wants to tighten the ideological corset bones of the world of relativity so that the accumulation of factual errors, logical contradictions and other inconsistencies is seen from a higher vantage point of physics ideology than is necessary, and [relativity] therefore appears as a desirable solution.

Laue, Max v.: Das Relativitätsprinzip. 2., verm. edition. Braunschweig: Vieweg, 1913. 272 pages. (Die Wissenschaft. 38.)

Q: Methodology / Error No. 2

The claim that an effect in the STR (clock paradox or twins paradox) has its justification in the GTR

The clock paradox or twins paradox is constructed within the STR. The author of the story of the clock running behind after the round trip is Albert Einstein himself (AE 1905, p. 904). Langevin (1911) is held to be the author of the transfer to living processes, with the journey of a man in a missile (today: a rocket). Albert Einstein confirms the twins model developed by Langevin in a lecture delivered in 1911 in Zurich (p. 12): "If, for example, we were to put a living organism in a box and then send it on the same outbound and return journeys as the clocks previously, one could see to it, after as long a flight as required, that this organism returned little altered to its starting point, whereas absolutely comparable organisms that had remained at the original location would long since have given way to new generations." "This is an irrefutable consequence of the underlying principles that experience has forced us to accept." - All attempts by several authors in the world of relativity to release Albert Einstein from responsibility for the twins model are thereby clearly refuted.

As an explanation of the twins paradox there are, in the propaganda writings of the world of relativity, mainly two lines of argument, of which only one will be discussed here: the travelling twin must, at the time of commencement of the journey, accelerate his rocket, on turning around accelerate a further two times (negative acceleration on braking and positive acceleration again for the return journey) - or in an about-turn bow must suffer a lasting, lateral acceleration - and, on arriving back at the earth, must again brake (negative acceleration). These accelerations cannot be subject matter of the STR, which applies only to non-accelerated inertial systems. For this reason the explanation for the twins paradox must be given by the GTR.

This attempted explanation is methodically untenable and is gradually also being rejected by convinced relativists as incorrect. Those who want to address the twins model and cannot solve it in the STR must develop it in the GTR and then solve it therein. No such attempt is known of to date. However, the argumentation with accelerations and subsequent transfer of the problem to the GTR, which is still to be found in the literature, is impermissible. - Max Born (1969, p. 225) is a prominent supporter of the impermissible problem transfer (cf. Error E 15).

The second most frequently encountered explanation involving the various "world lines" of the twins invokes the transfer of a process presented as real into the fiction of Minkowski's four-dimensional space-time (cf. Error G 6).

It is difficult to understand how such nonsense as the twins error and - on top of this, to its rescue - the method of exporting the problem to another theory could have survived in the literature for decades.

AE 1905. - Langevin, Paul: L'évolution de l'espace et du temps. In: Scientia. 10. 1911, f. 3, pp 31- 54. - Einstein, Albert: Die Relativitätstheorie. In: Naturforschende Gesellschaft in Zürich. Quarterly. 56. 1911, H. 1/2, pp 1-14. - Born, Max: Die Relativitätstheorie Einsteins. Unaltered reprint of the 5th edition. Berlin 1969. 328 pages (Heidelberger Taschenbücher. 1.) 1st edition 1920. - Marder, Leslie: Reisen durch die Raum-Zeit; das Zwillingsparadoxon - Geschichte einer Kontroverse. Braunschweig, etc.: Vieweg, 1979. 169 pages.

Q: Methodology / Error No. 3

In response to questioning as to the physical causes of effects claimed by them (length contraction - LC; time dilation - TD) the authors of relativity have completely different suppositions, even as regards causality

Thanks to his fundamental contradiction (appearance / reality) in the question as to the causes of the effects AE 1905 can easily dodge the point.

Minkowski declares in his Cologne lecture of 1908 (published in 1909, cited in keeping with the 1958 reprint) that contraction is [to be seen] (p. 59) "not as a consequence of resistance in the ether ... but as a pure gift from above, as an attendant circumstance of motion." And for TD he gives no other cause. As seen in terms of the standards of physics, this is a claim of non-causality.

According to M. v. Laue (1913, p. 43) LC is real, the rod "pulls ... itself ... together", and it is justified (p. 45) in terms of elastic forces that determine the form of the body and that are so influenced by motion that they bring about shortening. TD, by contrast, is explicitly reciprocal, according to M. v. Laue (p.42). As a consequence it cannot be real and therefore requires no discussion as to cause. The twins paradox is treated by Langevin (p. 43) only as a "consequence". This is said (p. 58) to be real in Minkowski's fictitious world: the different world lines serve as the explanation! M. v. Laue is one of a fair number of relativists for whom - inexplicably - both effects, LC and TD, have a different ontological status: LC reciprocal/apparent; TD unilateral/real.

Most relativistic authors, by contrast, believe that both effects must have the same status.

In the case of Born (1920, pp 177-184), both effects have the same status, namely reciprocal/apparent. He declares contraction (p. 179) as being "indeed reciprocal, as the principle of relativity requires". The same (p. 180) holds for time dilation. He confirms (p. 182) that Albert Einstein himself gave no causes, but declared contraction only "as an attendant circumstance of the state of motion", deduced with reference to Minkowski's world lines (p. 183): "Contraction is thus only a consequence of the perspective, and no change in physical reality. In other words, it does not fall under the terms of cause and effect. This viewpoint also settles the notorious controversy as to whether contraction is 'real' or only 'apparent'. If I cut myself a slice of sausage, this will be larger or smaller, depending on how much I slant the cut. It makes no sense to describe the various sizes of the slices as 'apparent' and to describe the smallest, which results from a perpendicular angle, as the 'true' size. In exactly this way, a rod in Einstein's theory has various lengths, each depending on the standpoint of the observer." The relativization of both terms (space; time) only appears to be difficult, "because it is unusual".

Born (5th edition, 1969, pp 216-226) has some great developments ready for his readers, naturally without drawing their attention to this. The first main point is that explicit confirmation of reciprocity on the basis of the principle of relativity is now missing. Those who want real effects - and Born wants to have TD as unilateral/real - must find reciprocity disturbing.

The second main point has to do with LC, which he addresses on two pages (pp 217-219), uncertain as to the standpoint he should take (p. 217):

- in the 2nd paragraph a ruler with a length of 1 cm should have this length of 1 cm in both systems;

- in the 3rd paragraph he refers to this as the "principle of the physical identity of units of measure";

- in the 4th paragraph on "units of length and time" he writes: "the first ones are not only different on each moving ship, depending on its speed, but the unit of length transversely is different from the lengthwise unit". No mention is made of the second (?);
- in the 5th paragraph confirmation is given for the 4th paragraph: "In two systems S and S' of the model moving relatively with respect to each other the scale of length must be differently chosen";
- there are a number of other considerations and reservations on p. 217, but the 6th paragraph begins unsurpassed with the cryptic sentence: "According to EINSTEIN things are said to be very different in the real world ..."; - On p. 219 LC is again apparently reciprocal/apparent: "no change in a physical reality".

Since Born makes a wide offer, let us take his last-cited statement as being representative of him, in which case LC is reciprocal/apparent. But the other position is also served; on the travelling ship one needs two rulers, one for the transverse direction and one for the lengthwise direction. For Born everything is correct.

Confirms (p. 218) that Albert Einstein himself had given no cause for LC.

The third main point addresses the clock/twins paradox in detail, now as unilateral/real (pp 220-226). As a justification he opts for the different "world lines" in Minkowski's fictional four-dimensional space-time and deduces that the twin returning from the journey (p. 222) "must ... be younger than his brother A. Indeed a peculiar conclusion, but one which cannot be eliminated by any quibbling. One must come to terms with it, just as those who, several centuries ago, had to come to terms with the idea of standing upside down at the antipodes."

With this instruction, given in the brusque manner of the estate owner that one had to come to terms with it, Born believes he has solved the problem (p. 220): "Correctly perceived, Einstein's conception contains no grey areas or internal contradictions whatsoever." Anyone who sees contradictions is to have an incorrect conception. The critic is always to be at fault, never the theory. The criticism rejects four-dimensional space-time as the wrong conception for the treatment of processes in three-dimensional reality. Before resorting to the "world line", Born had to show how the twins could be correctly described in real space-time. This is something that no relativist has ever been able to do (cf. Error G 6).

The conclusion of the criticism is that the methodical inconsistencies of the theory involving contradictions between its great luminaries and between various editions of the same works and within the same monographic editions by the same great luminaries are so conspicuous and of such a fundamental manner that as yet, without a process of clarification within the world of relativity, no theory worthy of criticism exists at all, publicly.

This status is one which the relativists themselves presumably regard as ideal, because they see no reason to discuss these uncertainties, or to at least take an unambiguous position in the matter. A theory kept in the fog of obscurity is one they regard as more difficult to attack .This is the reason why they have no wish to dispel the fog. Quite the contrary.

It is enough to refer to four of the early main representatives of the world of relativity. Since then nothing has changed in the world of relativity. The complete lack of clarity and inconsistency was already there by 1920 and can now only be repeated, varied or made even more bizarre. - As regards the causes, Albert Einstein remained completely silent in 1905. Later he is quoted as according it to an "attendant circumstance of the fact", which of course is nothing other than attributing the cause of the attendant circumstance to the fact. Only, he now prefers not to explain a cause. - With the journalistic "gift from above", in 1908 Minkowski presumably covered up the lack of causality. On the other hand he had the "attendant circumstance of the state" in reserve. - In 1913 v. Laue, by contrast, committed himself to causes: LC was caused by changes in elasticity; TD was without a cause. - And in 1920 Born confirms the reciprocity of the effects on the basis of the principle of relativity, contests as a consequence the reality of the effects and can with this avoid the question as to the causes. With the slice of sausage he believes he has settled the "notorious controversy" as to appearance or

reality, though he declares at the same time that all arbitrarily (!) selected cuts (slices of sausage) are equally real for all (!) observers and with this he maintains that several realities are equally real. Fortunately he sees no contradiction in this whatsoever, believing instead that he has expelled all contradictions.

By 1969 Born has changed sides to the faction of realists, though he thereby only increases the number of his contradictions, in that his presentation of the effect of LC is now fully contradictory. One no longer knows what he wants. On the other hand he maintains that the reality of time dilation is to be found in the person of the travelling twin who remained young and seeks to explain this by moving [the argument] to the fiction of four-dimensional space-time, before concluding his argumentation in an authoritarian manner: one must come to terms with it.

The comforting historical analogy given is that previously one had also come to terms with the "antipodes". The fact that the "antipodes" were first satisfactorily explained with the discovery of the gravity of the earth and that with this they were also rationally justified, and the doubts thereby dispelled, appears to be unimportant for Max Born.

Of all relativists Max Born represents most openly the I-say-what-goes standpoint. The physicist decrees, and the public has to come to terms with this, like it or not. It will soon come around - remember the antipodes. This cynical attitude is the same as that of Max Planck. The critics will dye out, and then we will have peace and quiet in the temple of the world of relativity. Neither the solution of the estate-owner nor the cynical biological solution has so far occurred. Not even after eight decades, and the chances [for these solutions] don't look very good.

AE 1905. - Minkowski, Hermann: Raum und Zeit; Lecture, 80. Naturforscher-Vers., Köln 1908, 21st Sept. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, P. 2,1, pp 4-9. Also in: Physikalische Zeitschrift. 20. 1909, pp 104-111. Reprinted in: Das Relativitätsprinzip. Lorentz, Einstein, Minkowski. 6. Aufl. 1958, pp 54-66. - Laue, Max v.: Das Relativitätsprinzip. 2., verm. edition. Braunschweig: Vieweg, 1913. 272 pages. (Die Wissenschaft. 38.) - Born, Max: Die Relativitätstheorie Einsteins und ihre physikalischen Grundlagen. Berlin Springer, 1920. 242 pages (Naturwissenschaftliche Monographien und Lehrbücher. 3.) - Born, Max: Die Relativitätstheorie Einsteins. Unaltered reprint of the 5th edition. Berlin 1969. 328 pages (Heidelberger Taschenbücher. 1.)

Q: Methodology / Error No. 4

Albert Einstein developed the effects of length contraction and time dilation solely within his kinematics (phoronomy; mechanics), without taking dynamics (force and motion) into consideration

Kinematics treats all motion fundamentally without consideration of the force effects on which it is based. For this reason the conclusions derived from kinematics are not automatic and are not valid without further examination in physical reality. A purely kinematic consideration without allowing for the forces at work can therefore give no findings as to real physical processes. This methodical limitation of kinematics applies generally in physics.

In developing the STR in 1905 Albert Einstein failed to take this methodical limitation of kinematics into account and therefore developed, in pure kinematics, claims as to physical effects that cannot be found in the dynamics of reality. His "inertial systems" that cannot be realized and the "coordinate systems" without material or physical properties lead to incorrect statements and allow no inferences to a reality that is determined by force effects. This is the cause of the absence of any empirical proofs of the supposed kinematic effects.

An example of a purely kinematic consideration is the mistaken claim of the relative equivalence of the Copernican model and the Ptolemaic model of the cosmos: in reality there are forces at work that make the decisive difference, that are only explicable using dynamics and that refute relative equivalence. Regardless of this,

the supposed equivalence is already refuted by the analysis of the alleged relative rotation of the fixed-star sky. All fixed stars would have to incidentally revolve around not the centre-point of the earth, but around the earth earth's axis, endlessly extended in both directions (!), this forming a merely imaginary line and not a physical reality. And why should all of the fixed stars rotate around such an imaginary line based on a geocentric perspective?

Moreover, this supposed relative rotation of the fixed-star sky would also have to hold for every other celestial body with a rotation of its own (e.g. all of the planets of our solar system). In other words, the fixed-star sky would also have to rotate - at the same time - around the countless axes of countless other celestial bodies (including those with another angular velocity (!). On the other hand it must remain relatively still vis-à-vis certain other celestial bodies not themselves rotating! Due to its particular abstruseness, as well as to the fact that in relativity circles its geniality has been highly praised, this case is particularly instructive in evaluating the world of relativity all in all.

*Galeczki / Marquardt (1997, p. 47): Kinematics is "the presentation of a motion without paying attention to its physical relationships. In terms of the kinematic way of looking at things it makes no difference whether the earth moves around the sun ... or vice versa. From the kinematic standpoint, therefore, only relative speeds are important. [...] As we all know, the kinematic standpoint of the geocentric view of the world was for religious reasons defended for more than 15 centuries against the heliocentric standpoint. The kinematic way of thinking greatly appeals to the original **local** view of things, as seen by mankind. What is important ... for the entire STR is the **local** observer-specific view of describing nature. [...] Constant rectilinear motion ... is ... always presupposed, as a means of making a **thought-out** process as simple as possible. How they ever come to exist in observed nature is of little interest." p. 48: "Kinematics is the playground of unrealistic thought experiments."*

Galeczki / Marquardt (1997, p. 49) invite the relativists to test the supposed kinematic equivalence of all relative motion on the example of subway surfing: "Kinematics does not make one invulnerable, otherwise subway surfing, which has become fashionable, would not be dangerous. We would bet that even the most convinced relativist has not enough trust in the STR to refute this claim experimentally. So why does he believe it on paper?"

The fundamental inadequacy of pure mechanics (kinematics) without the associated force theory (dynamics) has been addressed by a few critics only. The resulting misconceived examples for a relativity-accelerated system (earth and fixed stars; carousel and playground environment), by contrast, are frequently addressed. According to the current status of the documentation, Galeczki/ Marquardt are the only critics who denounce the notable historical step backwards associated with the change from the Copernican to the Ptolemaic view of the world.

Galeczki / Marquardt 1997.

Q: Methodology / Error No. 5

The Lorentz transformations are the core of the STR and are thereby the cause of the STR's frailty

Galeczki / Marquardt (1997, pp 50-51): "Kinematic questions [are] very readily turned into dynamic conclusions. The active role is attributed to the observer by the fatal Lorentz transformation." The authors all see the disaster in the formation of the transformations:

(1) Woldemar Voigt has proposed equations for wave phenomena in which he has selected the Doppler effect as a variable of the local vector and the time, instead of the wave vector and the frequency.

(2) Lorentz has transferred Voigt's equations for wave phenomena to space-time problems. Galeczki/Marquardt assess this transfer as "inadmissible".

(3) "That was the historical starting point for Lorentz' misinterpretation of the Doppler-effect as an effect on rulers and clocks. The resulting Lorentz transformation has had an absolutely catastrophic effect on physical thinking. With its help the observer acquires the power to allow mass to increase, time to slow down and lengths to shorten. He can allow magnetic fields to come into being where there was previously only an electric field and he can - seen in the field of quantum mechanics - allow a wave to appear from a vibration phenomenon. The transformation permits him to amalgamate time and space coordinates to form an inextricable "space-time continuum" and thereby empowers him to exert a radical influence on every physical happening. When it disturbs him that clocks are running slower, then he can change his standpoint and they then run faster. And if such virtual changes make him unhappy, he can always choose a 'time of his own' in which he sits on the clock - and no longer needs to suffer any time-change any more." p. 51: "Only one thing is denied the observer in the STR: whatever he does, light reaches him at the notorious constant speed of c. It is as though the light knows its state of motion already b e f o r e it reaches him, after a long journey, adapting itself accordingly. [...] The special status of the light is prescribed in advance in the Lorentz transformation. And in this way this transformation becomes the magician's hat of relativistic kinematics ... The mathematics was more powerful than the physics."

p. 64: The missing group properties of the transformation theoretically leads, in the case of non-co-linear speeds, to a rotation, which has two errors: theoretical rotation violates the definition of the inertial system; and in a simple experiment by Phipps it could definitively not be verified.

Other critics have derived the Lorentz transformations in various ways, even on the basis of purely classical assumptions. - Already Sommerfeldt had drawn attention at a very early stage to the absence of the group properties in the Lorentz transformations. - Some have drawn attention to the fact that the transformations represent no physical findings at all, because they merely recalculate already-found physical data and cannot create any new physical facts. - Lorentz himself had only represented them under the assumption of the hypothesis of the ether and he declared that he had attached no physical reality whatsoever to the measurements for space and time contained therein. - Pagels (1985) has shown that there were mathematical errors in the mathematical derivations of the transformations by Albert Einstein (cf. Error F 1).

Galeczki/Marquardt see the cause of the erroneousness of the transformations in Lorentz' misinterpretation of the Doppler-effect as an effect on rulers and clocks. From this, Lorentz must have developed the idea that in the Michelson-Morley experiment one of the interferometer arms had contracted, an ad-hoc, fictitious hypothesis that could be animated or supported by absolutely no other physical experience. Lorentz himself never advanced beyond the hypothetical nature of the issue and never endorsed Albert Einstein's step of declaring this hypothesis as reality. For this reason too he had also rejected each share in Albert Einstein's STR and had most sharply criticized this theory, which is something the authors of the world of relativity however carefully withhold from their readers, because they always want to see the famous Lorentz as a predecessor of the STR and as one of them.

Lorentz' critical 1910 lectures in Göttingen are still contained in two first editions of the anthology "Das Relativitätsprinzip. Lorentz / Einstein / Minkowski" of 1913 reprinted in 1915 (Das Relativitätsprinzip und seine Anwendung auf einige besondere

physikalische Erscheinungen), but were thereafter tacitly removed, so that none of the users of the many subsequent editions should ever learn anything about Lorentz' criticism. In the English edition of the anthology (The principle of relativity. London,1923) Lorentz' lectures were never contained! So considerately have the relativists saved their public from doubters.

From the fact that the Lorentz transformations are only pure mathematical relationships between physical measurements, from which all supposed effects can be derived, the characterization of the STR as mathematics has made it seem more powerful than physics (Galeczki/Marquardt).

Galeczki / Marquardt 1997.

Q: Methodology / Error No. 6

The relativists transfer results from particle physics to the macro world as supposed evidence of effects of the STR and GTR

In physics, one of the generally recognized principles is that concepts in macrophysics (e.g. the Kepler's Laws) cannot be accorded to processes in the microphysics of particles (e.g. to the electrons circling the atomic nucleus).

The relativists violate this principle when they claim that empirical findings from microphysics prove the kinematic or dynamic effects of Albert Einstein's kinematics. Examples: muon decay; nuclear fission.

Galeczki/ Marquardt (1997, pp 140-145) demonstrate the inadmissibility of such transfers with the following example. Kaufmann's apparatus (1901, 1902, 1906) used fast electrons from a beta-radiation source and examined their motion between two conductor plates in an electrical field and a magnetic field perpendicular to this. "... this apparatus has clearly nothing in common with the interaction-free inertial system of an STR observer."

All such claims of proof that rely on impermissible transfers between particle physics and the macro world are therefore invalid.

This error is a further example of the inconsistency with which the relativists prefer to exist. They permanently violate both their own, supposedly holy principles (relativity; reciprocity and symmetry; constancy of c) and the grand conclusions derived from these (no simultaneity between moving systems) and the generally accepted principles of physics (no kinematics without dynamics; no transfers between microphysics and macrophysics).

Galeczki / Marquardt 1997.

Q: Methodology / Error No. 7

The inertial effects in a braked train (a chaos of freely falling objects) is explicable, according to Albert Einstein, in terms of the gravitational field of the fixed stars

The GTR also maintains the relativity (equal value, equivalence) of accelerated motion. To refute this point Philipp Lenard chooses, as an example of accelerated motion, a suddenly braked (negatively accelerated) train. According to the GTR the motion of the train and the relative motion of the earth should be equivalent, i.e. it should not be possible to decide whether the train or the earth has braked.

The critics dispute the relativity (equivalence) of the motion of train and earth, because physical experience teaches us that it is only in the train that non-fixed objects

fly around chaotically under inertial effects whereas on the earth no inertial effects appear and a church steeple next to the railway remains standing. If, instead of the train, the earth had suddenly braked, all of the non-fixed objects on the (eastwards-rotating) earth would fly around chaotically in an eastward direction and the church steeple, given a sufficiently large negative acceleration, would fall over in the eastward direction. Since, with the braking of the train, the forces of inertia only appear in the train and not on the earth, one can recognize the inertial effects of the braked as well as of the accelerated motion, as a consequence of which one can say that accelerated motion is absolute and is not equivalent to the relative motion of the environment.

Referring to the discussion of this scenario, Philipp Lenard, during the discussion in Bad Nauheim in 1920, put the question to Albert Einstein (p. 666): "Why is it not possible, according to the theory of relativity, to detect a difference between the case in which the railway carriage is braked or the surrounding world is braked?" Albert Einstein answered this in 1920 in Bad Nauheim (p. 666): "It is certain that we observe effects relative to the train and, if we want, we can interpret these as inertial effects. The theory of relativity can equally well interpret these as effects of a gravitational field. [...] The controlling gravitational field, relative to the braked train, corresponds to an inductive effect given rise to by the distant masses." Lenard responded (p. 666) that "the fields of gravity introduced here must correspond to processes and these processes have not as yet been experienced". Einstein's answer consisted 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?

Albert Einstein's reply to Lenard was, by the way, very weak - a partial retreat. He conceded that the explanation with inertial effects is plausible and maintains for his explanation involving the distant masses only an equity that the GTR can also interpret differently. With this, his explanation completely misses the security with which it is celebrated in the accounts of the relativists.

A conclusively justified answer to Lenard's question, as to why the steeple does not fall, remains to be given right up to the present day. The alleged effect of the fixed-star masses is an error from several standpoints. As a direct statement of the GTR it has proven to be incorrect (cf. Error M 10). Here, for example, it is solely treated as a methodical error, because irrefutable physical experience (inertial effects) is to be countered by pure assumptions (fixed-star gravity), that have furthermore been shown to be untenable due to several proven serious errors. The model of fixed-star rotation is logically and physically untenable. Even the Catholic church - since Galilei - can't think of any new arguments.

Lenard's question has rightly become famous for three reasons: It touches on the core of the theory; its answering by the criticism (the difference is notable) can rest its case on the irrefutable experience of inertial effects; and Albert Einstein cannot dispute the experience of the forces of inertia in his answer, cannot claim an equivalent deceleration of the earth, and only attempts to discuss the cause of the forces of inertia in the braked train and to fall back on the gravitational effects of the "distant masses", admitting at the same time a certain arbitrariness. He is unable to dispel the direct proof of the one-sided inertial effects (only appearing in the train). The alleged alternative cause does not make the one-sided inertial effects vanish. This state of the argumentation has not changed since 1920.

Albert Einstein's claim gives rise to a series of closely related questions, that demonstrate the untenable nature of the hypothesis of the fixed-star masses:

(1) How do the fixed stars know that the train is braking right now and that they have to exercise their effect right now?

(2) How could the fixed stars, if they did know of the intention of the train driver to brake, exert their gravitational effect in good time on the objects in the train from their known distances of several, even hundreds of light years without any time delay?

(3) How could the fixed stars, which are located in all directions and as a consequence exert their effects from all directions, apply their gravitational forces so selectively that they make the objects in the train fly precisely in the direction in which the train is driving, and why not sideways, for example?

(4) What effects do the gravitational forces of the fixed stars have on the freely-moving objects in the train when the train is not braking?

(5) In which direction do the supposed gravitational forces of the fixed stars exert an effect on moveable objects and on buildings with fixed locations on the earth, right next to the braking train? Where are effects observed?

The assumption of the equivalence of a braked earth would already be refuted by all trains that are not driving in a precisely easterly direction, because the inertial effects in the trains is exerted in each case in the random directions of their motion, whereas the inertial effects from a braked earth could always only be exerted precisely in the easterly direction, and effects in various directions cannot be regarded as equivalent.

The gravitational field of the fixed stars is real, but selective effects in the services of the world of relativity are a fiction.

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.

Q: Methodology / Error No. 8

In both of Albert Einstein's theories of relativity decisive differences (limits) are claimed without the physical conditions of the limit boundaries being discussed

The fundamental differences propagated by Albert Einstein include the following:

(1) absolute simultaneity for directly neighbouring processes, but no simultaneity for processes at a distance from each other;

(2) supposedly stationary volumes of space and supposedly moving volumes of space;

(3) constant rectilinear motion and non-constant motion (curvilinear and/or accelerated);

(4) an arbitrary inertial system and an inertial system assessed as moving relative to it;

(5) coordinate systems and bodies (measurable bodies);

(6) speed of light and faster-than-light speed;

(7) the three-dimensional space of our experience and the fictitious four-dimensional space-time of Minkowski.

In all cases a fundamental difference is asserted, but what is usually completely missing is, strangely enough, an argument as to where and how physical transition between the different situations, conditions or geometrical dimensions takes place and which physical effects appear in the process.

The rest of physics relies entirely on such reflections. Without a satisfactory, plausible presentation of physical transitions the alleged fundamental differences have just as fundamental errors. Either they do not exist at all or they are different, and have different consequences, than those maintained.

The fact that the absence of a limit condition can lead directly to theoretical errors can be shown by the following example. Albert Einstein (AE 1905) works with inertial systems that are supposed to have various speeds and various positions of rest with respect to each other. What he clearly forgets is that the transitions can only be created by acceleration and decelerations, as in the case of his deduction of relative simultaneity (pp 892- 897), where he claims an initial synchronization between the clocks of two relatively moving systems. He opts neither for the possibility of synchronization in the case of relative positions of rest (then he would have to explain how, after acceleration to a relative velocity, the synchronization can still hold), nor for the possibility of the synchronization in the state of motion (because he has just explained the impossibility of proving it). He cannot develop the prerequisites for his model in a manner that is physically flawless.

For two errors the problems of the limit boundaries have been treated in detail: Error E 7 (realization of inertial systems); Error G 4 (Minkowski's multitude of volumes of space).

AE 1905.

Q: Methodology / Error No. 9

In the STR certain supposed findings taken solely from the field of kinematics - and even there, derived from consideration of only two objects - are said to hold in the real world controlled by dynamics, and there for countless similar types of objects

Albert Einstein and his relativists deduce their claims on the basis of an extremely restricted basis (namely that of inertial systems that are nowhere realized, in each case with two systems only, and without consideration being given to dynamics) and they then maintain , without further justification, that their claims are universally valid. - Since this procedure has been reduced to several individual errors in detail (cf. Errors E 2 and E 8), the criticism sees therein a serious methodical error.

The proof of the errors could be given either by increasing the number of reference systems involved (heuristically to 100 or 1000 systems), whereby real observational space - as compared with that of the thought experiments - is significantly extended and the number of supposedly solely relative movements, with the resulting multitude of mutual observations, requires of the world of relativity an explanation that has previously never been attempted by the representatives of the theory. A "threefold endless great diversity of equally justified systems" was wonderfully maintained by v. Laue, but without any consideration ever being given to a finite great diversity of physical consequences. 100 or 1000 rulers or clocks in the same observational space ruin all of the statements made as to mutual length contractions or time dilations, because one and the same ruler and one and the same clock would have to shorten/lengthen or correspondingly run ahead / run behind 100 or 1000 different (!) systems simultaneously (!). These effects have never been observed, nor could they be real even if they had been observed. The observers of such observations would first have to spend some time in the drying-out (or sober-up) cell.

The disinclination of the relativists to assert their claims in detail in the context of more than two systems is therefore understandable, though unforgivable. If they no not at last take a more critical approach to their own theory they will never learn anything.

The other proof of the errors is achieved with the question as to existence in the dynamics of the real world, where forces exert an effect and alleged effects have causes. Here the relativists work mostly with such unbelievable idioms as (Error E 14) "consequences of a circumstance" or (Error G 8: Minkowski) "attendant circumstance

of a circumstance" or (Born 1969) "attendant circumstance of the fact", only because they do not dare to speak of cause and effect, because they cannot present any causes. As long as there are no causes in dynamics for length contraction and time dilation, there will also be none of the alleged effects - for which there are, incidentally, also no empirical findings - needing to be explained.

If empirical findings existed, it would be no disgrace for a physicist to admit that there must be a cause that one at present didn't know. The relativists however do not want to become involved in unknown causes, because they know that these wonderful effects cannot arise in the real world from relative motion, and therefore prefer to talk their way out with "attendant circumstance of a circumstance".

Albert Einstein's methodology has two fundamental errors: the number of objects used in his models, these being too few; and the complete lack of the decisive dynamics. His claims can therefore be refuted alone by the demand for a finite multitude of systems in motion or by the demand for causes for the alleged effects.

cf. Errors E 14 and G 8.

Q: Methodology / Error No. 10

Albert Einstein's STR and GTR are developed with observable objects and on-looking observers, and their supposed observations; the demands of critics, that the claimed effects should also be clearly observable, is by contrast rejected

Particularly in the first decades of the theory the question of demonstrability was discussed in detail. Originally Albert Einstein had claimed in a positivistic manner that only observable data was to be integrated in the theory, although he was later to claim the opposite.

The derivation of his theories is based, at any rate, on pure, even extreme intuitive ideas, in that some things are described as being material reality although they do not exist at all, except on paper, e.g. coordinate systems. The derivation permanently relies on that which observers supposedly have (clocks and rulers), see and do (send out light signals and register those received; read clocks and rulers).

Accordingly, the critics have found fault with the unintuitive nature of supposed effects such as length contraction, time dilation, twin rejuvenation and ageing, and in particular with Minkowski's four-dimensional geometry and its supposed fourth dimension of time, and have used this as an argument against the theory.

In response to this criticism the relativists are still inclined to dismiss the demand for demonstrability as primitive or unprofessional or inappropriate or unscientific, and they refer one to advanced mathematics, which can prove everything even without demonstrability.

There is a methodical contradiction between the relativists' attempt, in the derivation of the theory, to convince the public of the great demonstrability of the existence of even non-existent things, whereas later, when they are no longer able to deliver demonstrability, they attempt to discredit the demand for demonstrability and to save their approach in the shadow of mathematics. Occasionally, some relativists secure their position somewhat better in that they claim that an effect is fundamentally non-observable, as in the case of length contraction.

Q: Methodology / Error No. 11

Relativity fundamentally maintains that all mathematical relationships (equations) found (including those that are then quickly altered) are physical realities

The method criticized as "mathematicism" was practiced by Albert Einstein and has remained, up to the present day, a characteristic feature of the world of relativity.

This method fails to appreciate the absolute necessity of first checking to see whether a relationship suggested by the mathematics is at all satisfied in terms of the physical meaning. It is, namely, indeed possible - probably to the boundless astonishment of all relativists - that a found mathematical relationship can fail to describe any physical circumstance, quantitatively speaking (qualitatively speaking it could never describe anything anyway).

The nicest proof that not every mathematical relationship has a quantitative physical counterpart is provided by the physicists themselves, when they nimbly make quick repairs to their mathematics, adding a proportionality factor here, reducing a sum total to zero there, so that it drops out; or simply squaring everything and then taking the root, but only making further use of one root (the one that fits best). In this way one can eliminate unwanted signs. And perhaps also secretly dividing by zero (because not everyone will notice that a voluminous fraction has a zero in the denominator at exactly the right moment), and then the special conjuring-up of the tasty morsel. Fortunately one need not speak of such advanced techniques as re-standardization, since they appear in the STR.

In physics there is no end to the discarding, extrapolating and mathematically tailoring until the tunic fits. Not that there would be anything to say against this, if the relativists would only refrain from subsequently demanding blind faith and devotion alone for a "holy tunic" that is solely the result of mathematical manipulation and clads no physical reality whatsoever.

With mathematics alone they won't escape the critics. The relativists must indeed make the effort to prove the physical reality of their theories of relativity. And only if they succeed will they be safe from the criticism. Such success has not as yet appeared for the kinetics. And the effects of dynamics are either no relative constructions (mass-energy) or can be shown to be purely mathematical creations (mass-velocity).

Theoretical Structure

R: Theoretical Structure / Error No. 1

The STR is an unfounded, incoherent package of the previously independent findings of other researchers, plus Albert Einstein's own subsequent assertions

In the STR a clear distinction must be made between two groups of alleged effects:

(A) the effects deduced by Albert Einstein:

- of relative non-simultaneity (cf. Errors D 2 and D 3)
- of time dilation and local times (cf. Errors D 6, D7, D 8 and E 2),
- of length contraction (cf. Errors E 2, E 5, E 11, E 12, E 13 and E 14),

- of the staying young of the travelling twin (cf. Errors D 9 and Q 2);

(B) the effects already found before 1905 by other scientists:

- of the mass-velocity relationship (cf. Errors J 1 and J 2),

- of the mass-energy relationship (cf. Errors K 1 and K 2).

The two groups differ from each other in that the effects of group A derive solely from the two principles of the STR (the principle of relativity; the absolute constancy of c) and no empirical confirmation whatsoever has been found for them, despite all claims to the contrary in the propaganda of the relativists. The effects of group B, by contrast, were discovered by other scientists before the development of the STR, were empirically verified and have been satisfactorily interpreted on a non-relativistic basis, because in the case of the mass-velocity relationship this is based on an arbitrary mathematical presentation, and in case of the mass-energy relationship on an absolute, non-relativistic effect of nuclear energy and not on a supposed conversion of mass into energy.

Summing up, one can say that the effects derived by Albert Einstein (group A) are falsely derived on the basis of incorrect assumptions and have never been empirically confirmed, whereas the empirical findings of the other scientists, i.e. non-deduced effects, (group B) have nothing to do with the two principles applied by Albert Einstein.

In the STR Albert Einstein formed a package out of the two groups, which have completely different origins and interpretations and next to nothing in common, and the propaganda of the relativists makes great efforts - very successfully - to create the impression that the empirical foundations of group B, and particularly the empirical confirmation of the mass-energy relationship, also confirm the effects of group A. This deliberately created mistaken impression is corrected when one unties Albert Einstein's STR package and separates those effects not derived from the STR: With this, all of the claims of the relativists relating to the foundation of the effects of group A, as well as to the STR, are simply superfluous.

The reservation of the findings of other researchers for the entire STR package and the resulting derivation of a supposed justification also for Albert Einstein's wonderful effects is an ingenious trick that has not been recognized by an uncritical group of scientists - and all the less by an unsuspecting public. The establishment of the completely incorrect, standard claim made in all accounts by the world of relativity, that with his $E = mc^2$ Albert Einstein has found the world formula, and that this is confirmed a thousand times every day in all of the nuclear power stations and nuclear research facilities of this world, making the STR the best-proven theory of physics, is certainly the greatest performance achieved by the world of relativity, and thereby also one of the greatest achievements of the physics establishment.

The only help against this method of immunization with a theory already at the level of theoretical structure is the reinstatement of scientific freedom and the freedom of research in the field of theoretical physics.

R: Theoretical Structure / Error No. 2

According to Albert Einstein, the sphere of validity of the GTR and STR should be limited in size to the sphere of space

The claim of a transition between both theories has already been treated in detail as Error M 1, and refuted. The reader is referred to the literature given there.

Here, Albert Einstein's claim that the spheres of validity of the GTR and the STR are delimited to the levels of magnitude of the sphere of space will be addressed. Einstein (1916, Grundlage der allgemeinen Relativitätstheorie [Foundations of the General Theory of Relativity]; cited from the 1923 reprint, p. 87): "For infinitely

small four-dimensional fields the theory of relativity in the narrower sense is fitting in the case of a choice of appropriate coordinates. The acceleration conditions of the infinitely small ('local') coordinate system must be chosen such that a gravitational field does not appear. This is possible for an infinitely small field. [...] If a rigid small rod is thought of as a unit measure, in the case of a given orientation of the coordinate system, these coordinates have a direct physical importance in the sense of the special theory of relativity."

This reduction of the area of applicability of the STR within a GTR world to

- infinitely small fields,

- accelerations chosen such that no gravitational field appears

is a construction of extreme artificiality and meaninglessness, and practically amounts to the abandonment of the STR. According to Theimer (1977, p. 114) time dilation and length contraction are also claimed for the GTR, though now with a completely different justification, through gravity, which is why they are completely new and different and no longer have anything to do with the STR.

The annulment of the STR thereby practically admitted by Albert Einstein himself is something that the world of relativity has successfully kept secret right up to the present day. Neither Albert Einstein nor his followers have had the courage to inform their field-internal followers and the general public about the true state of affairs with the announcement of the GTR in 1916.

The theoretical structure of the GTR leaves the STR only an infinitely small piece of no-man's land. And there, none of the occurrences of the STR can take place. Nevertheless, year for year since 1916, in almost all of the countries of the world and in many different languages, tons of printed matter appear in the form of books and articles in magazines and, for two decades now, also video material for academic and general instruction, in which the special theory of relativity continues to be celebrated as the magnificent and forever-true theory. There, where observers observe and only their measurements are important, where they still drive Albert Einstein's famous railway carriage, where moving balls deform to ellipsoids, where moving rulers shorten, where moving clocks slow down and travelling twins return home younger than their non-travelling twin brothers. Even the very elementary question as to where, in the infinitely small fields, relative motion can be observed, is not answered. The true trick, however, remains hidden from the public: that the waxworks of the STR now only takes place in an infinitely small environment!

Abraham, Max: Relativität und Gravitation; Erwiderung auf eine Bemerkung des Hrn. A. Einstein. In: Annalen der Physik. F. 4, Vol. 38 (= 343). 1912, pp 1056-1058. Replies to a criticism of Einstein, pp 355 and 443. Followed by a statement by Einstein, p. 1059. - Einstein, Albert: Die Grundlage der allgemeinen Relativitätstheorie. In: Annalen der Physik. 49. 1916, pp 769-822. Reprinted in: Das Relativitätsprinzip. Lorentz / Einstein / Minkowski. 1923 and repeatedly, pp 81-124. - Theimer 1977, pp 111-145.

R: Theoretical Structure / Error No. 3

Between the years of 1915 and 1920, Albert Einstein changed his epistemological position without undertaking the necessary public revision of his STR

At the time of his preoccupation with the STR Albert Einstein, under the influence of the ideas of Ernst Mach, took an empirically positivistic view of things that is clearly reflected in the STR. Only empirically established values were to be given recognition, only the position of the hands of the clock is time, only clocks standing closely together could permit a reading that was soundly simultaneous, only measured relative motion between bodies (he also wishes to treat coordinate systems in this way) are given recognition, only what observers can observe describes findings about the physical world.

In his chronological table, under the "Vorgeschichte" [prehistory] of the Vienna Circle, Geier (1998, Wiener Kreis, p. 135), rightly includes the STR for 1905.

According to Fölsing (1994, p. 537), Albert Einstein wrote to Ernst Mach at the end of 1913: "For me, it is absurd to attribute physical properties to 'space'." Precisely seven years later, however - in Leiden, 1920 - he had changed his mind. Now space had its properties. In the period from 1913-20, in other words, the change must have taken place, during the First World War.

But still in 1921, in his lectures in Princeton (published under "The Meaning of Relativity"; four lectures on the theory of relativity, 1922; as from 1956 under the title "Grundzüge der Relativitätstheorie" [Fundamentals of The Theory of Relativity]; cited from the 1984 edition) Albert Einstein advocated the older position and fortunately also gave his motive for doing so. He wants to combat the ruinous attitudes of the philosophers (p. 6): "It is therefore, in my view, one of the most ruinous attitudes of the philosophers that they have transferred certain understandable fundamentals of the natural sciences out of the control of accessible areas of the empirically expedient into the unassailable heights of theoretical necessity (the a priori)." Albert Einstein's program is against philosophy and against compulsory thoughts as though thinking had no necessities. The author had sharpened the English text, "a harmful effect upon the progress of scientific thinking", to "einer der verderblichsten Taten der Philosophen" [one of the most ruinous attitudes of the philosophers]. This relates to the fact that the concepts of space and time are not left to the empiricists. The motive against the philosophers is purely emotional, a power struggle for competence, but not for new findings.

In the 1920s Albert Einstein had altered his position, even publicly. Kanitscheider (1988, p. 13): "Max Planck was strongly anti-positivistic and anti-Mach-oriented, though Einstein, through Mach's influence, was initially rather empirically oriented. It may be assumed that Einstein's turn towards a realistic epistemology, which took place in Berlin, was due not least to the influence of Planck." Already by 1920, in the wake of the GTR and in the lecture in Leiden, there were signs of a new position being taken by Albert Einstein. He himself introduces statements for which there can be no observations made by observers, e.g. for properties that space is supposed to have, pure speculations and deductions, and the assumption of an ether that is supposed to be identical with space. It is therefore little wonder that now completely different claims can be made in the GTR than those in the STR, from rigid bodies that no longer exist and the speed of light, which is no longer said to be an absolute constant.

In a discussion with Werner Heisenberg in 1926 Albert Einstein - according to a report from Heisenberg in 1969 - had characterized his new position as follows (cited from Fölsing, 1994, pp 659-660): "But you don't really believe that one can only integrate observable measurements in a physical theory." And: "It is the theory that first decides what one can observe."

Apart from the new topic of gravity and the new principle (equivalence), the breach between the STR and the GTR was also the consequence of a new epistemological position, which, if words were to make sense, would necessarily have led to a revision of the former model of the STR. Valerio Tonini, (1955, Realismo in fisica) is one of the few critics who explicitly demanded the necessary revision in the fundamental conception of the STR (p. 152, footnote 85): after Albert Einstein's lecture in Leiden in 1920 and the announcement of a space with physical properties "sia strano come questa veduta di uno 'spazio dotato di proprietà fisiche' non abbia condotto EINSTEIN a corregere e s p l i c i t a m e n t e le dizioni ambigue della prima relatività particolare" (it is strange that the concept of a space with physical properties did not cause Einstein to explicitly correct the ambiguous statements of the first, special [theory of] relativity).

For the critic there is no doubt about what the outcome of such a revision would have been, had it been undertaken by Albert Einstein and his relativists.

Einstein, Albert: Grundzüge der Relativitätstheorie. 5th edition 1969. reprint. Braunschweig, etc.: Vieweg, 1984. 166 pages (Wissenschaftliche Taschenbücher. 58.) - Heisenberg, Werner: Der Teil und das Ganze. München 1969, pp 90-100. - Tonini, Valerio: Realismo in fisica. In: Fisica sovietica (La). Firenze 1955, pp 115-153 (= La nuova critica. Studi e rivista di filosofia delle scienze. Quaderno Nr. 1.) - Kanitscheider, Bernulf: Das Weltbild Albert Einsteins. München: Beck 1988. 208 pages. - Fölsing, Albrecht: Albert Einstein. 3rd edition. Frankfurt a.M. 1994. 959 pages. - M. Geier: Der Wiener Kreis. 1998.

R: Theoretical Structure / Error No. 4

The forces of inertia operating in a braked railway train are assumed to be due to gravitational effects of the fixed stars, though at the same time gravity-free space for inertial systems is assumed ("far from all gravitation masses")

cf. Errors E 6, L 1, M 2 and Q 7. - The contradiction between the gravitational effects of the fixed stars right into each railway compartment on the earth (in the GTR) and the existence of gravity-free inertial systems (in the STR) becomes an error in the theoretical structure alone through the claim of the relativists that the STR and the GTR supplement each other. (The criticism has already refuted the supplementary character, cf. Error M 1.)

The structural error addressed here exists in the fact that two theories are supposed to supplement each other although they can only exist in completely different worlds: one with gravitation and one without it. Only one physical world is known and accessible by physical research, namely the world with gravitational effects, and for this world the relativists themselves assume a gravitational effect from all of the fixed stars that penetrates the entire galaxy, and that is known to be incapable of warding off. A different physical world without gravitational effects is so far unknown, and therefore is also not available as an alternative.

As long as the world of relativity works with the claim of a supplementary relationship between the STR and the GTR it has a structural problem, but one about the solution to which nobody has so far wasted an idea on.

For the critics, who contest the supplementation relationship between the STR and the GTR and have long since proven the mutual exclusion of two theories on other grounds, the present error is no longer a topic. For devout relativists, however, it must be a topic, since there is clearly no place "far from all gravitating masses" - not even outside our galaxy, by the way, since the galaxies together form a pile of galaxies which are also mutually subject to their own gravitational forces. So where could there be a place for the world of relativity? At best, the relativists might perhaps find space for their inertial systems outside our pile of galaxies (!).

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.

Presentations

S: Presentations / Error No. 1

The authors of relativity contradict each other in significant points, though they carefully refrain from engaging in the otherwise standard discussion in search of clarification

The significant points on which the authors of the world of relativity contradict each other are addressed in several errors, e.g. Error E 3 (rigid or non-rigid bodies), Error P 4 (appearance or reality of the effects), and Error N 1 (thermodynamics).

- Here we concentrate on the thematic width of the contradictions between the accounts of various authors and on the completely unusual approach of the relativists in handling these, their own matters. They are, namely, absolutely discreet, as though no contradictions existed. It is the same behaviour as practiced with the criticism, in keeping with the principle: what is not discussed does not exist.

Normally, for example in the case of Error E 3 (according to Albert Einstein, 1905, the STR is based on rigid bodies, while according to Max v. Laue the assumption of rigid bodies is incompatible with the STR, and this contradiction dates back to v. Laue's 2nd edition in 1913), which relates to no small issue, after all, the question of rigid bodies would be taken up in journal articles and independent treatises. The various authors would take sides, for one of two standpoints, each side would discuss the consequences of accepting the other opinion and would attempt to refute it, so that in the end at least a clear majority opinion and a minority viewpoint would emerge, or even, in the ideal case, a new consensus.

In the case in point nothing of the sort has taken place since 1913. The authors of the world of relativity appear not to recognize this fundamental contradiction (what would be an STR without rigid bodies? And how is it to be constructed without them?) or do not want to take notice of it. It is simply missing in their presentations. For this reason too the wide specialist public, and the minor masters and the non-specialist public have, one way or another, no chance of knowing better, thanks to the missing detailed knowledge. As a consequence, they cannot know why v. Laue, a true follower of Albert Einstein right from the start, writes such an astonishingly crass contradiction in his monograph: v. Laue repeatedly bases his arguments on the elasticity of the body, not least in order to explain length contraction, which could not be attributed to an assumed rigid body. Anyone who broaches the issue of this fundamental contradiction between Albert Einstein and Max v. Laue would be unable to avoid a discussion on the question as to the cause of the effects. He would soon find himself at the heart of the problem zone of the theory, would be confronted with the contradictions and would have to take a position.

The whole thematic width of the contradictions can be seen by any reader who takes an objective look at more than two presentations of the theory. The contradictions also arise in the passages of the presentations, where the authors merely recount Albert Einstein's experiences with railway carriages. Causes are partly the inability to report things correctly, but also partly the efforts made to correct the defects or errors discovered in the railway stories and thereby to improve the theory. In this way a patchwork carpet of variants and versions emerges as decisive specialist literature, and - wonder of wonders! - not a single relativist appears to have noticed this patchwork carpet, to say nothing whatsoever of the science historians, because they never allow any non-devout ideas anyway,

if they want to be invited in future to Einstein archives, symposiums and relativity congresses (which for them would otherwise effectively amount to exclusion from the profession in the field of theoretical physics). Even the investigative and so critical scientific journalism has never found anything, but prefers to report on confidential fireside discussions with the great luminaries and their grand views of the future.

The neglect of even the necessary internal discussion for clarification amounts to a hindrance of research that has contributed towards the sterility and lack of profile of the theory for decades now.

The relativists know, of course, that any discussion of the mutual contradictory claims could give rise at any time to a general criticism of the theory, so that this must be avoided at all costs, simply for reasons of self-preservation. In this way the well-founded fear of any criticism also gives rise to a prevention of theory-internal clarification. And so it is that, in addition to the suppression directed outwards (against the critics), a self-imposed, subtly working censorship is also applied internally (against their own supporters of the theory).

Laue, Max v.: Das Relativitätsprinzip. 2., verm. edition. Braunschweig: Vieweg, 1913. 272 pages. (Die Wissenschaft. 38.).

S: Presentations / Error No. 2

As evidence of the correctness of the theory it is claimed that the clear majority of all physicists accept the STR as having been confirmed

This claim can be found in almost all accounts of the last decade. It suggests that a majority of the physicists cannot be wrong; and it can indeed point to the fact that in the main journals of physics in the leading scientific countries of Europe and America no criticism of the STR is expressed.

The claim is based on two insinuations that have been shown to be incorrect: (1) that a majority of physicists can pass a decree on the correctness of the STR as though it could be decided on the basis of the voting rules in a parliamentary democracy, and (2) that the non-appearance of criticism of the STR in the physics research facilities was due to the non-existence of critics and critical works.

The true situation is completely different.

On Point (1): The correctness of theories, as even some of the relativists themselves know, can never be proven on the basis of reflection. Every physical theory is accepted subject to new empirical findings which can make a correction necessary at any time. Should this situation arise, the theory must then re-establish itself in renewed critical discussion and in examination of its foundations. For the status of the theory, the decisive characteristic is not therefore the number of its followers and representatives, but the existence of critical arguments that have publicly been brought against it, and the quality of the arguments put forward publicly in its defence. This decisive standpoint of permanent consideration - what speaks for it and what against? - is carefully kept secret and suppressed in the presentations of the world of relativity because the STR cannot survive argumentatively in a public debate against the criticism.

On Point (2): The non-appearance of criticism of the STR in the main journals of physics is not the result of their non-existence, but of their systematic denial, suppression and defamation - both of the critics and of their works - by the powers that be in physics. For this reason they have managed for decades to allow any publication of critical works on the STR only under very restricted conditions.

- in non-physics magazines that cannot be fully controlled by the powers that be in physics. Magazines for the natural sciences in general, or for

related natural sciences, natural philosophy and epistemology, history of science and science sociology, and also journalism in general;

- in countries that do not belong to the scientific elite in the field of physics and are therefore not strongly represented by persons bound to the international physics research cartel and are therefore not easy to blackmail;

- in magazines and publishing companies that care for social fringe groups and splinter groups whose interests and convictions are regarded as sectarian and therefore as scientifically unacceptable (e.g. natural medicine, esoteric, UFO research, extraterrestrial, etc.);

- as independent publications at the cost of the authors, who also undertake their own distribution or have their works sold by a commissioned publisher, or who occasionally also set up their own publishing company in order to save their books from the impression of having been self-published, a term regarded by the public as representing poorer-quality, non-edited works.

In view of this situation it is hardly surprising that in the main journals of physics in the leading countries no criticism of the STR is to be found, although the realization that throughout all the decades a continuing and flourishing criticism of the STR has existed, as indicated by the present documentation of approx. 3800 critical publications, will be all the more surprising to the public. Over the past decade the critical literature on the STR has even experienced a notable upswing due to the existence of several magazines that have given access to the STR criticism in particular.

Even Max Planck held it for appropriate (lecture on 17.2.1933 in the VDI in Berlin, reprint 1934) that physical theories become acceptable *not* because of the force of their arguments or their empirical proofs, but solely biologically through the dying out of their critics, i.e. by effective majority (p. 267): “An important scientific innovation rarely makes its way by gradually winning over and converting its opponents; it rarely happens that Saul becomes Paul. What does happen is that its opponents gradually die out and that the growing generation is familiarized with the idea from the beginning.” Physics as a war of religions, physical theory as a belief, achievement as conversion, and no mention made of critics and arguments. There are only opponents, and it's best if the theory spreads "right from the start ", which practically speaking means, in physics, always "from above": Decided and announced.

This is exactly the scenario in keeping with which the implementation of the STR has been organized since 1920. Max Planck's scenario is quoted by the relativists fondly and with a feeling of superiority. The hope of dying out conceals the wish of dying out of the criticism of the theory of relativity. It has fortunately not come to pass and it has little hope of doing so. Even the society named after him can do little to bring this about.

Max Planck was not the only relativist with such nice wishes. They are virulent amongst many authors of the world of relativity. Here are just a few examples of how childlike the relativists rejoice, if a critical book no longer appears or is no longer available.

Arzeliès (1966, p. 139) remarks on Bergson's "Durée et simultanéité" and Moreux' "Pour comprendre Einstein" highly satisfied: "Very fortunately it [Moreux] seems to be out of print, as is Bergson's book." In connection with another stubborn critic, against whose book he has explicitly warned, Arzeliès asks himself rhetorically (p. 138): "Are we going to be obliged to re-introduce the Nihil obstat for scientific books?" And indeed, only a real censorship could ensure that everyone reads only orthodox authors and are saved from the atrocities of the criticism.

Fölsing (1994, p. 545) also mentions Henri Bergson's book "Durée et simultanéité" from 1921 and Albert Einstein's written commentary on this ("Bergson ... has dropped a clanger; God will forgive him"), though he did not want to write a review. Fölsing finds consolation: "Understanding publishers later, even without Einstein's critical review, omitted to include this study in Bergson's complete works." A critical book that fails to appear is a victory for the theory. Understanding must be praised.

To the consolation of the critics, Bergson's book is available in the 7th edition, 1992, unaltered, fresh and readable. The critics, by contrast, do not wish any non-appearance of books, but only the appearance of their works too.

Planck, Max: Wege zur physikalischen Erkenntnis." 2nd edition Leipzig. Hirzel 1934. 298 pages - Arzéliès, Henri: Relativistic kinematics. Oxford: Pergamon, 1966. 298 pages - Bergson, Henri: Durée et simultanéité [7. éd.] : à propos de la théorie d'Einstein. 1. éd. "Quadrige". Paris: Pr. Univ. de France, 1992. 216 pages (Quadrige. 141.) - Fölsing, Albrecht: Albert Einstein. 3rd edition. Frankfurt a.M. 1994. 959 pages.

S: Presentations / Error No. 3

The authors of relativity claim that only Albert Einstein's STR and GTR can physically explain certain occurrences

Almost all presentations contain one or more such claims, although the following facts speak against this:

(1) A null result of the running-time differences in interferometry experiments (MME and others following) does not exist and has never existed. For a non-existing result no explanation is - logically - required. In this situation the STR cannot therefore be the sole explanation of a non-existent result (cf. Error A 2).

(2) The discovery of the mass-energy relationship $E=mc^2$ comes from radioactive decay, was already discovered by Becquerel, Curie and Rutherford and has no relativistic meaning whatsoever. The nuclear power stations do not therefore function thanks to the STR, and the supposedly most famous formula is not from Albert Einstein (cf. Errors K 1 and K 2).

(3) The mass-velocity relationship is temporally and objectively independent of the STR; is solely a mathematical construction and can only be interpreted absolutely, because no relativistic relationship exists (cf. Errors J 1 and J 2).

(4) The supposed abolition of the ether by the STR is refuted in two ways. The irrefutably measured running-time differences have proven the existence of an unknown medium for the propagation of light. Even after 1905 and right up to the present day, several physicists, unimpressed by Einstein, have developed ether theories. In fact, Albert Einstein himself, in 1920 at the latest, publicly joined the ranks of these physicists and, although late in doing so, declared the ether to be an essential concept for physics. Since none of the authors knows anything in detail about the characteristic properties of the ether, all of the explanations given (material, non-material, non-moving, moving, whirling) are purely speculative and none of them can be held as being more correct than the others, not even Albert Einstein's interpretation as "space". How far the quantum theory with its "fluctuating vacuum" can contribute towards the interpretation of the ether remains open (cf. Errors A 1 and A 5.

(5) The advance of the Mercury perihelion was already explained in 1898 by Gerber, with the same formula as that later used by Albert Einstein (cf. Error M 7).

(6) The possibility of a deflection of the beams of light through the gravitational field of the sun was already discussed and calculated by Soldner in 1801 (cf. Error M 5).

(7) The red shift of the spectral lines in the gravitational field was supposedly first suspected by Albert Einstein. Should the effect be indisputably confirmed, it is nevertheless an effect due solely to gravity and has nothing to do with relativity. And it cannot be attributed to the GTR because in its derivation of the principle of equivalence it plays no role (cf. Error M 8).

(8) The effects of the STR kinematics alleged by Albert Einstein (LC, TD, TP) have so far never been observed at all. Here again, there is no need for explanation. If they are indeed ever observed, then the STR will have to share the right to explanation, due to its mathematical agreement with the theory of Lorentz, whereby the confirmation value for the STR would be lost, because in this situation an inference to the correctness of the premises of the STR would not be possible.

The desired claim of the relativists to sole representation in their interpretations are intended to make the theoretical errors (incorrect assumptions as to experiments conducted; contradictions in the deductions; paradoxes in the alleged effects; explanation of one unexplained effect by another; missing experimental confirmation) appear as unavoidable consequences that have to be accepted, because without these consequences the theoretical errors would supposedly find no plausible physical explanation for the many problems contained. The threat of nothing as the supposedly only alternative is intended to scare the critics - a hopeless undertaking.

Critics are happier to live with nothing, if they have to, than to live with such theories. Fortunately this is not the only alternative, this being another reason why the threat fails to function.

The claim to sole representation for Albert Einstein's theories is pure disinformation and is solely intended to cause psychological attrition amongst all independent and critical thinkers. On the other hand, the claim can only continue to appear believable to less critical minds for as long as all solutions independently found by the STR and the GTR are kept secret, denied and if necessary also contested. The world of relativity can only survive as a complete system of deceit.

S: Presentations / Error No. 4

Almost without exception, all authors of relativity claim that without Albert Einstein's STR one could not build atom bombs, or operate nuclear power stations or particle accelerators: these activities provide thousandfold proof of the theory every day

All of these claims are only the application of the fault as to the mass-energy relationship $E = mc^2$ and have the obvious purpose of trying to impress a poorly informed specialist public and a completely uninformed general public, i.e. pure hogwash which does not contain a single honest word (cf. Errors K 1 and K 2): Found by other researchers before the STR, not relativistic, also no conversion of mass into energy, but energy released from the atomic nuclei - and worst of all: not even a discovery of Albert Einstein's. That's the truth about the world formula, proven a thousandfold every day.

In his philosophical language Kant called this sort of thing a "Subreption", which in everyday language is a worming into someone's favour. It doesn't apply to Albert Einstein, who in the STR had never prophesied any use of nuclear power. Even Rutherford had never believed this until 1935.

But the followers of the world of relativity have thought ahead consequently. Everything spectacular must be from Albert Einstein - who else? And didn't Albert Einstein write a letter to the American president and demand the construction of the atom bomb? Haven't we experienced it, the photos of Hiroshima and Nagasaki that say more than a thousand words?

At last one justifies physics with the political history: polit-physics. And the occurrence of a supposedly physical theory "the STR" becomes, unnoticed, the event of the pure history of science, though still just part of the frills to the celebration of the genius of the century, our new Copernicus-Galilei-Newton. Very consequently thought out, the

relativists were able here to find a conclusive, truly final justification for the STR: The special theory of relativity must be true, because it was prepared by Albert Einstein.

The relativists still don't dare to say it aloud, but their presentations already work effectively with this last of all justifications. The broad public would also have nothing against it if they did speak it out. Who would want to doubt the existence of atom bombs and nuclear power stations? One drives past them occasionally, the nuclear power stations. Their inventor must indeed have been a great man.

For time dilation too, it is often claimed that this is confirmed a thousand times over, e.g. L. Marder (1979, Reisen durch die Raum-Zeit [Travelling Through Spacetime]) writes in the Foreword: "Since the phenomenon of time dilation has become an everyday thing (at least in the laboratories) ..." cf. in this connection Errors D 6, D 7 and D 8.

S: Presentations / Error No. 5

The relativists maintain that new ideas and unusual theories only find acceptance with the public gradually, and they console themselves and their public with historical analogies

When authors of the world of relativity see themselves forced to concede the existence of critics - which they only do very reluctantly, and if so then only in connection with the early years of the theory - then they usually argue, to console themselves and their public, with historical analogies in which new physical ideas and theories also - as in the case of the theories of relativity now - had to first become acquainted with the public before they could assert themselves. With this the authors of the world of relativity imply that a rational discussion of prerequisites, assumptions, conclusions and empirical findings is, in the end, ineffective or insufficient as a means of reaching agreement as to the truth or correctness of the theory.

Max Planck expressed this viewpoint in 1933 in his lecture "Ursprung und Auswirkung wissenschaftlicher Ideen" [The Origins and Effects of Scientific Ideas] in the VDI, Berlin, in a much-quoted passage (reprint 1934, p. 267): "An important scientific innovation rarely makes its way by gradually winning over and converting its opponents; it rarely happens that Saul becomes Paul. What does happen is that its opponents gradually die out and that the growing generation is familiarized with the idea from the beginning." cf. in this connection Error S 2.

The hope of gradual adaptation, i.e. acceptance without being rationally convinced, was introduced by the relativists in a behavioural context at a fairly early stage and was repeated continuously. In this connection reference is made to historical alternatives:

(1) M. Planck (1910, lecture in Königsberg, 1958 reprint, p. 41): "Each of us can certainly recall the difficulty we first had with our childhood capabilities to grasp for the first time that there were people on the earth [the souls of] whose feet [were] directed towards us ... Anyone who nowadays attempts to raise the perceptive difficulties as a reason for objecting to the relative character of all spatial directions, would simply be laughed at. I am not sure that this might not happen to someone who in 500 years casts doubts on the relative character of time." As to "earlier" and "later": "... perhaps no more unacceptable than that 500 years ago the claim that the direction we call vertical was no absolute constant but something that described a cone in space over 24 hours."

(2) M. Born (1920, p. 168; 1984, p. 198): "There is no such thing as absolute simultaneity ... difficult to understand that many centuries ... had to pass before this simple fact was recognized. It is the old story of Columbus' egg."

(3) M. Born (1920, p. 183; 1984, pp 225-226): "The relativization of the terms length and time duration appears to many people to be difficult; but only because it is something unusual. The relativization of the terms "below" and "above" by the discovery of the fact that the earth is round was certainly one that caused the contemporaries of those days no less difficulties." - 1920, p. 184. "The habit of using the new terms will soon win the day over their unfamiliarity."

(4) M. Planck (1934, see above quote).

(5) M. Born (1984, p. 222): On the staying young of the travelling twin: "One must come to terms with it, just as those who, several centuries ago, had to come to terms with the idea of standing upside down at the antipodes."

Even Max Planck held it for appropriate (lecture on 17.2.1933 in the VDI in Berlin) that physical theories become acceptable n o t because of the force of their arguments or their empirical proofs, but solely biologically through the dying out of their critics, i.e. by effective majority:

With this, since 1920, a new "paradigm" has been introduced, as we are happy to call new fundamental concepts in science since Thomas S. Kuhn ("Die Struktur wissenschaftlicher Revolutionen." [The Structure of Scientific Revolutions] 9th edition, 1988). Physics as a war of religions, physical theory as a belief, achievement as conversion, and no mention made of critics and arguments. There are still only opponents, and it's best if the theory spreads "right from the start ", which practically speaking means, in physics, always "from above": decided and announced. The underlings have to come to terms with whatever their masters dictate.

This is exactly the scenario in keeping with which the implementation of the STR has been undertaken since 1920. Max Planck's scenario is quoted by the relativists fondly and with a feeling of superiority. It must, in their eyes, be something tremendous in physics to build on dying out instead of on argument and persuasion. The history of physics, however, proves the opposite. The hope of dying out conceals the wish of dying out of the criticism of the theory of relativity. It has fortunately not come to pass and it has little hope of doing so. Even the society named after him can do little to bring this about. The science historians have been unable to detect this new "paradigm" right up to the present day.

One consequence of the new paradigm "war of religions" is, by the way, when the relativists speak of the critics not as critics, but as "enemies". Not all of these critics regard themselves, by the way, as absolute critics of the theory. And the enemies are then attributed characteristics such as being "learn-resistant", "eternally behind the times", "anti-Semitic" etc., only because they express physical criticism. - The criticism too, as a publication, is deprived of the honorary title of "criticism": Arzeliès calls the critical works "nonrelativist". Hentschel (1990) calls them, in the title of his book, just "Interpretationen und Fehlinterpretationen der speziellen und der allgemeinen Relativitätstheorie durch Zeitgenossen Albert Einsteins" [Interpretations and False Interpretations of the Special and the General Theories of Relativity by Contemporaries of Albert Einstein] - There can be no such thing as criticism of something as wonderful as Albert Einstein's theories, at best "false interpretations" and "nonrelativistic text". - To the climate of the war of religions it is also fitting that some authors of the world of relativity freely express their absolute loyalty and devoutness before they concern themselves with the criticism, so that they don't run the risk of being accused of heresy. An example is B. L. Marder (1979, "Reisen durch die Raum-Zeit" [Travelling Through Spacetime]) in the Foreword: "Right from the beginning of this study it was clear to me which side in the controversy was right."

Born, Max: Die Relativitätstheorie Einsteins. Unaltered reprint of the 5th edition. Berlin etc.: Springer, 1969. 328 pages. 1st edition 1920. (Heidelberger Taschenbücher. 1.) - Planck, Max: Wege zur physikalischen Erkenntnis." 2nd edition Leipzig. Hirzel 1934. 298 pages. - Planck, Max: Physikalische Abhandlungen und Vorträge. Vol. 3. 1958.

S: Presentations / Error No. 6

The presentations of relativity are full of the terms "at rest" and "in motion" without any mention being made of a body referred to or a reference system

According to the principle of relativity of the STR there can fundamentally only be relative motion and relative rest, which is why all statements as to rest and motion, whether expressed as nouns or as adjectives, must without exception state with respect to what something is at rest or in motion.

The connection can be explicitly given, or else, if the factual connection is close and clear, via a longer passage, but it must be unequivocally recognizable for each reader. On no account may details as to "rest" or "motion" be given that are unconnected and without a reference.

This demand for a clear reference for each rest-motion statement is one that Albert Einstein already frequently ignored in his first publication in 1905, as shown in the errors of section E - Motion. In almost all presentations of the world of relativity a more or less undisciplined use is made of statements as to "rest" and "motion" that every reader can mark red and subsequently count, if he wants to. Each point marked red represents an error in the presentation and thus in the argumentation.

AE 1905.

S: Presentations / Error No. 7

The presentations of the relativists are full of "terms in inverted commas" without any details as to how the terms in inverted commas differ from the same terms without inverted commas

The unfounded utilization of inverted commas is no pardonable question of punctuation, but in interpretations of the world of relativity the method already introduced by Albert Einstein, of giving the term emphasized in this way a special meaning - mostly not disclosed and therefore remaining unknown. The reader is successfully irritated and holds his criticism back until he learns the meaning of the inverted commas. And after several pages of text he has - the relativists hope - forgotten his critical enquiry and has become used to the term and does not put the question to himself later, either, even though he never learns their meaning.

The unexplained and uncontrollable utilization of inverted commas puts the author in the comfortable position of having said something on the one hand, but of not having said it on the other, with his inverted commas. The inverted commas are mouse holes through which relativity hopes to escape from critical objections. And they are a tool for disinformation against the critical reader, who wants to know exactly what is meant.

The success depends on whether the reader insists on learning the difference in meaning between the word without inverted commas and the same word with them. If the readers insists on an explicit statement in both cases and if it is not given in the text, then the theoretical errors will become obvious (cf. Errors C 1, C 3, C 4, D 1, E 1 and L 2).

S: Presentations / Error No. 8

Many authors of relativity maintain that relativistic effects can only be seen at speeds of the order of the speed of light

The claim is refuted by Bartocci / Capria (1991, Some remarks), who treat relationship between classical electromagnetism and the principle of relativity (p. 1031): "Electromagnetism can be construed as a classical theory, as we have done above, and its predictions differ widely from the relativistic ones. Note that this can happen also for very simple electrodynamic systems, and, most important, n o t a t a l l just for velocities close to that of light. In our example the bigger the current intensity I, the bigger the discrepancy even for 'low' velocities, and this is the more interesting as very often textbooks represent the clash between the classical theory and special relativity only in the range of optical phenomena, or by studying the case of strongly accelerated particles. On the contrary, the most conceptually simple 'crucial' experiments can be devised by analyzing the behaviour of moving charges and currents."

In that the authors provide the possibility of proofs of relativistic effects in electromagnetism and electrodynamics, the world of relativity will stand under still greater pressure to explain and to provide proof [of its own, for these effects], as soon as scientific freedom is restored to the field of theoretical physics and the research facilities are again free to concentrate their efforts on all experiments without regard to possibly harmful results for preferred theories.

The claim is used by the relativists for two purposes: (1) it is intended to calm the reader with respect to the fact that the unusual effects have no influence on their everyday lives ; and (2) it is intended to push the proof required for the alleged effects into the sphere of practically unattainable levels of magnitude and thus to release the relativists from the onus of proof, at least for a while.

Bartocci, Umberto: Some remarks on classical electromagnetism and the principle of relativity / Umberto Bartocci, Marco Mamone Capria. In: American journal of physics. 59. 1991, No. 11, pp 1030-1032. - Bartocci, Umberto: Symmetries and asymmetries in classical and relativistic electrodynamics / Umberto Bartocci, Marco Mamone Capria. In: Foundations of physics. 21. 1991, pp 787-801.

S: Presentations / Error No. 9

Albert Einstein maintains in the reprint (1913) of his first work from 1905 that he was at that time unaware of the work published by Lorentz in 1904

Albert Einstein's claim that, during the writing of his first work on the STR (1905) he did not know of the work of Lorentz published in 1904, is to be found in a footnote to the reprint of his work in the anthology: Das Relativitätsprinzip. Lorentz, Einstein, Minkowski. 1st edition. 1913, p. 27; 5th edition. 1923, p. 26.

The reason for this claim can be traced to various circumstances:

(1) to the fact that Lorentz had already published the transformation equations in 1904 that would later also be used in the STR;

(2) to the fact that in his 1905 work Albert Einstein makes no single reference to literature, i.e. he gives the impression of having developed everything contained in his theory himself;

(3) to the fact, due to the subsequent reprint of both works, one after the other in the anthology "Das Relativitätsprinzip" [The Principle of Relativity], the far-reaching agreement of the transformation equations was obvious. Lorentz, in a footnote (dated 1912) to the reprint (1913: p. 10) had remarked that he had "not quite achieved, in this treatise, the transformation equations of Einstein's theory of relativity". Moreover, Lorentz draws attention, in this same footnote, to the fact that Voigt had already applied a transformation in 1887

that was "equivalent" to his (Lorentz') own. Lorentz thus briefly clarifies the genealogy of the transformation equations: Voigt 1887 - Lorentz 1904 - Einstein 1905.

In 1913 Albert Einstein defended himself against this subordination with the footnote. He would not have needed this footnote in 1913 if he had observed the customary international standard of intellectual uprightness in his first work in 1905 and had given his sources and correctly reported the existing state of knowledge. If his - non-existent - "literature list" had failed to contain the 1904 work by Lorentz, this would not have proven his lack of knowledge of this work, but would at least have suggested this state of affairs. Those who give no sources can always claim later whatever they want, but one is less inclined to believe them because one's mistrust has been aroused.

After the proof of the development of the state of knowledge - refused by Albert Einstein in 1905 - had been given by Lorentz in the reprint of 1913, there could no longer be any talk of priority as regards Albert Einstein's transformation equations. In order to at least claim a certain independence for his derivations in parallel to those of Lorentz, Albert Einstein declared in the 1913 footnote that he had not known of the 1904 work by Lorentz.

This defensive claim by Albert Einstein has always been regarded by his followers as completely indisputable, although none of the subsequent relativists was there in 1905 such that they were able to assess what Albert Einstein up to that point in time had ***not*** *known. Relativists such as A. Pais (1996, p. 121) regard this lack of knowledge as proven: "It follows ... that in 1905 Einstein did not know of Lorentz transformations." He emphasizes this in his summary (p. 133): "He did not know the Lorentz transformations."*

The critics doubt defensive claims in principle. Anyone who is not prepared to show his cards probably has something to hide. L. Galgani (1996) analyzed the question of who knew of the 1904 work by Lorentz and discovered the following (p. 176): the famous relativity factor [1 / root (1 - v²/c²)] was being treated around 1905 by two authors, namely Poincaré and Lorentz. Poincaré designated the relativity factor using the letter "k", Lorentz designates it in 1904 using the Greek letter [beta]; and AE (1905) also designates the factor using [beta]. With this, the lack of knowledge of the 1904 work by Lorentz is at least fairly unlikely. All protestations to the contrary help little.

Galgani (1996) also treats another important aspect of Albert Einstein's knowledge of the literature, namely his knowledge of the works of Poincaré, in which connection Poincaré's relationship to the STR is also discussed.

As already emphasized in another context, this is not a matter of personal vanity that is irrelevant for physics, but of factual interdependencies and the resulting claims of a theory. The genealogy of the transformation formulas clarified by Lorentz in his 1912 footnote shows its independence from the STR.

In this context too the preference of the relativists for risky non-existence claims, that they proclaim all the more avidly the less objective the reasons they have for doing so, is apparent. Boldness is their heraldic motto and boldness already extols several generations of relativists since the days of Planck, M. v. Laue and Born.

Lorentz, Hendrik Antoon: Electromagnetic phenomena in a system moving with any velocity smaller than that of light. In: Koninklijke Akademie van Wetenschappen, Amsterdam. Proceedings. 6. 1904, pp 809-831. German translation printed in: Das Relativitätsprinzip. H. A. Lorentz, A. Einstein, H. Minkowski. 1913; 5th edition 1923, pp 6-25. - AE 1905. - Pais, Abraham: "Subtle is the Lord ..." : the science and the life of Albert Einstein. 11th impr. Oxford (etc.): Oxford Univ. Pr., 1996. 552 pages. - Galgani, Luigi: Einstein e Poincaré. In: Fondamenti e filosofia della fisica. Atti del Convegno, 1994. Cesena 1996, pp 163-178.

Social Enforcement of the Theory

T: Social Enforcement of the Theory / Error No. 1

The relativists suppress critical works by preventing their publication

Since about 1922 the publication of critical works in the main journals of physics in Germany has been consequently prevented by the powers that be in the world of relativity. The proof is given by the years of magazines that have been free of criticism since then. As already explained in the context of Error S 2 (majority decision by all physicists), the non-appearance of criticism of the STR in the main journals of physics is due to systematic denial, suppression and defamation. The publisher Hans Israel (and others) of "Hundert Autoren gegen Einstein" [A Hundred Authors Against Einstein] call it the "Terror of the Einsteiners".

Again and again the critics have complained of the suppression of their works; e.g.:

(1) 1922 in Leipzig, at the centenary celebrations of the society of German scientists and doctors, in the large, general assembly lectures on the theory of relativity were given, though without a single critical contribution. Against this state of affairs a group of physicists and natural philosophers protested by distributing a leaflet. cf. the report and quotes from the leaflet by Gehrcke (1924, Massensuggestion [Mass Suggestion], pp 64-65): "The undersigned physicists, mathematicians and philosophers decidedly protest against this. They profoundly lament the deception of the public constituted by the presentation of the theory of relativity as a solution to the puzzles of the world, and that one is not informed about the fact that many - and also very distinguished - scholars in the three mentioned areas of research not only regard the theory of relativity as an unproven hypothesis, but even reject it as one that is fundamentally incorrect and a logically untenable fiction."

(2) 1924, Int. Congr. f. Philosophy, Naples. The chairman of the section on relativity is Hadamard. G. Giorgi disclosed in a work in 1948 (cited from Tonini, 1955, p. 286), that Hadamard, a committed relativist, had pushed through that purely logical arguments against the STR should not be discussed.

(3) Hundert Autoren gegen Einstein [A Hundred Authors Against Einstein], 1931. In the Foreword the publishers write: "The purpose of this publication against the terror of the Einsteiners is to present an overview of the number and weight of their opponents and the counter-arguments."

(4) Dingle (1972, Science at the crossroads) describes the general silence in response to his question. The establishment made sure that no one dared to respond to this publicly.

(5) Honig (1979, p. 218) evaluates the public treatment of the critical and alternative works as unfair: "The difficulties that such proposals experience come also unfairly from the high reputation that Einstein's work and his personal character enjoy. Although, with almost everyone else in these fields, we feel that he made uniquely and supremely important contributions in science, the personal adulation which he experienced has spilled over into a general attitude that his ideas are sacrosanct and not to be meddled with. It is hard to propose modifications to his ideas without committing "lese majesty" and this is detrimental to progress in science. We think it necessary to say that no sober scientist can grant anyone, ever, infallibility. Science is not a religion where the word of an Einstein or any outstanding worker can be granted 'ex cathedra' status".

(6) Chappell (1979, Epilogue, p. 338): The AAAS (American Association for the Advancement of Science) had strictly refused, "to allow a session of anti-Einstein papers at their national meeting" (equating hindering with advancement!) Because one of the speakers was unable to take part, the chairman allowed Chappell to hold a lecture which was to last only 4 minutes, as a result of which he distributed a leaflet: "Why suppression of free inquiry in theoretical physics?"

(7) Chappell (1980, Letter) reports on his experiences during his physics studies and his subsequent activities (at the Univ. of Kansas, 1964-65; Yale, 1967; M.I.T., 1975) with the powers that be in physics regarding the question of criticism of the theories of relativity.

(8) Prokhovnik (1979, p. 323): "In the past, Editors of journals (and their referees) have simply rejected out of hand any articles critical of Special Relativity or its conventional presentation, and made individuals think that they were simply isolated eccentrics. [...] I doubt whether any efforts on our part can change this state of affairs significantly because the inertia of ignorance and dogmatism provides an immense obstacle." The terms "ignorance and inertia" also refer to the world of relativity.

(9) Brinkmann (1984, p. 103): The enforcement of Einstein's views as valid is based solely on Einstein's reputation, not on their correctness: "on a force that anyone attempting to publish anything against the theory of relativity is soon confronted with" (p. 103).

(10) Santilli (1984, Grande grido) describes his years-long experiences with the academic institutions of the east coast of the USA.

(11) Tochelnikova-Murri (1990): Statement as to suppression of critical experimental results and comments on theories of Einstein in Pulkovo Observatory near Leningrad.

(12) Parshin (1991, Anti-relativist association): "In the just published December issue of "Tekhnika molodezhi" L. Ryzhkov accused the supporters of the Einstein theory of using the country's political machinery to suppress the voice of their opponents. He recalled the words of Academician Abram Ioffe, who [under Stalin] had called opponents of the Einstein theory 'anti-Stalinists'".

The sort of suppression imposed differs greatly worldwide. In countries with less strongly pronounced attitudes of subservience (than in Germany) and without the mental stress of past horrific genocide, the powers that be are unable to suppress the criticism this thoroughly. Positive examples are Italy, France and Great Britain. Another aspect that plays a very great role as regards this question is politics. In Germany already after the First World War the politically motivated anti-Semitic slander campaign against the person of Albert Einstein also turned into a completely subjective polemic against his theories and the reputation of physical criticism greatly suffered as a consequence.

In Germany after 1945, after the genocide practiced against the Jews, there was still an environment in which any non-anti-Semitic (!) criticism of Albert Einstein and his theories in the physics journals, and largely also in journalism in general, was permanently confronted with the latent, slanderous reproach of anti-Semitism, thereby effectively organizing a silence with respect to the theories in which the relativists could have felt at home, even today.

Only in countries in which the fault and the shame of the holocaust cannot be used to enforce silence is it possible to find critical publications even in the reports of meetings of the academies and in physics journals.

In the Soviet Union criticism was permitted and ideologically desired until around 1955, then it was ideologically forbidden. After the collapse of the Soviet empire Marx and Lenin may meanwhile be criticized, but Albert Einstein's theories remain under Western-ideological natural protection.

In Stalinist China, of all places, freedom to criticize Albert Einstein's theories has become possible for some years now, something one can only dream about in the highly democratic-thinking countries of the West.

In the persecution of the relativity heretics the USA in particular has distinguished itself (cf. the reports by Chappell, Ives, Santilli and the editors of the magazine "Galilean electrodynamics").

Over all the decades, however, particularly countries like Great Britain, Canada and Australia have been notably liberal in permitting scientists to engage in free discussion. Together with their colleagues in France and Italy they formed, in these five countries, more or less a sanctuary for the critics of the theories of relativity, whereby they have rendered a historical service to physics as a free science, while elsewhere in the world the dark ages of dogmatism and the personality cult have ruled.

In view of the successful suppression in Germany they have managed for decades to allow any publication of critical works on the STR only under very restricted conditions

- in non-physics magazines that cannot be fully controlled by the powers that be in physics: magazines for general science, or for related natural sciences, natural philosophy and epistemology, history of science and science sociology, and occasionally also journalism in general;

- in countries that do not belong to the scientific elite in the field of physics and are therefore not strongly represented by persons bound to the international physics research cartel and are therefore not easy to blackmail;

- in magazines and publishing companies that care for social fringe groups and splinter groups whose interests and convictions are regarded as sectarian and as scientifically unacceptable (e.g. natural medicine, esoteric, UFO research, extraterrestrial, etc.);

- as independent publications at the cost of the authors, who also undertake their own distribution or have their works sold by a commissioned publisher, or who occasionally also set up their own publishing company in order to save their books from the impression of having been self-published, a term regarded by the public as representing poorer-quality, non-edited and unchecked works.

Gehrcke, Ernst: Die Massensuggestion der Relativitätstheorie. Berlin: Meusser 1924, pp 64-65. - Tonini, Valerio: La relatività a cinquant'anni dalla prima formulazione einsteiniana. In: Scientia. Milano. Ser. 6, annus 49, vol. 90. 1955, pp 283-290. - Hundert Autoren gegen Einstein / Hrsg. von Hans Israel, Erich Ruckhaber, Rudolf Weinmann. Leipzig: R. Voigtländer 1931. 104 pages. - Dingle, Herbert: Science at the crossroads. London: Brian & O'Keeffe, 1972. 256 pages. - Honig, William M.: Einstein Centennial Issue - Alternates to Special Relativity: editorial (pp 217-219); commentary on papers (pp 221-224). In: Speculations in science and technology. 2. 1979, No. 3: Special Einstein Centennial Issue. pp 217-224. - Prokhovnik, S. J.: Letter to the editor: [dated 13th Nov. 1978, on the start of the magazine, on the necessity of giving more space for discussion and criticism of the STR and the reasons why this hadn't happened earlier]. In: Speculations in science and technology. 2. 1979, No. 3, pp 322-325. - Chappell, John E., Jr.: Epilogue from Chappell. In: Speculations in science and technology. 2. 1979, No. 3, pp 338-340. - Chappell, John E., Jr.: Letter to the editor: In: Speculations in science and technology. 3. 1980, No. 4: Concluding Einstein Centennial (+1) Issue. pp 488-495. - Brinkmann, Karl: Zu Zeit und Raum: gegen die Relativitätstheorie. München: Berchmans 1984. 262 pages. - Santilli, Ruggero Maria: Il grande grido; ethical probe on Einstein's followers in the U. S. A. : an insider's view; a conspiracy in the U.S. Academic-Governmental Complex on Einstein's relativities? 2nd print, November 1984. Newtonville, Mass.: Alpha Publ., 1984. 354 pages. - Tolchelnikova-Murri, Svetlana A.: Statement as to suppression of critical experimental results and comments on theories of Einstein in Pulkovo Observatory near Leningrad. In: Wallace, Bryan G.: The 1989 USSR Conference on the Problem of Space and Time in the Natural Sciences. In: Galilean electrodynamics. 1. 1990, No. 2 (March/April), pp 23-24. - Parshin, Pavel Fyedorovich: Anti-relativist association in USSR. In: Galilean electrodynamics. 2. 1991, No. 4, July/Aug., p. 79.

T: Social Enforcement of the Theory / Error No. 2

The relativists support the exclusion of critical publications by defamation of their authors

The defamation of critical authors usually occurs in connection with their works. Nevertheless, a distinction must be made here between the devaluation of individual publications and the defamation of the critic as a person in that one attacks his entire life's work. The defamations are missing in almost none of the presentations in the world of relativity. They belong to the standards of the world of relativity. For this reason we will assess here a model example of the USA world of relativity only, sanctioned by the very highest office via a Foreword by the grand luminary Gerald Holton.

L. S. Swenson (1972, p. 201) evaluates the critics of the theory - Lodge, Miller, Sagnac, Righi, Michelson - even in 1972 as (a) too old, (b) in the minority, and (c) for the contemporaries of 1923 not only old-fashioned, but absolutely reactionary. Truly physical arguments for a physical theory: "But they were of an older generation and woefully in the minority. Their conservatism with respect to the aether concept appeared not only outdated, but to many, by 1923, even reactionary."

Swenson (1972, p. 209) lists in detail their professional shortcomings, e.g. in the person of D. C. Miller: "Miller never took into serious consideration Mach's and Einstein's intellectual critiques of the Newtonian concept of "absolute" motion. He apparently never really tried to understand the meaning of the relativity of simultaneity, nor had he seriously wrestled with the work of J. C. Kapteyn (1851-1922), Harlow Shapley (1885-), and other statistical astronomers interested in proper motions and in our galaxy's structure and rotation." Swenson implies, like all relativists, that anyone who seriously studies their theory must simply persuade themselves of its correctness, and any one who rejects the theory has not studied it enough. There can be no such thing as a well-founded criticism and rejection. Rejection is only a sign of technical shortcomings, which in the case of Miller are all individually listed. As a reminder: Miller was, after all, President of the American Physical Society until 1925.

Swenson (1972, p. 233) declares all authors who want to "reintroduce" an ether hypothesis - as though they had all previously given it up! - as unprofessional: "There continues to be a nonprofessional literature demanding that 'science must leave something for waves to wave in'. And not few have been the attempts, often scurrilously personal, to discredit Einstein and relativity and to reinstate some kind of an aether." On this basis it was Albert Einstein himself who in 1920 discredited himself most: Swenson, disgruntled, has commented appropriately, more or less defending the theory against its author! At least Swenson correctly assesses the implications of what took place in 1920 in Leiden.

Brandes (1998, p. 249) proves with a "ondit aus Potsdam" [rumour from Potsdam] that defamation is still a tool that is used today to protect the theory: "Anyone who seeks to refute the special theory of relativity is a donkey. As for the general theory of relativity, this may be different." At least that!

According to Swenson's argumentation correct, scientific physics is only undertaken by obedient young scientific people in keeping with the scientific majority vote of the scientific physicists, and any critics are sent to the "unprofessional" or the reactionary corner, to the enemies of progress. - The sample declaration used for the professional defamation in the case of D. C. Miller belongs to the standard repertoire of the relativists.

Swenson (1972, p. 209) did not hesitate, by the way, to push even the hero of the world of relativity, Albert Einstein, to the side when he appeared to disavow his own theory. In a public lecture in Leiden in 1920 Einstein had reintroduced the ether and had thereby revoked a precondition of the STR, which was obviously a great irritation to the orthodox relativists. Swenson (footnote 50): "It must also be remembered that Einstein's

own qualms about the reinstatement of the aether concept were not widely known or credited." In 1920 in Leiden it was supposed to be only qualms, little known, and little credited. Swenson afterwards cites the little-known C. P. Steinmetz as an authority, with a concluding statement (1923): "Steinmetz regarded the aether hypothesis as 'finally disproved and abandoned. There is no such thing as the ether, and light and the wireless waves are not motions of the ether'." With this, the annoyance of 1920 with Albert Einstein is dispelled for Swenson and the world of relativity.

Swenson, Loyd S., Jr.: The ethereal aether; a history of the Michelson-Morley-Miller Aether-Drift Experiments, 1880-1930 / forew.: Gerald Holton. Austin (etc.): Univ. of Texas Pr., 1972. 361 pages. Contains the reprint of 3 papers by A. A. Michelson (1881, 1886, 1887). - Brandes, Jürgen: Die beiden Interpretationen der allgemeinen Relativitätstheorie am Beispiel der Kosmologie: das endliche, geschlossene Weltall. In: Die Einstein'sche und lorentzianische Interpretation der speziellen und allgemeinen Relativitätstheorie. 1998, pp 249-277.

T: Social Enforcement of the Theory / Error No. 3

The relativists prevent reception of critical works already published by failing to refer to them in the trade journals and in other specialist physics publications, or by denying their existence

Criticism that appears despite all of the control and suppression is regarded by the powers that be in the world of relativity as unfortunate and as something that cannot be undone or destroyed in real terms, but that can nevertheless be kept far from scientific circles in that it is not cited or referred to at all, and is not discussed or permitted in the annals of science, so that nobody becomes aware of the existence of the critical publications. It is this discretion, the omertà of the Mafia - nothing more and nothing less - and just as successful.

Here the relativists also benefit from a circumstance relating to the quotation habits of the scientists; most of them quote the works they have used only with essential details such as the author's name, the title of the magazine and the place where it was found with year of publication and page number. As a result, the literature lists of their publications usually fail to give the title of the paper, so that possibly critical content is not at all recognizable. The nice camouflage benefits the authors of the world of relativity, because one can only conclude that it is a critical work from the names of the authors.

The prevention of inclusion in the bibliographies can be very effective in making the existence of a criticism unnoticeable. This effect works not only outwards, so that the public learns nothing about the existence of the criticism, but also inwards on the professionals in the field of theoretical physics themselves. It is therefore probably the case that many of the so-called experts themselves know nothing of the existence of criticism and, in the subjective belief that what they are saying is true, maintain that there is no criticism of the theory of relativity.

The prevention of inclusion also functions, of course, via the effective censorship of the institutional libraries, which are self-administrated. Anyone who is interested can easily discover, on the basis of a few random samples from the documentation provided, how many critical publications are available to the students for examination in physics institutes of an arbitrary German university; students who later, as professionals in the field, will co-determine public opinion.

The prevention of inclusion also takes place in a more subtle way in that in some monographs on the world of relativity a few critical works are indeed included in the literature lists. When one checks these texts, however, one soon finds that the critical works in question and their contents are neither mentioned nor treated at all. Inflating the literature lists for purposes of self-adornment is a well-known effect in the world of relativity and one which serves to give the useful appearance that a few critical works

have also been handled. In this way some readers may also believe that the criticism of the theory has been addressed and dealt with.

Since organizationally speaking the critics have developed effectively no organizational structures of their own, they consequently have no possibilities of reporting their own ongoing tradition or of providing evidence of their works in magazines or periodical documentations. They are not to be found in the specialist physics bibliographies. This effect is of great significance for the criticism, though it is not easy for the critics to recognize this. They therefore know next to nothing about the width and size and continuity of their own critical tradition. The present documentation will at last help to remedy this shortcoming.

The unawareness of most critics as to their own rich tradition leads to a series of incorrect assumptions with very practical consequences:

(1) Almost all of them believe that they have to develop the criticism right from the start. There is no taking up and advancing the previous works of earlier generations of critics.

(2) Almost all critics assume that all they have to do is to analyze and explain the errors and contradictions in the theory, which are recognizable to any halfway intelligent person, physically and epistemologically, in order to put an end to the incorrect content of the theoretical nonsense. If they knew about the long list of masterly critical works since about 1909 and could evaluate these, they would quickly recognize how naive it is to assume that, as regards relativity, all that is needed is to correct a few errors in the field of physics. They would realize that the relativists play the game at an entirely different level, namely at the level of social enforcement and control, and cynical abuse of power in all academic institutions.

(3) For this reason only relatively few critics come to the conclusion that they are faced with a cartel of liars and swindlers that is well organized and whose power can only be broken with the help of publicity. Santilli (1984, Grande grido) was one of the few critics to have recognized this clearly and he addressed himself consequently in his book to the "taxpayer" in the USA, who supported the academic establishment with his taxes and thereby also financed the suppression of the criticism.

(4) The critics make fairly frequent use of the metaphor of the "Kaisers neuen Kleidern" [The Emperor's New Clothes], he actually having nothing on at all. With this the cartel of swindlers has been correctly diagnosed, but the remedy in the form of the small child's cry ("He has nothing on!") is a vain hope. The sovereignty of the relativists will not be broken by a childlike truth.

The successful elimination of the rich critical tradition from the specialist literature of the natural sciences is the decisive foundation of the world of relativity - right up to the present day. For this reason the critics must, via enlightenment of the public, demand public rehabilitation of the criticism. Nothing less than a tribunal.

Since the relativists permanently maintain that their theory is the best-confirmed theory of physics (a thousand times a day, in each nuclear power station and in each laboratory), they need have no fear of any discussion. Their behaviour, however, speaks another language.

Santilli, Ruggero Maria: Il grande grido; ethical probe on Einstein's followers in the U. S. A. : an insider's view; a conspiracy in the U.S. Academic-Governmental Complex on Einstein's relativities? 2nd print, November 1984. Newtonville, Mass.: Alpha Publ., 1984. 354 pages.

T: Social Enforcement of the Theory / Error No. 4

The relativists practice persecution and expulsion of all potential and proven critics of the theory from academic teaching and research

Swenson (1972) provides very useful material, in many respects, also on the methods by which the world of relativity makes critics harmless.

An example (p. 202): "Miller admitted to Gano Dunn, that Poor's description of Miller's challenge was accurate and he praised Poor's work highly, a fact that proved damaging to Miller's reputation." The social mechanism described here (1) D. C. Miller is perhaps still respected, but he plans to undertake reprehensible experiments that, given corresponding results, could result in the ruin of Albert Einstein's theory; (2) the evil critic Poor had already seen the ruin of the theory as certain for other reasons; (3) Miller declares Poor's presentation of his, Miller's, experiments correct and praises Poor's work; (4) as a result Miller's standing sinks in his scientific community.

This sinking had therefore already begun in 1923 so that the serious running-time differences feared from his later experiments (1925-26) could be committed to forgetfulness, due to the experimenter's lack of standing.

A further example (Swenson, p. 202): "Also it should be remembered that radio engineers and optometrics [optometrists], for example, continued to posit a hypothetical aether with impunity". In other words, simple radio engineers and optometrists have dared to continue (!) to work with the ether hypothesis unpunished. Outrageous insubordination. Swenson even mentions two offenders: Lionel Laurence and H. Oscar Wood.

At the same time as the book from Swenson, only from the standpoint of those affected, the critics, appears Herbert Dingle (1972, Science at the cross-roads): the reported experience of an English scientist, who as a confessed relativist (with his own textbook on the theory!) made it as far as President of the Royal Astronomical Society, but then, due to his years-long expressed criticism which has remained unanswered right up to the present day (the famous and even notorious "Dingle's Question"), was made out to be a scatterbrain and intriguer and driven into the asocial corner.

The story of Chappell (1980) also belongs here.

Furthermore the case of Hugo Dingler, who in the twenties was given no professorship title in Germany because he had criticized the theory of relativity, belongs here.

The hard hand of the powers that be in physics is also known from drastic examples. Every physicist with an academic position will therefore be bound to think twice before expressing critical words, if he wants to be able to continue to pay the regular instalments for the house and the new car. So much for academic freedom. A great many of the critical physicists documented here are engaged in public administration or in industry or are otherwise privately employed, where the long arm of the academic world of relativity cannot exert an influence.

The nice thing about the relativists is their complete lack of inhibition in disclosing their methods, when they think that they are unobserved: Who else reads books like those of Swenson? Only devout, upright, orthodox members of the relativist church as a means of strengthening their own belief. - This lack of inhibition allows one a good look into their minds and disposition, so that one can imagine what lies ahead of one, should the physicists one day acquire absolute power in the country. Then even insubordinate radio engineers and optometrists would have to undergo interrogations carried out by the relativistic commissars.

Swenson, Loyd S., Jr.: The ethereal aether; a history of the Michelson-Morley-Miller Aether-Drift Experiments, 1880-1930 / forew.: Gerald Holton. Austin (etc.): Univ. of Texas Pr., 1972. 361 pages. Contains the reprint of 3 papers by A. A. Michelson (1881, 1886, 1887). - Dingle, Herbert: Science at the crossroads. London: Brian & O'Keeffe, 1972. 256 pages - Chappell, John E., Jr.: Letter to the editor: In: Speculations in science and technology. 3. 1980, No. 4: Concluding Einstein Centennial (+1) Issue. pp 488-495. - Santilli, Ruggero Maria: Il grande grido: Ethical probe on Einstein's followers in the U. S. A.; an insider's view; a conspiracy in the U.S. Academic-Governmental Complex on Einstein's relativities? 2nd print, November 1984. Newtonville, Mass.: Alpha Publ., 1984. 354 pages.

T: Social Enforcement of the Theory / Error No. 5

The relativists sweepingly slander the critics as anti-Semites, Nazis, Stalinists or anti-Communists

As regards the exclusion, persecution and defamation of the critics it makes a considerable difference, whether the exclusion is undertaken for allegedly technical or non-technical reasons. In the matter of professional qualifications, this can be undertaken and controlled particularly by colleagues in the same subject. Persons who are not professional physicists can be told that Dayton C. Miller and Herbert Dingle were professionally incompetent. Defamations such as anti-Semite, communist, Nazi or Stalinist, by contrast, are more difficult to resolve, as defamations, and, as experience shows, something tends to remain in mind, even if it is only the suspicion.

Already in 1921, Albert Einstein had made use of defamation, setting a shining example for all relativists (cited according to E. Gehrcke, 1924, Massensuggestion, p. 28): "On board the steamship on which he was travelling, Einstein was, according to the "New York Tribune" of 3rd April 1921, asked the following question by a reporter:

"Why were men of science against your theory when it first became known?"

"No man of science," he replied, deliberately emphasizing the last word, "was against the theory."

"But there were some opponents."

"Yes," he retorted calmy, "but that was only political. Even the physicists who were against my theory did so for political reasons - in my view, of course.""

L. S. Swenson, (1972, p. 202) passes judgement on the critics of the theory. He recognizes that there is also serious criticism, but complains that the boundary to the extremists and the lunatic fringe is difficult to identify. He cites criticism by Charles Lane Poor and then goes on as follows: "Although less restrained than Lodge, it was far more restrained than the attacks of the assorted crackpots, screwballs, anti-Semites, anti-Communists, and religious fundamentalists who filled out the spectrum of antirelativists." Swenson recalls to mind (pp 202-203) the "monkey trial" in Dayton, Tennessee, "Fascist troopers in Europe" and "demonstrations against intellectuals in other areas" and claims that it was not always possible to distinguish between genuine and serious criticism and "simple prejudice and bigotry". Swenson completes his menagerie with Philipp Lenard and Johannes Stark. These were capable physicists and experimenters, but became obscurantists and Nazis because they wanted to save the ether concept.

Finally the enthralled relativist Swenson also admits in detail and completely candidly what the critics have castigated for 80 years and the relativists, those who were uninformed, vehemently dispute: "The tyranny of majority opinion undoubtedly had some effect on Michelson and Miller in the early twenties, but they were equally free men ..."

Mittelstaedt (1994, p. 99) sees the controversy over the STR merely as an ideological dispute between positivists and non-positivists. Since the theory is correct and can answer all open questions, the criticism is only: "A completely irrelevant, ideological dispute lasting for decades in which many ideological groups took part (Marxists, NS ideologists, and others) gave rise to a fundamental misunderstanding of the theory of relativity that has spread under their presumed enemies."

It was, then, only a dispute between ideologists, non-objective, and on top of this all just a misunderstanding amongst the opponents, and they weren't even correct, but only "supposed", and only somehow convinced themselves, even the Marxists and the Nazis, and were twice wrong, first in not understanding the theory and then in

misunderstanding themselves as opponents. If they had understood the theory correctly, then they needn't have become opponents. Then, everyone would have believed in the theory. Even according to Mittelstaedt, there is again no physical criticism of physical theory, but only persons with believed illnesses. Nothing can be done. According to the relativists there has never been a physical criticism, only misunderstandings and misinterpretations.

Even in 1997 the German news magazine DER SPIEGEL was still circulating the [following] statement by Albert Einstein uncommented and thereby approvingly (No. 43, v. 20.10.97, p. 246): "<At present every coachman and waiter is debating whether the theory of relativity is correct>, whereas in September 1920 Einstein would have been amazed. <The conviction is hereby determined by the political party to which one belongs.>"

The critics thus have a wide variety of positions to choose from: out-of-date, old-fashioned, minority, conservative, reactionary, crazy, intriguer (crackpot), scatterbrain, anti-Semite, Nazi, communist, anti-communist, religious fundamentalist, fascist trooper, anti-intellectual, coachman or waiter.

Albert Einstein himself has shown everyone how to do it and has said in all desirable clarity, that even physical criticism is political, i.e. not physical criticism at all. And that holds for DER SPIEGEL right up to the present day. - The successful "tyranny of the majority" is confirmed for us by the convinced relativist Swenson. Michelson and Miller were fortunately heavyweights and could not be brought to silence. - The deeper sense of this organization of the relativists is that one has to make it clear that an anti-Semite or Nazi or communist is fundamentally always much too stupid for physics, and that their statements are therefore not worth discussing. If one can nevertheless convey the impression that all - or almost all - of the critics are scatterbrains or rogues that can only be distinguished from the serious critics with great difficulty (according to Swenson), then the physical theory is well founded in terms of the social sciences, and secured, and that's what counts: Socio-Physics.

Since 99 percent of all of the 3800 or so critical publications documented here have nothing to do with anti-Semitism, a nice job arises for the history of science and for science sociology, particularly to examine the functioning of the slanderous anti-Semitism accusations in the field of science. We will report on the successes of this research, as soon as they appear.

Gehrcke, Ernst: Die Massensuggestion der Relativitätstheorie. Berlin: Meusser 1924. 108 pages. - Swenson, Loyd S., Jr.: The ethereal aether; a history of the Michelson-Morley-Miller Aether-Drift Experiments, 1880-1930 / forew.: Gerald Holton. Austin (etc.): Univ. of Texas Pr., 1972. 361 pages. Contains the reprint of 3 papers by A. A. Michelson (1881, 1886, 1887). - Santilli, Ruggero Maria: Il grande grido: Ethical probe on Einstein's followers in the U. S. A.; an insider's view; a conspiracy in the U.S. Academic-Governmental Complex on Einstein's relativities? 2nd print, November 1984. Newtonville, Mass.: Alpha Publ., 1984. 354 pages. - Mittelstaedt, Peter: Über die Bedeutung und Begründung der speziellen Relativitätstheorie. In: Philosophie und Physik der Raum-Zeit. Publ.: J. Audretsch. 2nd edition. 1994, pp 83-102.

T: Social Enforcement of the Theory / Error No. 6

With the suppression and elimination of the criticism since approx. 1922 the public in several countries has been deceived as to the true status of the STR, and those scientists participating in this have thereby engaged themselves in a break with tradition, or have condoned it

The measures practiced by the powers that be in the world of relativity against the critics and the criticism, as addressed in Errors T 1 - T 5, are intended to conceal the collapse of the special theory of relativity, which already began in the first phase of criticism from 1908-1914, with respect to the public. This objective has been achieved by the relativists in all media up to the present day by means of rigorous measures of suppression and very effective manipulation.

The deceit of the trusting, gullible public is borne by the entire "scientific community", because the public disgrace over the ruin of the theory and the decades-long deceit of the public would acquire a level of magnitude that would also affect areas outside the field of theoretical physics. After such a long period of deceit, all must bear co-responsibility and all are sitting in the same boat. For this reason a self-cleansing of science is entirely unlikely. All are somehow participants, all believe they have somehow profited, and the abolition of freedom of research and science in a branch of physics does not bother any of the colleagues if the abolition of freedom is wished and organized by the representatives of the subject and is disguised or justified vis-à-vis the public.

The organized suppression of all criticism and the deceit of the public by a branch of physics since around 1922 represents a break with tradition the historical dimensions of which are not insignificant. Theoretical physics has cut itself off from the lively and creative force of the criticism and has become, with the STR, a pure story-telling society.

The theoretical aspects from Albert Einstein are not applied anywhere and are not needed anywhere, which is why they do not disturb. All fields of science work with the unity of the only observational space, as well as with universal time and absolute simultaneity, without any changes in bodies due to the relative motion of other objects. The international physics measuring system for lengths and times applicable before 1905 still applies unaltered, and makes use of some new effects and constructions only in its technical realization. The discoveries made independent of the STR and before the STR have proven to be useful and have been further developed.

The public sees the natural sciences and in particular physics as a stronghold of functionalism, objectivity and austerity within which thorough and reflective researchers concern themselves solely with discovering reality and settle all open questions on the basis of the clear findings of experiment. The public would not consider it possible that in the context of physical science public financial resources are used to uphold an untenable theory as the greatest and best-proven in the whole of physics, as well as to suppress the critics of this theory and to inactivate them.

Incited by the field of theoretical physics, the natural sciences have engaged in a break with tradition with respect to the gullible public and have done away with freedom of research and teaching in the field of theoretical physics, and have maintained this situation for 8 decades. Those responsible will in future be called to account. The historical guilt of the scientific organization must be investigated and come to terms with. And the critics and the criticism must be protected and rehabilitated against all of the defamation. The disgrace of our physical science will not be able to be delayed for much longer, and it will be really spectacular.

Germany has already had several "pasts" to come to terms with: National Socialism, the GDR [East Germany] and the dictatorship of the theory of relativity. How things are in other countries is something the public organizations there will have to examine and to decide.

T: Social Enforcement of the Theory / Error No. 7

Propagation of the theory in other fields of activity that are far-removed from physics (Philosophy, Theology, Literature, Art, etc.) without any reference to the state of the debate on the criticisms made

Via the manipulated media, the world of relativity was able to create pressure on opinions and to develop a personality cult around the author of the theory, subject to the known elimination of the criticism, such that the luminaries of other specialist fields felt themselves spurred on to support, not wishing to miss out on the supposed

grand and revolutionary findings about space and time and causality in theoretical physics. Everyone wanted to be a part of the great upheaval of all our terms and terminology. Everyone understood the theory and could derive from it important conclusions for his field of activities, be it Philosophy, the Arts, Literature or Theology.

In view of the general lack of an all-round education and especially due to their naivety in terms of physics, these non-physics luminaries accept everything that the world of relativity announces in good faith, and unchecked. With this they help to ensure the triumph of the theory - without examination - even in broad circles of society. And if everyone already knows how wonderful the theory is, no one has an ear for criticism.

Gehrcke (1920, Die Relativitätstheorie eine Massensuggestion [The Theory of Relativity a Mass Suggestion]) clearly recognized the social mechanism of the propaganda of the relativists even then, and that was two years before the adoption of the systematic lying as from 1922 (pp 66-67): due to their general specializations the non-physics professionals "had a very hard time in forming an independent opinion as to the theory, particularly since Einstein well knew how to defend his work skilfully and the physicists disperse their doubts with mathematical and philosophical counter-arguments, the mathematicians their doubts with physical and philosophical counter-arguments, and the philosophers their doubts with mathematical and physical counter-arguments. Every specialist conceded to the authority of the colleagues in the other subject, everyone believing what he considered to have been proven by other authorities in their subjects. No one wanted to be confronted with the reproach that he understood nothing about the matter! And so a situation was created similar to that described by Andersen in his fairy-tale "Des Kaisers neue Kleider" [The Emperor's New Clothes] ..."

In this way the world of relativity is able to safeguard its theory in the general consciousness of the educated classes. With respect to these classes, however, the relativists would have a lot of explaining to do as soon as the system of the world of relativity was exposed and freedom of public speech in research and science was restored.

"Everyone believing what he considered to have been proven by other authorities": Gehrcke has described with much gracefulness and precision the situation of the favour in which the non-physics luminaries found themselves, wishing very much to be a part of what was taking place and being allowed to participate, provided they were good and prepared to repeat what the relativists told them. At the same time these imitators sometimes behaved as though they themselves had made the discoveries. - In 1920 Gehrcke is also one of the first critics to recognize the model of the entire future show in "The Emperor's New Clothes". And above all else, he already understood in 1920 that it belonged to the nature of the media to greatly amplify aroused emotions.

Gehrcke, Ernst: Die Relativitätstheorie eine wissenschaftliche Massensuggestion : gemeinverständlich dargestellt [lecture in the Berlin Philharmonic Hall, 24th Aug. 1920]. Berlin: Arbeitsgem., 1920. 31 pages. (letters from the publ. of the joint workgroup of German natural scientists on the preservation of pure science. 1.) Reprinted in: Gehrcke: [Collected Works] Kritik der Relativitätstheorie. 1924, pp 54-68.

T: Social Enforcement of the Theory / Error No. 8

The relativists abuse the educational system as a brainwashing tool for indoctrination of their public, and especially for strengthening the blind faith placed in authority by the young

The enforcement of the theory - subject to concealment of every bit of criticism - in the non-physics classes of the uneducated corresponds to the enforcement in the classes of the not-yet educated, school pupils and undergraduates. This is where the educational system has unfolded its blessed activities and has sought methods by means of which the theory can best be conveyed such that the schoolchildren believe everything without resistance.

Several school men and teachers have unfortunately attributed the difficulties faced there, since (as one knows) the theories of Albert Einstein are naturally correct, solely to the inadequate perception of the schoolchildren, and have therefore attempted to solve the problems of the theory by means of educational measures. These attempts at successful indoctrination by educational tricks have started very early and it was at best discussed as from which age group the indoctrination should begin.

Albert Einstein himself had only foreseen the "final-school-leaving-examination level" as a precondition. The ambition of the teachers is still greater, however, and they have meanwhile identified the senior-grade pupils of the German Gymnasien and Oberschulen [grammar schools] as their target groups. A true relativist squirms early.

Machold (1995, p. 65): "The theory of relativity has fundamentally altered the view of the world of the people of physics. It therefore appears appropriate not only to acquaint the schoolchildren of Sekundarstufe II [sixth form] with the fundamentals, as previously but also the schoolchildren of Sekundarstufe I [lower and middle school levels]." Unintentionally funny, since it has to do with the view of the world of the people of physics. (p. 66): The educational objective is, "to give the schoolchildren insight and understanding, by means of examples, as to the methods of acquiring knowledge in physics". Machold also identifies what he regards as the prerequisites (p. 66): the principle of relativity, equality of all inertial systems; and properties of the speed of light, its equality in all inertial systems. The STR should not be introduced as a new theory, but quite harmlessly and almost in passing as a (p. 67) "correction and extension of earlier concepts forced by experiment." The concept is (p. 67): "to elucidate the great change that the theory of relativity has brought about to the system of ideas in physics" and "to show how hard the natural sciences must struggle in order to win and secure new findings."

An interim assessment so far: the two prerequisites (!) embrace the whole theory, i.e. they are presupposed as a matter of course. Then it has to do with the best modern sagas, with the struggle, the change, the difficult winning and securing of new findings, which in turn quite naturally give rise to the battle sentiment, the grandness of the heroes and the necessary hero worship.

The constancy of the speed of light is normally (p. 72) "derived from the Michelson experiment", which is possible for Sekundarstufe II [sixth form], but not for Sekundarstufe I [lower and middle school levels]. For this reason Machold works with an experimental setup based on classical mechanics, allowing a wagon on a carriageway to roll towards a fixed or moving target and measures via electric contacts that control clocks the different relative speeds between the wagon and the target. The speeds of the bodies can only be determined relatively and are different, depending on the reference system.

Then he transfers the mechanical model in the thought experiment (!) to sound. Instead of the wagon, the sound now moves, the receiver is at rest or in motion, microphones are used to register the arrival of the sound, and as a result there are again three different relative values.

In a third step the model is transferred to light. Instead of the sound it is the light that moves, the receiver is at rest or in motion, and instead of the microphones photoelectric cells are used (p. 75): "With this arrangement the speed of expansion of the single light signal can, basically speaking, be determined." Machold has thereby gone further in the Realschule [middle school] than the field of theoretical physics. It still cannot measure the one-way speed of light.

The model is again introduced with receivers at rest and in motion (pp 75-76): "At this point the teacher must state that very precise physical experiments - even to the great astonishment of the physicists - provide secure results that show that the speed of expansion of a light signal is always the same, fully independent of whether the receiver is at rest or in motion. This constancy of the speed of light is

a very special property of light, which is not only in contrast to the results of the previous consideration, but is also in contradiction with the fundamental concepts of mankind."

So what is the difference announced by the message? Instead of claiming, as in the case of Sekundarstufe II, that the "Michelson experiment" has proven the constancy of the speed of light, in Sekundarstufe I the wonder is announced by the teacher as the secure result of precise physical experiments. All in all, Sekundarstufe II is not worse off, because for everyone it is simply a case of belief in the end. No critical investigation takes place. Contrary to the announcement (see above) it has n o t been possible "to show how hard the natural sciences must struggle in order to win and secure new findings."

After the announcement of absolute constancy the deduction of the other wonder of kinematics takes place. The concept is tested with pupils and with student teachers (p. 105). "Learning difficulties" were [experienced], "independent of the type of school and independent of the age of the test person:
- with the constancy of the speed of light;
- with the relativity of simultaneity;
- with the relativity of time measurement;
- with the relativity of length measurement.
The uncovering of these learning difficulties and their backgrounds caused considerable difficulties."

The list of these "learning difficulties" is not entirely unknown to the critics. It is fully identical to the errors of the theory. The critics know that it does not have to do with "learning difficulties": But who tells the teachers?

Machold analyzes the learning difficulties (pp 105-135), develops a revised version of the teaching approach (pp 136-164), tests the revised version (pp 164-184) with different circles of persons and comes to his "conclusions" (pp 185- 202): The most important thing in physics is the method of acquiring knowledge, the science of experience, speculation tested by experiments, assumptions that simplify, e.g. transformations between three-dimensional coordinate systems carried out in only one dimension. These must not be criticized, but belong to physics. The physics lessons may possibly have deficits, e.g. it may be that (p. 189) "there is too little time for critical reflection", but the "struggle" for the solution to the problems must be the central assignment in the lessons.

It would be very nice if this educational system with critical reflection and the struggle to solve problems would begin, sometime or other - preferably first in the heads of the teachers so that they know themselves what they are talking about. The teaching concept will be kept clinically sterilized from such dangerous things to ensure that the world of relativity suffers no evil.

To justify his experiment to begin the indoctrination already in the middle school Machold refers to Albert Einstein (p. 26): "The first didactic physics treatise on the theory of relativity comes from Einstein himself." He refers in this connection to his "generally understandable" presentation dating from 1917. - Machold mentions that there had been criticism and he names in his literature list altogether some 8 critical works, mostly from the [nineteen] twenties and three works dating from after 1945, but only to deal with them in a defamatory way that is typical of the world of relativity. Defence of the a priori, failure to appreciate the approach taken in physics, failure to heed experimental confirmation; though fortunately he spares them the slanderous anti-Semitism reproach. With the chapter heading (p. 18) "Die historische Auseinandersetzung um die sRTH" [The Historical Debate on the STR] the criticism is depicted as something from early on that is meanwhile settled.

Whereas the official, progressive educational system tells us that the independence of the young people and the development of their critical reasoning and judgements

must be promoted, the methodology for teaching physics has exactly the opposite objective, namely to discourage their young public from independent thinking and in good time - the sooner the better - to begin to bring the target group to adopt some or other independent judgement relating to the STR at an age in which they, the members of the target group, are not at all able to do so. The helpless youngsters can then be stuck in the sack of the authorities and the great luminaries all the more easily. Machold sees the access to Sekundarstufe I explicitly as a preparation for the subsequent handling of the material in Sekundarstufe II (p. 66): "The qualitative handling of the special theory of relativity should not only open up a part of modern physics to the pupils of the middle school, but should also represent a possible preparation of this material for the pupils in the sixth form."

With this, the strategy of the world of relativity is documented in its methodical width and long term. The genial trick of the zealous teachers of encumbering the pupils with the physical errors of the theory as "learning difficulties" and addressing these educationally can only be welcomed by the world of relativity as a great and unexpected success, made possible only by the consequent suppression and elimination of the criticism. If the trick works, the world of relativity need not look forward to the dying out of the schoolchildren.

Whether or not the teachers know what they are doing to the youth is unimportant for the result, objectively the young people are being die spiritualized by the physics establishment. With this the educational system becomes co-responsible for the consolidation of the systematic lying of the world of relativity and for its omnipresent power in our society. Since teachers in any case have to busy themselves every twenty years by "reforming" their great "reforms", one can't expect any recognition from them as to their true positions as dogsbodies.

Machold, Adolf: Zur qualitativen Behandlung der speziellen Relativitätstheorie : ein Konzept für den Physikunterricht der Realschule. Weingarten: Pädagog. Hochschule, 1995. 307 pages. - Braun, Jan-Peter: Physikunterricht neu denken. 1999. Zugl. Diss. Flensburg, Univ., 1998.

T: Social Enforcement of the Theory / Error No. 9

The relativists abuse the suggestive force of the audio-visual media in films, videos and computer programs for propagation of the theories, while at the same time fading out the existing criticism

The general and ill-considered belief in the authenticity of photos and the illusion that every picture says a thousand words make the device of the audio-visual presentation an unparalleled irrational triumph of manipulation for both theories of relativity, against which no rational argumentation has a chance.

In the realistically depicted laboratories just as realistically depicted clock hands rotate to show the reality of time dilation - and what appears on the screen or the projector canvas is reality. There, the twin who has just travelled in space comes home, unharmed and sprightly only to find his twin brother, who had remained on the earth, just a bag of bones sitting in his armchair. This science is real (no normal person questions its existence and effectiveness), the laboratory is real (that's how things really look), then the dead twin brother in the armchair must also be real.

On the carton there is a photo of Albert Einstein and his name. The imprint names high-calibre scientific experts, usually a full dozen of them, against whose authority nobody can have any doubts, and the publisher is the institutionalized seriousness and centre-point for the physics, and the bookshop that offers it is even the specialist bookshop of a university town.

To the audio-visual triumphs of the theories no critic knows what to say. Karl Kraus also came to a point at which he could think of nothing to say about Hitler.

Delesalle, Laure: Unendlich gekrümmt: die Grundlagen der modernen Physik [Video] / a film by Laure Delesalle, Marc Lachieze-Rey, Jean-Pierre Luminet. München: Komplett-Video 1994. 52 Min. ISBN 3-86148-754-3. - Einstein digital : die Welt des Genies; inklusive Sonderdruck "Einstein", Bildmonographie (Rowohlt Verl.); [auf CD u.a. der Text "Autobiographical notes" aus: Albert Einstein. philosopher-scientist. Ed.: Schilpp] / Albert Einstein; Bildmonographie: Johannes Wickert. München: Spektrum; Systhema Verl. 1996. 1 CD, 1 Buch. Original-Programm: The ultimate Einstein. Verlag: Byron Preiss Multimedia Co., 1995.

Effect on Outsiders

U: Effect on Outsiders / Error No. 1

Theology

If an erroneous theory is propagated as the greatest discovery of mankind and in non-physics fields of activity is gullibly and uncritically held to be correct, then conclusions will eventually be drawn that are necessarily just as erroneous as the theory. When the propaganda is revoked a need for correction will possibly arise for the non-physics fields of activity. Topics in Theology possibly affected: cosmology; lapse of time; causality; God.

1921. Vortisch, Hermann: Die Relativitätstheorie und ihre Beziehung zur christlichen Weltanschauung. Hamburg: Agentur d. Rauhen Hauses 1921. 78 pages. (answers to questions about the present. 15.)

Fischer, Franz Xavier: Das Einstein'sche Relativitätsprinzip und die philosophischen Anschauungen der Gegenwart. In: Wissen und Glauben. Mergentheim. 19. 1921, no. 5, pp 129-159.

1922. Ehrenfest, Paul: Das moderne physikalische Weltbild und der christliche Glaube: [Lecture, 5.8.1921, Pappenheimer Teilkonferenz der 30. Allg. Dt. Christl. Studentenkonferenz]. Berlin: Furche-Verl. 1922. 30 pages. (Stimmen aus der deutschen christlichen Studentenbewegung. 13.)

Robertson, Archibald: Revelation and relativity: how it strikes a bishop / the Right Reverend Archibald Robertson. In: The Hibbert journal. London. 21. 1922/23, pp 527-534.

1923. Dennert, E.: Relativistisches Weltbild und Weltanschauung. In: Der Geisteskampf der Gegenwart. 1923, pp 75-80.

1949. Naturwissenschaft, Religion, Weltanschauung. Clausthaler Gespräch 1948. Clausthal-Zellerfeld 1949. 421 pages.

1950: Gespräch zwischen Theologie und Physik / [Hrsg.:] Günter Howe. Gladbeck: Freizeiten-Verl. 1950. 188 pages (Glaube und Forschung. 2.) Contains 8 contributions from 7 authors.

Asmussen, Hans: Theologie und Physik: Wandlungen in der modernen Naturwissenschaft und im Selbstverständnis des Menschen / Hans Asmussen. In: Gespräch zwischen Theologie und Physik / [Hrsg.:] Publ.: G. Howe. 1950, pp 25-65.

1985: Seibel, Alexander: Relativitätstheorie und Bibel. 5th edition Wuppertal: Verl. d. Ev. Ges. f. Dtld. 1985. 152 pages (Telos-Taschenbuch. 95.)

1988:Erkelens, Herbert van: Einstein, Jung en de relativiteit van God. Kampen: Kok Agora 1988. 264 pages.

Welker, Michael: Universalität Gottes und Relativität der Welt: theologische Kosmologie im Dialog mit dem amerikanischen Prozeßdenken nach Whitehead. 2., um ein Sachregis-

ter erw. Aufl. Neukirchen-Vluyn: Neukirchener Verl. 1988. 261 pages (Neukirchener Beiträge zur systematischen Theologie. 1.) 1st edition 1981.

1989. Meynell, Hugo: [Rezension zu] Braine, D.: The reality of time and the existence of God. In: Philosophy. Journal of the Royal Institute of Philosophy. 64. 1989, p. 119.

U: Effect on Outsiders / Error No. 2

Literature

If an erroneous theory is propagated as the greatest discovery of mankind and in non-physics fields of activity is gullibly and uncritically held to be correct, then conclusions will eventually be drawn that are necessarily just as erroneous as the theory. When the propaganda is revoked a need for correction will possibly arise for the non-physics fields of activity. Topics in Literature possibly affected: lapse of time; reality.

1923. Henderson, Archibald: Relativity: a romance of science. Chapel Hill, North Carolina: 1923. 65 pages. University of North Carolina Extension bulletin. Vol. 2, no. 11.)

1929. Ruckhaber, Erich: Relativia: der Roman eines Propheten / Erich Ruckhaber. Berlin-Spandau: Kuntz 1929. 83 pages.

1963. Danin, Daniil: Blick ins Unsichtbare / Deutsch v. Bolko Schweinitz. Berlin (Ost): Verl. Kultur u. Fortschritt 1963. 429 pages.

1987. Donley, Carol: "Springtime of the mind": poetic responses to Einstein and relativity. In: Einstein and the humanities. Ed.: D. P. Ryan. 1987. pp 119-124.

Mandell, Stephen R.: A search for form: Einstein and the poetry of Louis Zukofsky and William Carlos Williams. In: Einstein and the humanities. Ed.: D. P. Ryan. 1987. pp 135-139.

U: Effect on Outsiders / Error No. 3

Art

If an erroneous theory is propagated as the greatest discovery of mankind and in non-physics fields of activity is gullibly and uncritically held to be correct, then conclusions will eventually be drawn that are necessarily just as erroneous as the theory. When the propaganda is revoked a need for correction will possibly arise for the non-physics fields of activity. Topics in Art possibly affected: space; time.

1988. Schiebler, Ralf: Giorgio de Chirico and the theory of relativity: lecture given at Stanford University in October 1988. o. O.: Herakles Verl. 1988. 33 pages.

Werner, Anne-Marie: Relativität und Dynamik des Raumes: Kurt Badts pragmatisches Raumkonzept. Diss. Saarbrücken 1988. 297 pages. Univ. des Saarlandes, phil. Diss. 1987 (1988).

1990. Klotz, Irving M.: One culture/two cultures: captives of our metaphors. In: Speculations in science and technology. 13. 1990, No. 2, pp 129-136.

U: Effect on Outsiders / Error No. 4

Philosophy

If an erroneous theory is propagated as the greatest discovery of mankind and in non-physics fields of activity is gullibly and uncritically held to be correct, then conclusions will eventually be drawn that are necessarily just as erroneous as the theory. When the propaganda is revoked a need for correction will possibly arise for the non-physics fields of activity. Topics in Philosophy possibly affected: space and time: epistemological relativity.

1925. Kozlowski, W. de: La fonction logique du temps. In: Congresso Internazionale di Filosofia. 5. 1924, Napoli. Atti. 1925, pp 73-79.

1992. Weiß, Ulrich: Die andere Seite der Medaille: das "Irrationale" im Verhältnis zu Hugo Dinglers Methodik. In: Entwicklungen der methodischen Philosophie. Publ.: P. Janich. 1992, pp 218- 239.

U: Effect on Outsiders / Error No. 5

Science Fiction

If an erroneous theory is propagated as the greatest discovery of mankind and in non-physics fields of activity is gullibly and uncritically held to be correct, then conclusions will eventually be drawn that are necessarily just as erroneous as the theory. When the propaganda is revoked a need for correction will possibly arise for the non-physics fields of activity. Topics in Science Fiction possibly affected: space and time; time travel; causality.

1981. Rucker, Rudy: Faster than light, slower than time. In: Speculations in science and technology. 4. 1981, No. 4, pp 375-383.

1982. Prokhovnik, S. J.: The art of extrapolation. In: Speculations in science and technology. 5. 1982, No. 4, pp 413-420.

1987. Hauptmann, Robert: The circuitous path: Albert Einstein and the epistemology of fiction / Robert Hauptmann and Irving Hauptmann. In: Einstein and the humanities. Ed.: D. P. Ryan. 1987. pp 125-134. 1989: Marinsek, Johann: Rationale Physik oder wissenschaftliche Science Fiction? Graz: dbv- Verl. f. d. Techn. Univ. Graz 1989. 282 pages.

U: Effect on Outsiders / Error No. 6

Esoteric

If an erroneous theory is propagated as the greatest discovery of mankind and in non-physics fields of activity is gullibly and uncritically held to be correct, then conclusions will eventually be drawn that are necessarily just as erroneous as the theory. When the propaganda is revoked a need for correction will possibly arise for the non-physics fields of activity. Topics in Esoteric possibly affected: space and time; the cosmos; causality; time travel.

1997. Seymour, Percy: Paranormalität: die geheime Welt des Übersinnlichen. Berlin: Ullstein, 1997. 261 pages. (Ullstein Buch. 35662. - Esoterik.)

1968. Warrain, Francis: Physique, métaphysique, mathématique et symbolique cosmologique de la géomancie. Paris: Editions Vega 1968. 125 pages.

Motives for Generation and Preservation

V: Motives for Generation and Preservation / Error No. 1

The desire to eliminate the idea and the hypothesis of an ether as a medium for the spreading of electromagnetic radiation

If a completely untenable scientific theory can be enforced and maintained, the motives of generation and enforcement must be irrational.

Bourbaki (1996, pp 24-29, and from this also all quotations of other authors) supported very explicitly the theory - which also makes sense to other critics - that it was Max Planck's decisive motive (and thereafter that of all relativists) for the acceptance of Albert Einstein's STR, that with the STR the ether hypothesis was discredited, that the hypothesis could be declared unnecessary and that something like an ether could be declared non-existent and abolished.

Thereafter the emphasis would be placed on the non-existence of an idea, an unexplained and misunderstood concept, because around 1900 the ether was presented in the greatest variety of forms and was enhanced by fantastic properties that served to explain what the particular author in question wanted to bring over. The concept of the ether had at least 5 great and obvious weaknesses: (1) it could not be directly proven; (2) and one new nothing about its material or non-material properties; (3) and nothing about its state of motion; (4) the ether was just a necessary assumption required to explain the propagation of electro-magnetic radiation, e.g. for light, which is also why it was referred to as the luminiferous ether; (5) in addition, the ether was also used to declare other physical phenomena (e.g. gravity).

This unsatisfactory state of knowledge with respect to the ether was incontestable and having to tolerate such a situation psychologically requires a high capability of frustration tolerance. The temptation to get rid of this great unknown at a stroke was therefore present and indeed understandable, but not well conceived as the abolition of an idea, because one cannot abolish ideas. One can only develop better ideas so that the unwanted ideas prove to be useless and are then forgotten.

According to Bourbaki's analysis of the comments made, particularly those made by Max Planck, there were clear indications that Planck was motivated by the idea of disposing of the ether and Albert Einstein's theory was a welcome opportunity to this end and for this reason he supported the enforcement of the STR with all means available:

(1) After the statements by Heinrich Hertz (1889) that the ether was a primeval substance of the cosmos and that research into it was a "gewaltige Hauptfrage" [enormous, major question], Max Planck alleged (1894, in his commemorative address for Hertz, who had died just a few weeks earlier) that he had (p. 26) "decided ... that it must be assumed that the motion of the ether was co-determined by the measurable matter. Then he distanced himself from the theory [concluding that] one need not speak of the ether any more". Here, already instigated by Planck, a considerable falsification of the position taken by Hertz vis-à-vis the ether takes place. An ether that takes on the motion of measurable bodies, i.e. is not at rest, and one therefore need no longer speak about it.

(2) In 1905 Max Planck sat on the board of trustees of the "Annalen der Physik", in which the work of Albert Einstein "Zur Elektrodynamik bewegter Körper" [On the Electrodynamics of Moving Bodies] had been printed.

(3) Already in Max Planck's colloquium of the winter semester 1905/06 the STR was treated.

(4) 1906. Planck's article in the Verh. Dt. Phys. Ges. (pp 136-141: The Principle of Relativity and the Fundamental Equations of Mechanics.

(5) 1909. Scientists in Salzburg, lecture by Albert Einstein On the Development of Our Perceptions as to the Nature and Constitution of Radiation (p. 27): "today, however, we have to regard the hypothesis of the ether as a standpoint that has been overcome." Directly thereafter, Planck says in the discussion: "Most of what the speakers have said will not be contradicted."

(6) 1919. Lecture by Planck: "The Nature of Light". The original mechanical conception of nature, which envisages the ether as the "carrier of all electrical phenomena", has (p. 28) "meanwhile very much taken a back seat by most physicists. What brought about this situation most is the conclusion from Einstein's theory of relativity that there can be no such thing as an objective ether, i.e. one that exists substantially independent of the measuring observer." In the following year in his lecture in Leiden Albert Einstein spoke of the necessity of the ether!

The comments made by Planck and referred to by Bourbaki enable one to recognize the former's strong tendency towards the abolition of the ether, even under incorrect, subsequent recruitment of Heinrich Hertz, whereby Albert Einstein and the STR are his main arguments. This battle against an idea has something dogmatic about it and is clearly irrationally motivated.

At another point (Foreword, p. 4) Bourbaki summarizes the motivation status: "The theoretical physicists in those days had the following difficulty. Seen in terms of the propagation of light, empty space was said to be filled with an imponderable unknown substance which one named the 'ether'. This substance disturbed the theorists in their calculations; how was one to calculate in a cosmos which was filled with an unknown substance whose properties were unknown?"

The short-cut solution of abolishing the unwanted ether, implemented by Planck, was very popular with most physicists, as were most short-cut solutions. Physics has paid dearly for this and will still have to pay more, with the standstill of research and with gagging both internally and with respect to the outside world, and the dues to the public at large for an unmatched break with tradition have still to be settled.

Bourbaki, Georges A.: Die Hin-Krieger. Uncensored original version, limited preprint. München: Aether-Verl., 1996. 394 pages. (Deutsche Nationalbiliographie:) 2. Verlag, eingeklebt: Windeck/Sieg: Verl. Krit. Wiss. 1996.

V: Motives for Generation and Preservation / Error No. 2

W. C. Röntgen's bibliographical analogy to the education of Albert Einstein

If a completely untenable scientific theory can be enforced and maintained, the motives of generation and enforcement must be irrational.

G. Barth (1987) examines the question as to how an inconsistent work like that of Albert Einstein (Zur Elektrodynamik bewegter Körper [On the Electrodynamics of Moving Bodies]) could appear in 1905 in the highly reputed "Annalen der Physik" and he takes a closer look at the then-decisive persons in the publication's editorial office. He sees that the main responsibility lay with W. C. Röntgen, who in 1901 was the first physicists to receive the Nobel Prize and, as a consequence, was regarded as an authority.

Röntgen had two characteristics (p. 15): he understood nothing about mathematics; and his biography shows surprising parallels to Albert Einstein's development and history. Röntgen had been expelled from the grammar school in Utrecht because of a rebellious caricature. "Röntgen then failed to pass an external examination. By coincidence he learned that one could study at the polytechnic in Zurich without school-leaving certificates. Other than Einstein he did not pass his degree examinations until he was 23, though not as a teacher with specialist subjects, but as

a mechanical engineer." The suspicion as to a somewhat indirect contact between Röntgen and Einstein's family in connection with the purchase, as from 1900 in Munich, of electrical equipment for his physical experiments from Albert Einstein's father's factory for electric equipment in Munich cannot be proven by Barth (p. 16), particularly since the Einstein family had already moved to Milan in 1894. - A remaining plausible motive for Röntgen, who did not see himself as a theorists and whose strength was not exactly mathematics, was to give the young scientist from Bern, who like himself had mastered a difficult educational past, a chance to publish in den "Annalen" without being able to evaluate the importance and the mathematical correctness of the work.

The history of science can check and either verify or reject this plausible suspicion of G. Barth's on the basis of the sources, if it ever emerges from the trading in devotional trinketry and the personality cult around our new Copernicus-Galilei-Newton and begins to take a serious and critical look at the history of science. Uncritical flattery and adulation from the so-called fields of science and science history is something we have meanwhile suffered for long enough. For decades now there have been no new hymns of jubilation.

Should research confirm Barth's suspicion that in recognition of certain biographical analogies Röntgen had decided to promote a young scientist without any vested interest of his own, this could be seen as a congenial move on his part. The question of a contact with the Einstein-firm in Munich would not play a great role either. Basically speaking, every scientist should have the opportunity to express himself freely in public and uncensored (even critics of the theories). Röntgen was uninvolved in the suppression of the criticism of the theory in physics which began in 1920 (Bad Nauheim). And as for the quality of published works, responsibility remains with the author.

Barth, Gotthard: Der gigantische Betrug mit Einstein : historisch und mathematisch. Zwingendorf: Verl. Wissen im Werden, 1987. 96 pages. (Wissen im Werden. 1987. Sonderband 8.)

V: Motives for Generation and Preservation / Error No. 3

The mathematicians in particular were obliged to draw attention to the limitations of the mathematical speculations in the field of physics, though in fact they did just the opposite

If a completely untenable scientific theory can be enforced and maintained, the motives of generation and enforcement must be irrational. - Pagels (1985, p. 106) saw the STR as a catastrophe for physics and he asked many critics: "How could that happen?" In answering the question with two Planck quotations he gives proof of his judgement that the failure of the mathematicians had made a decisive contribution to the catastrophe (p. 106):

"The fact that the STR has now been accepted for more than seven decades as a 'fundamental theory' - this is something that the philosophers, physicists and mathematician are jointly responsible for. Nevertheless, one has to see the mathematician as the major offenders - after all, 'relativistic mathematics' was repeatedly the last bastion which the relativistic theorists could fall back on if they were put under pressure by the criticism.

"Anyone who nevertheless can't shake off the idea that the theory of relativity is suffering from some internal contradiction should bear in mind that a theory the complete content of which can be propounded in a mathematical formula can contradict itself no more than two different conclusions derived from the said formula can. Our perceptions must, after all, adapt themselves to the results of the formula, and not the other way round' (Planck, 1933, 169).

'That the theory of relativity is logically incontestable is simply a consequence of the fact that ist mathematical formulations contain no contradictions' (Planck, 1932).

The mathematicians were therefore particularly obliged to check the 'relativistic mathematics' - but they didn't. Instead they even keenly participated in 'relativistic mathematics' themselves (Minkowski, Weyl, etc.).

The mathematicians have therefore failed, and that pitifully."

The "relativistic mathematics" apostrophized by Pagels is, as proven by Pagels and other critics, verifiably a mathematics with incorrect physical meaning. There is no such thing in physics as a mathematics without meaning. The mathematicians should have ensured that the correct physical meanings of the formulae and of the measurements were deployed - but didn't. - The motive, if this can be one, was irresponsibility.

However, the criticism of the mathematicians made by Pagels must be greatly intensified. Another factor to be considered is the sense of power, as a mathematician to have conquered another discipline and to control it unconditionally; physics as an occupied territory. Minkowski's lecture (1908) contains several revealing statements in this connection, cited from the 1958 reprint (p. 57): "Three-dimensional geometry becomes a chapter of four-dimensional physics." Whereby one must remember that four-dimensional physics exists only on paper. One cannot set up any device in it or make any measurements. (p. 60): "To stride over the concept of space in such a way can probably only be assessed as a piece of daring mathematical culture." The awareness of the aspect of daring was therefore indeed present with the occupiers. (p. 62): "In order to demonstrate that the assumption of the group [...] for laws of physics never leads anywhere to contradictions, it is unavoidable that a revision of the entire field of physics be undertaken on the basis of the preconditions of this group."

One must be clear, here, just what Minkowski sees as "unavoidable": in order to show that a mathematical construction is non-contradictory, the entire (!) field of physics must be revised. This is easy for a mathematician to demand, because physics has no meaning for him. If someone demanded, in order to show that a physical assumption was non-contradictory, that the entire field of mathematics be revised, Minkowski would probably have started brooding.

The inhabitants of the occupied territory, the physicists, have celebrated the occupation and would preferably themselves have become mathematicians. They would only have been completely satisfied with a physics solely on *paper*. An occupation can scarcely be more successful. Nevertheless; the exercising of power in the field of physics is an irrational motive.

Minkowski, Hermann: Raum und Zeit : Lecture, 80. Naturforscher-Vers., Köln 1908, 21st Sept. In: Naturforschende Gesellschaft, Cöln. Verhandlungen. 80. 1909, pp 4-9. Also in: Physikalische Zeitschrift. 20. 1909, pp 104-111. Reprinted in: Das Relativitätsprinzip. Lorentz, Einstein, Minkowski. 6th edition. 1958, pp 54-66. - Pagels, Kurt: Mathematische Kritik der Speziellen Relativitätstheorie. 2., bound edition, Oberwil b. Zug: Kugler, 1985. 112 pages. 1st edition 1983.

V: Motives for Generation and Preservation / Error No. 4

The sensationally exaggerated reporting on the two theories of relativity in the print media from 1920-23 led to a form of mass suggestion, which has been abused by the relativists in a cynical way

If a completely untenable scientific theory can be enforced and maintained, the motives of generation and enforcement must be irrational. -

E. Gehrcke (1924) gives his diagnosis already in the printed book title: Mass Suggestion. In the Foreword (pp V-VI) he draws attention to the fact that, since 1912, he had taken the view "that the theory of relativity has a psychologically interesting side to it and had become something of a mass suggestion."

His criticism of the theory was not only rejected by many colleagues but also brought him personal antagonism. In the course of the years he gathered a collection of documents, largely newspaper cuttings, that verify the development of the public discussion. (P. VI): "Thirdly, it was recently mentioned publicly that the author of the relativity movement, EINSTEIN, had himself demanded a 'psychopathological investigation' into the fact that the masses, who were not at all able to understand the theory, should have such a burning interest in it. This demand, which is highly significant, was the reason for me to present, by means of my collection of documents, the psychological side of the theory of relativity. The result will give not only psychologists in the explicit sense, but also the historians and politicians valuable insights into some of the phenomena of the intellectual life of our times and, as I hope, will be a lesson for the future, should new waves of mass suggestion break over us." Refers to Albert Einstein's proposal of a psychopathological investigation into a document that he, Gehrcke, had cited in print on pp 32-33 (article in: Westdeutsche Zeitung, Düsseldorf, 28.4.1921).

The diagnosis of mass suggestion is indeed one that is shared by both relativists and critics, as the Einstein quote shows, but the evaluation of the psychological effect is very different:

(1) As the central figure of public interest Albert Einstein regarded the razzamatazz around his person as something negative and the interest of the broad masses of laymen as incomprehensible, and even as possibly psychopathic, which is why he proposed an investigation into the reasons. Other prominent representatives of the world of relativity also expressed themselves similarly.

(2) The less-prominent representative and the general public itself see the exaggerated reporting as conclusive proof of the correctness and greatness of the theories of Albert Einstein and as well-earned recognition of the intellectual, revolutionary feats of the new Copernicus-Galilei-Newton.

(3) The critics regard the media circus as a targeted campaign aimed at enforcement of the theory and controlled from the background by the relativists, and at the same time as a defamation of all criticism as foolish, old-fashioned and motivated solely by envy and anti-Semitism. The critics address the issue of the generally lamented "press razzamatazz" relatively seldom; though they recognize that the media is developing a tendency to affirmatively strengthen the sensation instead of enabling widespread public discussion and consideration of the aspects for-and-against, because the public itself is not in a position to discuss the theories properly.

On the one hand the public develops a strong interest in the suggestive claims of the theory, such as annulment of the order of time, reversal of the relationships of motion and the remaining-younger of travellers. What is missing, however, is the reception of criticism for this matter, which is why everyone has to believe what the relativists report and can only applaud, amazed. With its sensation-making approach the press razzamatazz promotes only the uncritical reception and an affirmative tendency towards unrestrained fantasy that is fully indulged in up to the present day in science fiction and the esoteric.

The criticism sees the mass suggestion as a defeat, as the loss of a platform for rationale discussion in public, and as a cynical misuse by the relativists as a means of securing their position of power. The utilization of mass suggestion for the purposes of a physical theory is an irrational motive.

In view of the sensation-making approach of the media, which in addition to the print media gradually also includes the areas of film and radio, most critics can only express their bewilderment at the collection of nonsense and at the cynical manipulation by the relativists.

The critics are completely powerless against the publicly expressed argumentation and assurances of the relativists that the theories of Albert Einstein are accepted by the vast majority of physicists. With this the correctness of the theories is proven,

and incidentally, non-physicists have no competence whatsoever for criticism. They successfully suggest to the public at large that in physics - as in parliament - majority votes decide the correctness of the theories and the majority of physicists cannot be wrong, and incidentally, the whole issue as such is a matter for the physicists alone. No one has a right to interfere, though the public may well believe their reports.

On the one hand the relativists have themselves been surprised by the greed for sensation of the media, on the other hand they have quickly grasped the possibilities for manipulation and exploited the affirmative tendency of every sensational reporting of their theories. The media have probably contributed to the fact that the relativists came to believe they would be able to control the public discussion of their theories for ever by authoritarian means. This belief is one that they will lose in the times of the Internet.

Gehrcke, Ernst: Die Massensuggestion der Relativitätstheorie : kulturhistorisch-psychologische Dokumente. Berlin: Meusser, 1924. 108 pages.

V: Motives for Generation and Preservation / Error No. 5

Renunciation of a "physical theory of nature" and adoption of a "mathematical theory of nature"

If a completely untenable scientific theory can be enforced and maintained, the motives of generation and enforcement must be irrational.

In his lecture of 1955 on the history of the natural sciences G. B. Brown (1956) distinguishes since antiquity between three totally different approaches: a "physical theory of Nature", a "mathematical theory" and a "functional theory", and he also makes reference to a study by F. S. C. Northrop from 1931. In the middle of the 19th century the "mathematical theory" wins the upper hand. This maintains "that the phaenomena may be explained by equations", whereby he cites Airy (1846). The "physical theory" - e.g. Newton's - by contrast, aims at explaining the phenomena in terms of physical causes.

Albert Einstein - and with him Eddington and Jeans - want to work solely with the readings of measuring instruments and with mathematical equations that are linked to the measurements. Brown (p. 625): "But no mention was made of any forces which would cause the instruments to read differently, the clocks to go slow, and so on, and we were left once more with nothing but mathematical relations together with pseudo-epistemology, involving a lot of hypothetical observers attached to anything from an electron to a galaxy." Albert Einstein makes only one regulation, that all arbitrarily moving observers must measure the same speed of light. The measurement results cannot however be prescribed in advance, but must be the results of real observations and measurements (p. 625).

Not the use of the mathematics but the waiving of the explanation by causes is an irrational decision that led to the theories of Albert Einstein. The declared apologist H. Margenau wrote in his contribution to the compilation "Albert Einstein: philosopher-scientist" of 1949 (cited from the 1997 edition, pp 245-246) the astonishing confession as to the two theories: "The physicist is impressed not solely by its far flung empirical verifications, but above all by the intrinsic beauty of its conception which predisposes the discriminating mind for acceptance even if there were no experimental evidence for the theory at all."

A clearer and more obvious confirmation of the diagnosis made by Brown can hardly be given: even if there were no experimental evidence at all. As the criticism has shown, this situation had already existed in 1920. Empirical findings cannot help against irrationality, and their absence does not disturb either.

What Brown refers to as the "mathematical theory of nature" is more generally criticized as "mathematicism", which means the replacement of a physics based on empiricism and causal explanations to one based on maths. The fact that this is no illusion of the critics but is indeed happily propagated by the mathematicians is shown in the many notable quotes from the writings of Eddington and Jeans, which one can also read by, for example, L. S. Stebbing (1937) and Brown (1956).

Stebbing, L. Susan: Philosophy and the physicists. Unaltered republication of the 1st Dover ed. 1958. New York: Dover Publ., 1960. 295 pages. First publ. in 1937. Lit.-Angaben bis 1936. - Albert Einstein - philosopher-scientist / ed. by Paul Arthur Schilpp. 3rd ed., 7th reprint. La Salle, Illinois: Open Court, 1997. 781 pages. (The library of living philosophers. 7.) - Brown, George Burniston: Have we abandoned the physical theory of nature? : substance of a lecture, Royal Institute of Philosophy, Oct. 1955. In: Science progress. 44. 1956, No. 176, pp 619-634.

V: Motives for Generation and Preservation / Error No. 6

Unscrupulous propaganda for an untenable theory is a psychological trap, because admittance of its untenable nature at some later date would be bound up with enormous loss of face and this disgrace would therefore be postponed at all costs

If a completely untenable scientific theory can be enforced and maintained, the motives of generation and enforcement must be irrational.

Laymen believe that theories in natural science are represented and propagated by the experts because they believe their theories to be true and confirmed. Experts know that this belief need not be wrong in every case, but that in the field of relativity it does lead one astray.

With its (1) "relativity" of simultaneity, (2) time dilation, (3) staying young of the travelling twin, and (4) length contraction, the STR maintains altogether 4 effects that need to be empirically proven, if they exist. The (5) mass-velocity effect is no relative effect, and the (6) mass-energy relationship is no conversion and likewise no relative effect. Both effects were discovered and explained independently of the theory of Albert Einstein.

For the four effects controllable by experiment no confirmation whatsoever has been found in over 100 years, despite all propaganda of the relativists to the contrary. The preconditions from which the effects were deduced already ceased to apply during the period of development of the theory around 1905 and in the following two decades, partly due to (7) empirical proofs of the ether drift, partly due to (8) proof of non-relative motion in the context of unipolar induction, and due to (9) revocation of the absolute constancy of c, and due to (10) reduction of the validity of the STR to processes in particle physics by Albert Einstein himself in the context of his GTR.

A theory that fails to provide justification for any of 10 essential points in 100 years, and does not even manage to come up with a counter-proof or to tacitly quash its own claims, is such an enormous disgrace for its representatives that it understandably has only a few prominent representatives.

Since the victory and triumphal procession of the theory started before one had even the shadow of a proof in one's hand, the inventors have preferred to continue the victory and triumphal procession for the devout followers and all opportunistic bandwagoners right up to the present day, because public admittance of the untenable nature of the theory would mean too much loss of face. The continuous relativist carnival is intended to disguise the fact that Ash Wednesday [the last day of the carnival] will come without fail.

All appeals that the field of physics might have lodged for its psychological case of high-staked poker with a premature physical victory and triumphal procession, have been

eliminated by the organized world of relativity, solicitously and thoroughly:
- the criticism was denied, slandered and suppressed;
- the colleagues in the field of physics and the rest of the "scientific community" have accepted the invitation, at the level of collegial contacts and solidarity, to join in the celebrations of the permanent victory and triumphal procession and have become integrated, in return for which they may participate in the glory of the new wisdom of the world and sunbathe in the shine of its supposed revolutionary findings as regards space and time;
- the many non-physics luminaries that identify themselves as followers of relativity, submitting to the terror of the generally widespread recognition of specialization because they want to "have been there at the time", and who do not dare to ask any critical questions;
- the political supervisory authorities see no reason to interfere as long as the stewards of the world of relativity have the situation under control and are able to muzzle each critic in good time and to make him or her harmless;
- the poor general public is simply lied to and has no chance of discovering this deceit.

Since there has so far been no impulse from outside and a cleansing of the "scientific community" from inside is naturally next to impossible, because such communities always see their duties in the closing of ranks and defence against external forces, and since everyone also benefits from the "wonder" status of the theory by impressing the public hand as financier, the victory and triumphal procession will continue under (almost) all circumstances and by (almost) all means. As long as one is not driven out of a trap, one can settle-in there nicely.

V: Motives for Generation and Preservation / Error No. 7

Max Planck's gratitude for the fact that Albert Einstein explained the photoelectric effect and was thereby the first to support Planck's equation E=hv.

If a completely untenable scientific theory can be enforced and maintained, the motives of generation and enforcement must be irrational.

Galeczki / Marquardt (1997, p. 10) see Max Planck's gratitude as a significant motive for Planck to be the first to take up the special theory of relativity in his academic lectures and seminars and to decisively promote the enforcement of the theory at the academic level, as well as by popularization in lectures for a non-physics public. This idea is occasionally propagated even by authors of the world of relativity. Planck's findings had initially attracted no great attention, something which only changed due to Albert Einstein's work on the photoelectric effect.

Since even science is only man-made, the familiar emotions and behavioural motives of the people working in the field of science cannot be ignored and gratitude as a noble human feeling is fundamentally to be welcomed. However, gratitude with respect to one person must not be permitted to lead to compulsory dogmatic straitjackets for all other persons in the vicinity. Albert Einstein may develop his ideas without limit, and Max Planck may be as grateful as he likes, but nobody else is obliged to recognize Max Planck's and Albert Einstein's favourite ideas as correct, or to share them, or to adopt them, or to promote them, or to withhold his or her deviating or rejecting attitudes towards the favourite ideas of Albert Einstein and Max Planck.

If one takes these thoughts about Planck's gratitude towards Einstein seriously, then it explains at least one aspect of the subsequent development that the unsuspecting follower of physical theories may well regard as insignificant: the excessive rituals of devotion and the ridiculous personality cult for Albert Einstein.

No author of the world of relativity spares his readers the rancid flattery of the world genius and the thus-intended psychological capitulation of the readership, so that the reader will not dare at any time to backchat. The ridiculous personality cult serves a good purpose for the world of relativity, namely the prophylactic brainwashing against all independent thought and judgement. We must be tuned to the religious attitude of devotion so that we will swallow everything "that and how Einstein teaches us" and Max Planck explains to us.

Even if human gratitude appears legitimate and congenial at the outset of the theory, the physical sacrifice of one's own intellect later prescribed by the powers that be in physics makes gullible and unsuspecting subjects perhaps only wary. Independently thinking people will not accept the suppression and the swindle, nor will they - as hoped and desired - die out.

Galeczki / Marquardt 1997.