

## HUNDRED AUTHORS AGAINST EINSTEIN -ROUGH TRANSLATION

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This is a rough translation of German book published in 1931 by people that were opposed to Einstein's relativity; they thought it was nonsense and were upset that the News media (of their day) were mostly ignoring them, while giving a lot of publicity to Einstein.

A mixture of Bing and Google translators were used to translate this book from German into English. Only a rough translation is presented here. Further edits would ideally be required to make sure there are no typo errors, sort out the grammar and look at words that didn't translate.

Issues they raise as to criticism of Einstein's relativity are still raised by modern day critics of Einstein's relativity, see for example: 95 Years of Criticism of the Special Theory of Relativity (1908-2003) <http://www.ivorcatt.co.uk/friebe1.pdf>

Unfortunately, physicists who believe in Einstein's relativity have mostly ignored looking at what critics say; leaving such books as this one as only something for historians to study.

The book was published in 1931 by Dr. HANS ISRAEL, Dr. ERICH RUCKHABER, Dr. RUDOLF WEINMANN

With contributions from

Prof. Dr. DEL-NEGRO, Prof. Dr. DRIESCH, Prof. Dr. DE HARTOG, Prof. Dr. KRAUS, Prof. Dr. LEROUX, Prof. Dr. LINKE, Prof. Dr. LOTHIGIUS, Prof. Dr. MELLIN, Dr. PETRASCHEK, Dr. RAUSCHENBERGER, Dr. REUTERDAHL, Dr. VOGTHERR and many more.

My comments are in square brackets [..]

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## FOREWORD

It is a unique case in the intellectual history of mankind that a theory is proclaimed and celebrated as a Copernican act, never even if they are valid able to reshape our view of nature and the world; in whose essence it lies so difficult to be incomprehensible to the general public, so that their popularity hardly seems understandable. The suggestive power of a repeatedly placarded name, the misunderstood and misunderstood catchphrase of "relativity", snobbish admiration of half-conceived paradoxes bend the simple perplexed mind.

Unbiased thinking and unbiased science have rebelled from the start. Have expressed the most important doubts and asked questions. They were dismissed with completely ignoring the twists and turns.

Thus, Einstein's counter-expression to Lenard's famous first objections (1918) touched the main points too little or not at all. A similar thing was repeated at the Nauheim Scientific Meeting in 1921. On the occasion of the Leipzig Centenary Celebration 1922, a similar thing was finally saw 19 physicists, mathematicians and philosophers were forced to protest together, which states, among other things: "They (the undersigned, among them Lenard, Gehrcke, Lipsius, Palagyi, Mohorovicic, Fricke, Vogtherr, Kremer, Lothigius) complain in the deepest way the misleading of public opinion, which is touted as the solution of the theory of relativity (RTH) and which is kept in the dark about the fact that many and also highly respected scholars of the three research areas mentioned but even reject it as a fundamentally misguided and logically untenable fiction."

None of this became known [to the public].

Magazines and newspapers, which alone would be able to bring the voice of enlightenment and criticism, or at least of doubt, before the hundreds of thousands, seem to have conspired, with vanishingly few exceptions, to bring each, even the most flat, yes, to close yourself to any "no". Unfortunately, the same applies to the attitude of the publishers and recently the same slogan is also followed by broadcasting. Researchers of the biggest names know about this.

Thus, the general public could be deprived of the fact that the RTH, far from being a sure scientific possession, has recently been proven by irrefutable arguments as a complex of contradictory assertions, as impossible and superfluous to think.

It has not been known that the spiritual fathers of Einstein, Mach and Michelson rejected RTH. It has not been known that the opponents are at least equal in number and importance to the followers. [ It seems what is meant here that since - Einstein updated relativity to general relativity - is being interpreted here that Einstein then rejected special relativity, with RTH being interpreted as special relativity.]

What is even more important is the outrageous fact that neither Einstein himself nor his commentators even made the attempt to

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attempt to refute the increasingly frequent arguments of the opponents.

An open letter from Prof. Kraus (Prague) to Einstein and Laue (1925), in which decisive answers to crucial questions are demanded with compelling logic, was ignored.

Even before that, Kraus and Gehrcke had been prevented from expressing new concerns and revealing weaknesses of the opponent in the "Journal of Physics" and in the "Logos".

The Naturalists' Congress in Innsbruck did not want a lecture against the RTH, after Schlick had been allowed to hold one for Einstein the year before.

Precisely because the RTH has become or has been made a matter not only for science, but for the general public, precisely because it wants or should reshape our entire world view, its defenders would have the obligation to stand in the service of truth, which alone is at stake. Magazines and newspapers would have a duty not to sabotage the exchange of views.

The purpose of this publication is to counter the terror of the Einsteinians with an overview of the number and weight of the opponents and counter-reasons. The purpose is to educate the general public and to clarify the problems in question.

The editors are prepared that the other side will rush to undoubted weaker, vulnerable arguments, to occasional contradictions between the individual authors and thus try to devalue the present collective script. On the other hand, it should be noted in advance that there is no uniform and authentic representation of the theory of relativity either on the part of Einstein or on the part of his numerous commentators. Rather, the RTH dazzles in all colours.

Einstein himself has given rise to contradictory interpretations (see aether question, clock movement, validity of the absolute constancy of the speed of light), which in turn stand in occasional contrast to the interpretations of Mie, Reichenbach, Thirring, Born, Freundlich, Sommerfeld, Riebesell, Weyl, Schlick, Planck, Petzoldt and others, while these again differ physically, mathematically and in the theoretical way. (More information about this at Gehrcke, Kraus, Lenard, Lipsius, Linke a.u.a.o.) Even the most elementary basic concerns such as "time", "reality" (the shortening of space, etc.) are deeply unclear and has disagreement. The ambiguous and misleading counterfront cannot therefore be opposed to a unified self-front.

But surely there is the corresponding debunking counter-argument to every argument of the Einstein side. In the case of unbiased and fair examination, the present material in its entirety will testify in all circumstances against Einstein and every reading of his theory.

The editors.

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CONTRIBUTIONS

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Posts

Professor Dr. WALTER DEL-NEGRO / SALZBURG

THE QUESTION OF RELATIVITY

The questionable nature of the RTH arises from the undertaking to replace the basics of philosophical and physical thought because of a mere hypothesis for explaining certain experimental results, which is not even the only possible one.

The probability of a hypothesis is calculated in a multiplicative way from the probability of the explanatory value and the preceding probability ; the former may be large here, but the latter is minimal.

This is mainly illuminated by the fact that the RTH makes the space-time continuum of a system one-sidedly dependent on the relative motion: if the relative velocity of a system changes, the measurement results available from it also change, which the RTH explains by actually changing the space-time of this system. The space-time values of a system are thus generated by the relative motion ; since, however, the relative movement itself must be defined in a space-time, which in turn is again caused by relative movement should, etc., a regr[ession] in infin[ity]. The RTH therefore harbours ontological impossibility.

If one replies that the RTH only wants to be an expedient drawing system without ontological claims, the view of theory as fiction is thus admitted to the opponent of the RTH. There is nothing to be said against this, but the non-positivist, who believes in a physical reality, must then remain free to push the finality of the RTH.

Cf. v. "On the dispute over the philosophical sense of Einstein's RTH", Arch. f. syst. Philos., N. F. XXVII, 103 ff. ; "RTH and Truth Problem", ibid. xxVIII, 126 ff.

Professor Dr. HANS DRIESCH / LEIPZIG

MY MAIN OBJECTIONS AGAINST THE RELATIVITY THEORISTICS

1. The clear term "The one empirical reality" or "nature" is missing, which is inevitably in one time. It does not matter whether nature is conceived as a "appearance" or in the sense of realism (1.c. 1 ) p. 47 ff.).

2. It is overlooked that there is a set of absolutely binding statements ("real ontology") for nature (1.c. p. 53 and 96 ff.).

(I) See v. "RTH and Worldview" , Source & Meyer, Leipzig 1929. (Second reworked edition of "RTH und Philosophie", 1924.)

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3. It is overlooked that so-called metageometry is not a "geometry" at all, but only a chapter from pure relations theory (1.c. p. 62 ff.), which is clearly not fulfilled.

4. It is overlooked that time is fundamentally different from space (1.c p. 43).

5. That "at the same time" should be many "times" is an unenforceable thought (1.c p. 41),
6. The idea that movement, which is supposed to be only relative, has an absolute real effect (scale reduction, clock example; 1.c s. 21, 25, 26).
7. It is a credit to Einstein to have shown that today there is no means of precisely determining simultaneity. But a limit of determinability is not a limit of ideal gratitude; and limits of practical determinability must never be used to create logically absurd constructions.
8. The RTH only deals with the practical scientific operation of mathematical physics, which encounters certain obstacles; but it has no ideological significance at all.

Dr. S. FRIEDLAENDER / HALENSEE

ALBERT EINSTEIN'S SPECIAL RELATIVITY THEORY BY ERNST MARCUS FINALLY REFUTED

[Note – Ernst Marcus developed a theory of aether - [https://en.wikipedia.org/wiki/Ernst\\_Marcus\\_\(philosopher\)](https://en.wikipedia.org/wiki/Ernst_Marcus_(philosopher)) I don't know Marcus's theory so don't know what is being talked about in this section. ]

One quickly considers the facts: according to the prevailing hypothesis of the propagation of light, the movement of light is independent of all movements of the physical world, should therefore contrast against it.

Surprisingly, however, this is not the case.

The experimental experience does not reveal such a contrast. So what does the special RTH do?

It relativizes, in order to be able to hold on to the hypothesis of light propagation, which prevails unchecked, even time itself and all dimensions.

In your dream of the independence of the light movement, you do not think of second one. You prefer to doubt the world, the sway to understand itself. Thoughtlessly uncritical, keeps the old image sacred. But this is by no means inevitable.

One of the unbreakable prerequisites of the special RTH is the proposition: the law of light propagation remains the same for the moving system as for the resting system.

But it is precisely then that contrasts would have to emerge, depending on the light encountering differently moving bodies. In fact, no contrasts can be determined experimentally.

Therefore, Albert Einstein does not relativize how close it would be to the previous image of the light, but immediately the time itself; on a dormant system, in relation to this, other

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time ratios as related to a moving one. — Is this claim false, so with this mantle the whole edifice falls, the entire special RTH. Then it is physically impossible.

And in this assertion, as Marcus strictly proves, there is a mistake.

Two things of movement are possible: different movements are either in relation to the independent interarrangement or the interdependence and subordination.

Einstein confuses the independent arrangement with subordination in the movement of light. His assertion that the movement of light, as an independent, does not contrast with other movements is baseless and incomprehensible, hence the whole theory is untenable. One hears that the light movement is independent and should therefore contrast with the others. But the experiment does him no favour at all. Isn't that weird? Should we not come up with the simple idea, like Ernst Marcus, that this thoughtlessly assumed independence of the light movement would be doubted precisely by this experimental experience? But no, for God's sake this independence must be maintained, and rather time be relativized itself !

The light is caused by bodies and is therefore dependent on them. Nevertheless, it should then be independent in its movement ?

And so that the bill is only true, time is put into perspective. Without any physical justification, Einstein treats time like a body moving with or by bodies. Such physically untenable means do not solve problems.

But this wrong slogan points to the real problem and its correct solution: is the light movement independent or dependent? How do you rhyme with the alienating contradiction that the light, caused by bodies, is nevertheless independent in its movement? Supposedly, after the transmission, the light should spread in spherical radii in all directions of the space, like waves in the water. This requirement of the special RTH is untenable. Marcus assumes that the light from radiation is not only one-sided of the outside, but also of the outside and receiver.

A relationship such as that of polarity between light poles. All world bodies would be connected to each other only by strips of light, in between eclipse. Here we really would have a new, wonderful photo. Planets would not only be hit by solar rays by chance, but they, as recipients, help to create the light. The light movement loses its absolute character. If the outsider and receiver retain their removal, these light poles, the light moves only at its own speed. It has also been proved experimentally that the light in its own motion cannot be influenced by the earth's movement. Here, of course, this miracle is explained, without one becoming Einstein's desperate,

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very problematic means would have to take refuge. If you don't want to follow Marcus, you'd rather leave the problem unresolved. Protecting a problem from sham solutions are important. Goethe has already long ago claimed that the confirmation of a hypothesis by mathematical formulas is not proof of correctness. Mathematicians think they can't believe it. In other words, forgo experience. In no way is science privileged to imply hypotheses that dispense with control by perception.

The most abstruse hypotheses are devised to prove that the light movement, although it does not stand out from others, nevertheless proceeds independently. But the light cannot move in the same breath soon independent, soon dependent ! The previous light propagation hypothesis may be incorrect. This eventuality has not been taken into account at all. One can mistakenly assume that the light movement is absolute. Experiments of experience argue against this absoluteness. Why

stick to the previous hypothesis of light propagation? It is really enough to relativize only the light movement instead of time and dimensions.

Cf. v. "The philosopher Ernst Marcus as Kant's successor" . Baedeker, Essen 1930.

Dr. I. K. GEISSLER / RINGGENBERG  
ENOUGH WITH THE EINSTEIN - MISTAKE!

It is fundamentally wrong to copulate the term "theory of relativity" or even "relativity" with the name "Einstein" as inseparable, as an immoderate advertisement to the lay audience and a part of the scholars has managed. Newton already talks a lot about the relative and absolutes in mathematics and physics. Modern physicists, such as E. Mach, whom Einstein knows and uses, have written in general terms about the concepts of relative space, relative time and movement (long before Einstein, 1865, 1901 "The mechanics in their development" and later) ; Mansion (Paris 1863) considered the absolute movement to be pointless and the Ptolemaic and Copernican system to be kinematically equal. I myself published a coherent general "possible" doctrine of relativity in space, time, etc., as early as 1900, while Einstein did not publish much about relativity until 1905, but my book ("A possible declaration of being . . .", ) did not lead. Difficulties arising in the consideration of the movement in particular, which set forces in physics and with which Newton had already fought, admittedly much more cautiously than Einstein, Einstein seeks to remove in a quite violent and illogical way (with faulty circle closure). He leads in his writings many things that are good, but have been said long before him. The difficulty of the different speeds, however,

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in which time and space is present, he believes to solve by forcibly letting times, which one called the same, be different, depending on different speeds, which is even supposed to be the case in nature.

It is neglected that in the "concepts" of speed there is also the concept of space and time. Such a concept cannot possibly be presented as the original. What Einstein continues to use was also already available. Even Lorentz had established the transformational formulas that Einstein now uses in "his" relativistic sense and in his assertion over time.

Instead of accepting, as Lorentz did in certain subtle examinations and experiences, certain shortenings of the experimental bodies during movement, Einstein now corrects his own "theory" in such a way that it is not the bodies that are shortened with respect to the space presented everywhere, but that the spatial lengths are simply shorter (!) as soon as they are on a different moving body. He does not realize that when presenting such changes he always presupposes the uniformity of the time and space streaks[i.e. stretches], that without these those changes are not conceivable at all, nothing at all. He does it similarly to the non-euclidics, if they have a non-Euclidic[ian] space, which they otherwise only arithmetic (about by widely telling of 1, 2, 3 dimensions to a fourth and n-th) defined, to illustrate, such as if they want to present a finite, returning space instead of the infinite one, by using a parable that is entirely based on the actual Euclidean infinite space. One should imagine a sphere surface on which one can return to the beginning in a circling way. However, it is assumed that there is an area in the space and that such an area is always presented only if outside this sphere surface the expanding space is located, but otherwise it is impossible in the sense, in the view. In fact, Einstein is simply relying on non-Euclidean teachings or assertions. But in this way, by a faulty circle, one does not get rid of infinity. As on a

sphere surface, such as the earth's surface, "hump" can be imagined, so should the space can be humpback, quasi-spherical. Just as the space lengths in Einstein can change due to the difference in speed, so the space itself should be able to get small changes through the influence of "masses" — as if such humpbacks were at all understandable and had some sense if one did not assume that there is the lack of disgust, from which the hump differs. Of course, of these wonderful things, which are written by Einstein of nature, we should usually not notice anything: "even masses the size of a sun only minimally influence the metric of the surrounding space". So: there is this sun sitting in the space — or not in the space ? And this sun, which mass has a "spatial" extent (or is the sun

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as a mass a completely metaphysical, extraspatial thing ? ?), should now have an influence on space, namely the "surrounding" albeit minimal, which makes this space itself humpback.

Such an "RTH" no longer moves in the context of physics, becomes metaphysical, but unfortunately metaphysical with errors of thought, with the use of a prerequisite (a space with which the humpful one is compared, which cannot be humpback without this condition, completely destroys this concept) — that is, using a condition in the "rebuttal of this condition - — to refute this condition. One cannot jump over into the field of philosophy if one cannot think philosophically, not logically — even the most extensive advertising does not help — except for people who understand the whole question only in depth or not at all. Whoever wants to judge here, including the who Einstein wants to prove right and revere him as a great physicist and philosopher must surely be able to think seriously and philosophically himself, or at least have heard the other side. *Audiat et altera pars* [Latin translates as-> let the other party] - — and thoroughly, not just after a brief excerpt.

V gl. d. V. "Common Refutation of the Formal Relativism of Einstein and Related" (1921)

ARMIN GIMMERTHAL / BONN

THE RELATIVITY PRINCIPLE OF THE CLASSIC MECHANICS AND ITS FAKE BY EINSTEIN

I prove in a recent work "Four Relations Clauses and one Relations System, a Complete Refutation of the RTH" :

1. That Einstein's RTH is in contradiction with incontrovertible laws of thought, in particular the principle of addition and the principle of relativity of classical mechanics;
2. that Einstein's formulation of the principle of relativity is a falsification of it and that he has had to make it in order to be able to make his claims;
3. that all transformation equations intended to support these claims are false;
4. that Einstein's views on space and time are untenable, in particular, that he lacks the appropriate ideas for the concept of simultaneity;
5. that [his] relativizing simultaneity is an obvious nonsense
6. that the evidence taken from Minkowski's "world" — a mathematical fantasy of this is in turn a forgery, and

7. that the correctly understood mathematics of theory fully confirms all these accusations.

Cf. v. "the errors and fallacies in Einstein's RTH". Langendreer. 1926.

(Motto: "But the laws of thought are relentless." Dingler.)

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Professor Dr. LUDWIG GOLD SCHMIDT /JENA

IGNORANCE AND ARBITRARINESS

[Jena – a German city]

In my scripture 1 ), Einstein's assertions are succinct and scientifically marked and refuted - his so-called "RTH" understands nothing of the relativity of sensual knowledge and does not deserve the name of a "theory". Everything that can be peeled out as correct in the remarks of Einstein and his proclaimer Weyl is partly ancient. What could be described as new is a mistake that was predicted by me years ago and, as my writing shows, by Kant.

Einstein and Weyl operate in an area for which precise and reliable philosophical knowledge must be assumed. Their ignorance, however, is only exceeded by the grotesque inflation of a self-consciousness that can be characterized by the following words: Everything Einstein does not understand, because understanding requires knowledge that he lacks, "is without meaning and dark."

To really understand the error of their speculations, Einstein and Weyl will need several years of study.

I have no word to take back from what I have written.

Professor Dr. A. H. DE HARTOG / AMSTERDAM

PHILOSOPHIC BACKGROUNDS

Not to deny Einstein's great talent and importance in the field of science, but because many believe that everything has become "relative" through his theory and that nothing is fixed any more, we also send a contribution to this work.

That is why this contribution to the whole of this work occupies a peculiar place. We do not wish to agree with the emphatic "anti" of this publication, and yet we wish to work with it to prevent hasty conclusions and unfounded scepticism.

There are five points in particular that we want to point out.

First of all, if the temporal orientation may change from a subjective point of view, it is not yet said that time cannot therefore be a "form of existence" in objective reality (see, inter alia, Ed. von Hartmann's transcendental realism). The subjective orientation in the midst of the temporal event may be relative, but objectively there may nevertheless be a temporal constellation at the same time, which is not readily compatible with the sub-orientation stands and falls.

Secondly, although the subjective orientation in the temporal

1 ) "Against Einstein's metaphysics. A critic. Liberation." Lübeck 1923.

events would turn out to be relative, the arithmetical and geometric numbers and formulas with which the subjective-relative orientations are calculated remain constant as such, as arithmetic and mathematical data, under which one use the relative temporal orientation.

Thirdly, if relativism were to be mentioned here, this relativism, in the midst of the RTH itself, is to be understood only physically, i.e. solely in relation to the natural, material events.

But this natural, material, physical event exceeds the aesthetic, ethical, philosophical and religious values, which do not stand or fall with a potentially physical event. Because the above values show up as a "duty", "idea" "Ideal" etc. about -natural, even anti-natural. The evaluation of these values is therefore not physical, but a metaphysical one.

Fourthly, although these values should be relative, the human spirit nevertheless refers all, even these relative values, to the absolute, to the thought, the spirit, god or whatever word one may choose, in order to mean that unity is in- the midst of the multiplicity of science, wisdom and religion.

Fifth, Einstein's assertion of a finite universe is very suitable for making scientific, philosophical, and theological discussions about the spirit transcendent beyond this universe.

Dipl.-Ing. Dr. HANS ISRAEL /BERLIN  
 MATHEMATICAL PRESENTATION OF RELATIVITY THEORY

The mathematical calculation of the RTH [that] has been carried out by Einstein [is] so erroneous, that one can only express astonishment at it. Some samples should suffice to prove the recklessness of his method:

1. Substitution  $x - vt = x'$  shall not apply to the reflected beam of light of the Michelson interferometer directed against earth translation. The coincidence of the dormant and moving mirror is achieved in this case by the substitution  $x + vt = x'$ . After that, the principle of relativity no longer applies in general terms. Einstein himself calculates in his differential equation the velocities  $c - v$  and  $c + v$ , which correspond to the substitutions above. So he refuted himself !

2. The relativistic shortening of  $\sqrt{1 - \frac{v^2}{c^2}}$  results only in the middle interferometer mirror, while a completely different value can be calculated at the other two mirrors. But Einstein maintains relentlessly; After that, everything has been shortened evenly !

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3. The addition theorem of the velocities is obtained by Einstein only by the gross calculation error, two velocity systems  $c$  and  $w$  by the same coordinates  $\xi, \tau$  and despite the new substitution  $\xi = \omega\tau$  to keep the factor  $c^2$  of the Lorentz transformation constant, instead of replacing  $c$  proportionally with  $w$ .

4. In calculating the relativity factor  $\beta$ , Einstein overlooks the rotational pulse of the earth's surface of 426 m/sec, while tacitly executing the motion of the solar system according to the still image of Hercules of 19 km /sec the beam of light. This with sun-ether as the reference system, which results in a carrying [or entrainment] of the light beam in contrast to the relativity principle.

5. Since the aberration is a consequence of free aether-vibrations, while the Michelson interference occurs with earth-bound light, there is no reason at all that both light types behave identically. Rather, earth light must be internally related to the earth's potential.

6. By reshaping Maxwell's light wave equation:  $x^2 + y^2 + z^2 - c^2 t^2 = 1$ , the t-coordinate acquires a certain position without resulting in a physical change or a fourth dimension.

7. The gravitational field cannot be replaced by an accelerated system because both systems are not equivalent. The substitution  $\Gamma^{\tau}_{\mu\nu} = - \left\{ \begin{matrix} \mu\nu \\ \tau \end{matrix} \right\}$  therefore does not give a coincidence of the gravitational field with the opposite accelerated system.

8. The Newtonian law of gravity finds Einstein only by the inadmissible substitution  $ds = dx_4 = dt$ . It swaps categories of different senses and confuses mathematical equality with physical equivalence.

9. Since the strongest electrical influences fail to bend a beam of light, it is outrageous to want to make humanity believe that gravity will be able to do so. Rather, we know that the solar atmosphere can bend the starlight like a gas sphere.

[There are various critics of modern times that think light can't be bent by gravity and instead Eddington 1919 was dealing with light bent through the solar atmosphere. I personally don't go for that idea. I accept light can be bent by gravity as well as through solar atmosphere. It shows that critics of Einstein's relativity have different opinions on certain issues. So, one critic might dismiss light bending by gravity while another might accept it. i.e. no unified viewpoint of critics, just a multiple of different viewpoints.]

10. Einstein receives the Mercury deviation only by the erroneous notion that it is calculated relativistically, while the classical rotation  $2 \pi$  is determined according to the usual method. There is no physical explanation given at all. In our opinion, however, the rotating solar electric potential can result in a bonding of Mercury, through which it hurries faster.

11. It is impossible to agree electrical and mechanical processes because their masses behave differently in terms of inertia. This admits that the difference is allogical one.

[allogical means beyond logic.]

Since Einstein has taken note of the above errors of his work 1 ) without being able to refute them, he has thus admitted the fiasco of the RTH.

1 ) See the v. 'Proof why Einstein's RTH should be put aside'. Hillman, Leipzig. Furthermore, "dissolution of Kant's doctrine of contradiction 4 . Schwetschke u. Sohn, Berlin.

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HUGO KELLER /LÖBAU i. S.

## THE RELATIVITY THEORY

The RTH claims the constancy of the speed of light for any system that is arbitrarily moving. In the opinion of the RTH, when two celestial bodies approach each other at the speed  $v$  and one of these two bodies emits a beam of light, according to the RTH it is irrelevant for the assessment of the speed of light whether the light carrier is moving and the other body is at rest or, conversely, the light carrier is at rest and the other bodies are moving towards him. There is no such thing as a state of absolute rest, only that of relative motion.

In order to keep the speed of light constant for any moving system, the dimensions of space and time are converted for the state of movement. Spatial dimensions are shortened in the direction of movement, clocks are slowing down. Let an observer B move towards an observer A with the speed  $v = 100,000$  km. Then it follows from the RTH that for B (assessed from A) the kilometer dimension shrinks to 707 m, thus 300,000 km to 212100 km. B now does not determine a speed of light of 212100 km per second, but only 0.707 seconds have elapsed for him; thus B also finds the value of 300,000 km per second for the speed of light. B must therefore (always judged from A) subtract his distance 424300 times in order to get the distance of 300,000 km, which the light travels in one second. Exactly the same difficulty arises in the definition of  $v$  in relation to the system at rest or in motion.

If the thesis of the constancy of the speed of light would apply to any system in motion, then it would be the given, the 300,000th part of the second - to set the light path as kilometers. Either the distance [presumably means the 1 kilometre distance] would then be different for every moving systems in same way, or it would be - the light path - different. In both cases, a theory of relativity would no longer make sense.

A train, assessed from the railway embankment, should have different lengths, depending on it moving. When I take a snapshot photograph of a moving train, it results in a different length than the photograph of the stationary train, although the train can be considered resting both times during the short duration of the shot. A differential calculation should therefore not be possible at all, as the absolute truth of our mathematics is questioned by the RTH.

If of two exactly the same clocks A and B the clock B makes a journey around the world, and re-meets with the clock A. Suppose that the journey around the world takes place in 24 hours against the turning of the earth, so the seemingly moving clock B is at rest [in its frame] and the other, seemingly at rest A moves [from treating the B frame at rest then A moves].

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A would therefore have to go against B, and the clocks exaggerating each other in the aftermath. Or A is now going against B, i.e. at the same speed need different time for a trip around the world, whether I drive around like that or the other way around. At the same time, it follows that the earth must have a different circumference, depending on whether I measure in the sense or in the opposite sense of the clock hand. For the same distance, two different values.

In some dark way the RTH "eliminates" this contradiction with the help of gravity. The passage of time is incomparably faster in fields of different gravity. Accordingly, two celestial bodies of different sizes, emerging from the surrounding fog at the same moment have arisen, of different ages, because what a hundred thousand years mean for one is more or less for another. Even the

individual parts of a planet whose common hour of birth is the hour of birth of the planet have different ages because of their gravitational field is different.

And why does the RTH seem to us to be inconceivable?

The answer is that it tries to give us a "simple" explanation for well-known and well-founded phenomena, while it fails in the field of new research. Atomic research, which occurs at unimaginably high speeds and small distances has to do (i.e. the given area for the RTH), the RTH has none of its successes to thank.

The success of RTH is that it has replaced a problem of classical mechanics with hundreds of new problems. But it will also be understood that the RTH is challenging contradictions and "misunderstandings".

See v. "The lack of support of the RTH" and "Counter-evidence against the RTH". Hillmann, Leipzig.

Professor Dr. O. KRAUS /PRAG  
TO RELATIVITY THEORIE 1 )

The optical experiment employed by Michelson seemed to show that the light emitted by an earthly light source behaved exactly as if the earth was resting, and that the light source was ejecting the light like a projectile, as if a projectile theory such as the Newtons and Poissons; or if you consider a wave theory:

1 ) See v. 1, essay: Frankfurter Zeitung, No. 163, 3, III, 1927, from which the above text is taken. — 2. 'Fiction and hypothesis in Einstein's RTH', Ann. d. Phil. II, 3, 1921 (special issue of the RTH). —3, Kant Studies, XXV, 1, 1920 (21); "To the teaching of space and time," Brentano said. — 4. Kant Studies, XXVI, 3 and 4, 1921 (22) , "The confusion of means of description and description in Einstein's RTH." — 5. Lotos, 70, 1922, p. 333 ff. — - 6. Review, XXV, 1921; "The impossibility of Einstein's theory of movement". - — 7. 'Open letters to Einstein and Laue'. Braumüller, Vienna and Leipzig 1925.

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as if the light ether is taken from the earth like the air in a ship's cabin. Both assumptions, however, contradicted the prevailing electrodynamic theory of the aether at rest of H. A. Lorentz. According to this theory, our earth leaves on its journey through the unresisted world ether [where the ether is] completely at rest; Therefore, if Michelson in his famous experiment sent light waves back and forth in the direction of travel of the planet and in a different direction, then one had to follow Lorentz's theory of the stationary ether and expect that the light waves have to cover a longer or shorter way and arrive later or earlier than they would arrive if the aether were carried away.

So how can one explain that the Michelson experiment turned out to be as if the Lorentz theory were incorrect? It was a very daring hypothesis when Lorentz, instead of changing his theory, assumed that the Michelson apparatus, and every body in general, would change quantitatively when it moves, in such a way that the Michelson apparatus and every body in general converge in the direction of its movement ! Through this "contraction hypothesis" Lorentz succeeded in reconciling his theory with the results of the Michelson experiment that contradicted it. This hypothesis of Lorentz may be strange, but it is in any case an attempt to explain the so-called

"negative result" of the Michelson experiment while maintaining the hypothesis of the stationary aether.

According to Einstein, however, "contraction is only a consequence of the point of view, not a change of a physical reality" (Born), which is clear with all evidence from the fact that the Einstein contraction took place only "for the non-moving observer", so that it depends on the presence and the arbitrarily chosen positions of an observer, while the Lorentz contraction is intended as a process physically independent of any observation.

According to Einstein, there is a very strange process: for the observer, everything remains unchanged on the same system; for him it is not true that any lengths of his body shorten as a result of movement, or that any of his clocks slow down. But the observer on the non-moving system measures the lengths of the other system as shorter, the times as longer. Eddington, the English proponent of the RTH, explicitly points out in his work translated by Teubner the fairytale nature of these reciprocal pseudo-measurement, which has nothing in common with the Lorentzian hypothesis of a real shortening from the mathematical formula.

Here only so much is said that the Einstein's principle of relativity "postulates" that in the measuring comparison of the speed of a light reproduction ( $c$ ) with that of a straight uniform motion ( $v$ ) of any other movable thing, there must always be a speed difference of 300000 km/sec in favour of light ;  
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in other words, the speed of light "plays the role of an infinite speed" that disappears from any other speed. The paradox that  $c - v = c$  should always result for the measuring comparison is sought by that reciprocal change in time scales (clocks) and continuing to make the spatial measures comprehensible 1 ).

The change (shortening) of the spatial scales is quantitatively equal to the RTH, but — as stated above — in a different way from the Lorentz contraction, i.e. only for the observer on a non-moving system. Of course, these are not actual experiences, but "postulates" and by equating space and time measure (clock) with space and time in the further course, those overturning teachings about the relativity of "simultaneousness" and the lapse of everything that common sense, like that of Newton, Euler and Kant, considers to be a priori evident arises. However, the RTH's criticism of Prof. Wiener in Leipzig, who "Never can we make the size of a speed disappear by choosing the scale alone, as is possible with the principle of relativity by choosing the inherent speed to be withdrawn.""

Dr. W. KUNTZ / SPANDAU

EINSTEIN'S RELATIVITY CANCEL EVERY OBJECTIVE VALIDITY

Although human research will never reach a chimerical "absolute" , its history has proved that its progress is to replace the subjectivity and relativity of human conceptions with objective validity. It is precisely the liberation from relativity that is the measure of new insights. The RTH, on the other hand, raises relativity itself to the absolute principle, with which itself contradicts.

Moreover, it proceeds unilaterally from the optical experience and neglects the knowledge of the sense of touch, which is more original than the sense of view, as it emerges from it that there are

many blind, but not completely touchless. The word "understanding" points conspicuously to this originality of the sense of touch.

If the principles of RTH and relativism are transferred to other spiritual fields, any universal guideline for human striving becomes obsolete, and even the difference between error and correct knowledge continues.

1 ) Cf. Gleich: "Einstein's Theories of Relativity and Physical Reality", Barth, Leipzig, 1930.

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Dr. EMANUEL LASKER/ BERLIN  
ANTINOMY OF RELATIVITY

Einstein's deduction overlooks the fact that the experience of empty space does not matter. By substituting the empirical value of about 300,000 km per second for  $c$  and arguing as if the emptiness of astronomical space was indubitable, he arrived at an antinomy. In reality, must be  $\lim c = \infty$ , as I already explained in 1919, and that solves the antinomy. Einstein's method of deduction is entirely inconclusive, and the disputed method which he follows is irrelevant.

Professor Dr. J. LE ROUX /RENNES  
THE BANKRUPTCY OF RELATIVITY THEORY  
(Translated by Dr. E. Ruckhaber)

1. Einstein's RTH created a lively intellectual movement and prompted various theoretical and experimental researches which have contributed to the advancement of science. However, the theory in itself does not stand up to thorough scrutiny. In the light of criticism it becomes clear that the given synthesis is an empty semblance that can only be preserved in a favorable, protective semi-darkness.

The connectedness of the arguments and the childlike nature of the hypotheses are of the same kind. The inferences sometimes have no relation to the premises, the basic components of the calculations assume a meaning that does not correspond to the definition in the underlying data. One could perhaps point out the methodological flaws if the results brought real progress to our knowledge. Unfortunately this is not the case. One or the other of the results obtained are independent of theory and cannot in any way serve to support it.

It is known that the special RTH originated from the Michelson experiment.

But the author himself did not understand how to properly analyze the results of this experiment. He drew conclusions from them which they in fact do not imply. He then tried to explain these conclusions by means of a series of hypotheses that contradict each other and have no relation to the phenomenon!

The theory of gravity is also very strange. But here, in addition to the lack of ability, there is the enormous dupery in the alleged explanation of the secular progression of the perihelion movement

of Mercury. The observed secular forward motion is approximately 374 ". Einstein's theory gives a displacement of approximately 42" from Newton's

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on the basis of current findings, explains this forward movement up to 336 ".

In order to deduce from this the superiority of Einstein's doctrine, something more is necessary than the most blind and abnormal compliance. The impotence of the RTH in this regard is due to its entire composition. It takes its own principle as its starting point by undertaking material movements through geodetic measurements in the form of quadratic differentials with four variables, represented by spacetime with four dimensions. This hypothesis contradicts gravity.

The attempts of mathematicians, who are more conscientious than clear-sighted, to reconcile logically incompatible things, have necessarily failed and will continue to fail.

In the fifteen years or so since the General RTH was established, it was impossible to derive from it an approximate representation of the movement of the solar system or any other system. The promises made are not kept, this is a significant failure.

2. The Michelson experiment. From the Michelson experiment, the RTH concludes that the relative light propagation speed for the observer is the same in all directions.

This conclusion is incorrect. The isotropy of the interference wave does not include that of the propagation wave in itself 1 ).

One can only conclude from this that the means in which the light spreads, aether or otherwise, is homogeneous and isotropic only under certain conditions with respect to a given reference system. If one admits that the ether is influenced by the force of gravity, even the law of propagation can satisfy the following conditions:

- a) There is a reference system S in such a way that the means of propagation is homogeneous and isotropic with respect to S in every region remote from the material masses.
- b) For every light source that is invariably bound to the same reference system, the interference wave is isotropic in a specific area.
- c) For every light source bound to a material mass and carried along by it, the interference wave is also isotropic in a special area.

There are an infinite number of solutions whose common properties are easy to determine. The exact analysis of the phenomenon does not permit the strange conclusions which form the basis of special relativity. The very precise results of Miller's new experiments are of the greatest interest because they can help us to exercise the influence of the

1) J. Le Roux, [translated from French->] „Restricted relativity and geometry of undulating systems“, S. 21 (Paris 1922). Journal of Mathematics, S. 223 (1922).

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Getting to know matter on the conditions of the propagation of light .

3. The relativistic explanation of the Michelson experiment. Having drawn incorrect conclusions from the Michelson experiment, the relativistic school tries to explain it. Since the partial derivative equation for the propagation of the waves does not hold up for the analytic transformation, which is a rectilinear uniform translation, one changes the meaning of the words. The transformation by Voigt-Lorentz, which retains the analytical form of the equation in question, is baptized with the name "translation".

This is ridiculous sleight of hand. Translation is one thing, Voigt-Lorentz transformation is another. There is a group of translations like there is a Voigt-Lorentz group. The two groups each have their own area and specific meaning in mathematics. Since these are matters of definition, they cannot be confused.

In order to use the Voigt-Lorentz group, Einstein assumes two reference systems; each of them is assigned an observer equipped with a full set of measuring instruments and timers. Each of the two carries out the length measurements in his own system, namely by shifting the scales according to the methods of Euclidean geometry. The observer and the objects have permanent existence and can even, it is said, pass from one system to another. Finally, the relationship between the coordinates of one and the same event point related to both systems using the formulas of Lorentz.

One notices immediately that these hypotheses have nothing in common with the conditions prevailing in the Michelson experiment, where there is only a single observer who neither has to measure his timer nor determine the numerical value of the speed of light.

4. Incompatibility of Einstein's requirements. But even more: Einstein's hypotheses are themselves logically incompatible with one another.

Two systems with variables  $S(x, y, z, t)$  and  $S'(x', y', z', t')$  may correspond to one another according to Lorentz's formulas. Should a point in the System  $S'$  be fixed, so  $x', y', z'$  must be constant, while  $t'$  remains arbitrary. The equation which determines  $t'$  then plays no role.

Under these circumstances, all points bound to  $S'$  suffer a straight, uniform translation with respect to  $S$ ; but the variables  $x', y', z'$  do not mean Cartesian right-angled coordinates in the sense of  $S$ . The same obviously applies if one assumes  $x, y, z$  fixed and  $t$  as arbitrary.

Einstein did not differentiate between the fixed instantaneous values

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and the variable arbitrary values of  $t$  and  $t'$  between a permanent object and a momentary event.

Now, however, the observers, their yardsticks and timepieces must be viewed as permanent things in the system to which they are bound.

According to one of Einstein's basic hypotheses regarding the length measures in one of the systems, two identical objects that lie in the same system are related to one another by means of a Euclidean transformation made on the variables of this system.

On the other hand, according to the hypotheses made, the observers, the yardsticks and the timepieces are mutually related from one system to the other. All of these assumptions would require that the transformation of a Euclidean substitution by means of a Lorentz transformation still remains a Euclidean substitution - which is not the case.

Einstein's interpretation of the Lorentz group thus encounters a logical contradiction. The entire special RTH rests on this fragile foundation.

5. Space and spaces. In the General RTH there is a mixture of two things which mathematicians wrongly use the same name: geometric space and analytical spaces.

In the cases where  $n$  variables occur, the analysts often name a system of numerical values that are shared with these variables "analytical point" and all these points the name "analytical space". The number of dimensions of the analytic space envisaged is the number of variables that make it up.

These definitions are purely analytical and independent of the concrete meanings of the given variables.

The geometer's point of view is different. For him, the number of dimensions is not a property of space, but a property of the space element.

This requires an explanation.

The position of a geometric point is determined by three coordinates. The totality of the positions of the geometric points would thus form an analytical three-dimensional space. But a straight line is determined by four numbers, which are also called their coordinates; the position of a solid body is determined by six coordinates, etc. If one regards the straight line as an element, the totality of the possible positions forms an analytical space of four dimensions (Plücker's ordered space). The totality of the positions of a solid body would also define a six-dimensional analytic space.

For the geometer, the location of the points is the same as that of the straight line or the solid: it is always the same space.

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The space considered as a place in the sense of the geometer does not have a certain number of dimensions.

Classical mechanics considers systems whose position depends on any number  $n$  of parameters. The totality of the possible positions of this system forms an analytical space of  $n$  dimensions; the place of these possible positions always belongs to the same indefinite space of the geometer.

The point of an event in the relativistic sense is determined by three position coordinates that are linked to a time value. Their entirety forms a four-dimensional analytical space. But if the event is composed of the simultaneous consideration of two point positions and a time value, the whole forms an analytical space of seven dimensions.

The totality of the possible connections between two completely independent event points would form an analytical space of eight dimensions.

Further examples are superfluous. The ones given here suffice to make it clear which essential difference there is for the geometer between the local space and the total space. They are two different terms that are referred to by the same name.

6. The relativistic spacetime and the analytic space of Newtonian gravity. Relativity has only a four-dimensional spacetime in mind, which it examines in the form of quadratic differentials; this should play a role similar to that of the line element of a surface in geometry.

The force of gravity would hereafter be determined by starting from this square shape. The natural motion of a material point would be represented by a geodetic line of the differential form in question. This geodesic line is his world line. A geodetic line corresponds to every movement.

Something similar can be found in classical mechanics. The principle of the smallest effect leads to the fact that the representation of the motion of a system is based on a geodetic line in the form of quadratic differentials. But one has in the eye the movement of a whole system, which is viewed as a solid whole, and more that of a single element.

The quadratic form then comprises as many variables as are necessary to determine the position of the system, and it is the movement of the whole that is represented by a line from the form in question.

If, for example, one imagines the universe as formed by a total of  $n$  mass points, the position of the whole will depend on  $3n$  variables. The corresponding analytical space will have  $3n$  dimensions. Time is not a supplementary coordinate, because the movement of a timepiece of whatever kind leads away from the entirety of the movements of the universe.

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The square shape mentioned is as follows:

$$U \sum m ds^2.$$

In it  $U$  denotes a function of the coordinates of the system.

The calculation involves the introduction of an auxiliary variable  $t$ , which is defined by the equation

$$dt^2 = \frac{\sum m ds^2}{2U}$$

is determined. This allows the geodetic differential equations to be reduced to the usual form of the equations of mechanics. This auxiliary variable  $t$  is the canonical time of classical mechanics.

The canonical frame of reference is the one for which the kinetic energy of the observable universe is minima.

If one finally determines U according to a minimum requirement for the energy of the accelerations, one finds

$$U = f \sum \frac{m_i m_k}{r_{ik}} + h$$

where  $m_i$  and  $m_k$  denote the masses of two elements and  $r_{ik}$  denote their distance. This is Newton's first law. The equations of motion then have the form

$$m_i \frac{d^2 x_i}{dt^2} = \frac{\partial U}{\partial x_i} \quad 1)$$

These equations contain not only the coordinates of the point under consideration, but also those of all other points in the system, which gives the whole thing closed 1).

An interesting fact of relativity, which classical mechanics reveals but escaped Einstein's school, is the relative character of the principle of the equality of action and counteraction. This principle does not express a property of matter: it is a property that comes from the choice of the frame of reference.

7. On the impossibility of representing the phenomena of gravity by Einstein's theory. It remains to be shown that it is impossible to represent the phenomena of gravity, starting from Einstein's basic hypothesis.

Let T be a quadratic form of differentials of four variables  $x_1, x_2, x_3, x_4$ . The equations of the geodetic lines of this form can be written as follows:

$$\frac{d \frac{\partial T}{\partial (dx_i)} - \frac{\partial T}{\partial x_i}}{\frac{\partial T}{\partial (dx_i)}} = \frac{d \frac{\partial T}{\partial dx_k} - \frac{\partial T}{\partial x_k}}{\frac{\partial T}{\partial (dx_k)}} \quad 2)$$

1) J. Le Roux, [French translation->] "Mathematical principles of the theory of Gravitation" Paris 1930.

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They allow three of the coordinates to be expressed as a function of the fourth and any six integration constants. The only difference between two solutions is the numerical values of these six constants.

Let us consider two solutions that represent the movements of any two material elements. Under  $y_1, y_2, y_3, y_4$  are to be understood the coordinates of the elements of the first, under  $z_1, z_2, z_3, z_4$  those of the second. You can for example, assume that  $y_1, y_2, y_3$  are expressed as a function of  $y_4$ , and also  $z_1, z_2, z_3$  as a function of  $z_4$ . But there is no necessary relationship between  $y_4$  and  $z_4$ : there is generally no necessary relationship from element to element between two geodetic lines. One

could evidently manufacture such a product by i.e. set  $y_4 = z_4 = t$ , where  $t$  denotes a time. However, this agreement is by no means essential. Nothing in the differential equations (2) would be changed if for the first line  $y_4 = t$  and for the second set  $z_4 = t + \alpha$ , where  $\alpha$  means any constant.

The lack of a regular relationship between the points of occurrence of two different geodetic lines is the main reason that Einstein's theory is unsuitable for representing the phenomena of gravity. One can derive differential equations from theory which will more or less approximate those of the motion of a single point; but one will never be able to derive the equations for the motion of any solid system from it. It is not the difficulty of the problem or the inability of the authors to blame for the failure of the attempts that have been made in this sense, but rather it is grounded in the essential contradiction that exists between the principle of Einstein's theory and the fact of unity.

It has not even been possible to set up the equations for the motion of a system of two bodies that are related to a reference system that does not have one of these bodies as its starting point.

The secret of this powerlessness lies in the restriction of the analytical space corresponding to the problem of gravitation to four dimensions.

Analytical mechanics, free from the superstition of spacetime, cleanly and accurately solves the problem by introducing the necessary number of variables.

Relativistic mechanics stomps in the same place, unable to get out of its four-dimensional prison.

The four-dimensional analytic space of Einstein does not contain the 3 n-dimensional analytic points which correspond to each position of a whole of  $n$  material elements.

While for this reason relativity can only treat the elements individually, classical mechanics treats the whole of the observable universe in its totality.

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8. Gravity is a property of the observable universe considered in its entirety. It is common to see gravity as a law of acceleration or interaction. But in this way the problem is robbed of its true nature. The so-called Newtonian effect, which is inversely proportional to the square of the distance, only applies to movements related to certain reference systems. Since these systems are oriented towards the starry sky, they actually depend on the totality of the stars observed.

The wording of the law of attraction also presupposes the choice of a special point of reference for the time so that the acceleration can be determined. This canonical time is also established, theoretically by considering the entire universe, practically by the apparent rotation of the starry sky. It is always the whole of the universe that comes into its own.

The concept of two equal and directly opposite actions at a distance seems at first to contradict our understanding. However, we prove that:

Whatever the nature of a moving whole, whatever the movements of the elements that compose it - there are always systems of reference which are so constituted that the relative movement of the whole with respect to any particular one within it seems to take place solely on the basis of two mutual, equal, and directly opposite effects.

The mutual remote effects are therefore essentially a fact of relativity which results from the determination of the reference system.

Einstein's method did not make it possible to uncover this important result.

In order to finally express the law of mutual effect in a form that is independent of the choice of the reference variable, one would have to use the totality of the parameters that serve to determine the position of the observable universe as a whole.

That too is beyond the capabilities of Einstein's method.

The results confirmed by the relativistic school only appear satisfactory if they are admitted without criticism. This applies e.g. from the deceptive indication of 42 "for Mercury instead of 374" and the inability of the method to explain the rest.

9. Conclusion. These general statements make it unnecessary to go into the various irregularities of the method and the pseudo-geometric theories of relativity. One gets the same impression from them and finds the same lack of criticism, combined with some assertions that are downright absurdities.

My very clear conclusion is that Einstein's RTH does not belong to the field of positive science.  
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Professor Dr. P. F. LINKE / JENA  
RELATIVITY THEORY AND PSYCHOLOGICAL TIME

My opposition to the RTH begins as soon as it believes it can make philosophical and ideological statements.

In and of itself, no physicist can be prevented from building his science into a (wholly or at least in its essential points) positivistic-instrumentalistic system of knowledge and saying, for example: physical propositions are "true", if it is possible with their help, to calculate other phenomena on the basis of observation of certain phenomena and accordingly "predict" correctly.

In the building of a physics understood in this way, the RTH not only fits in casually, but also provides particularly haunting evidence of its feasibility.

The only question is whether this feasibility cannot be achieved at the expense of that task of research which has hitherto been regarded as its most valuable, indeed as its real and, as far as questions of worldview are concerned, decisive; the establishment of the truth.

Because "truth" in the sense of positivistically understood physics is fundamentally different from what the natural human being understands by truth and has a right to understand. While the real truth always refers to an existing being, the positivistic "truth" wants to be nothing but a mere instrument for calculating the phenomena and therefore tolerates a foundation based on principles that are false, even contradicting in the sense of real truth can: it reveals itself as a - - in the broader sense a technical matter of peripheral knowledge, world view problems are irrelevant: because the nature of the matter can only be served with genuine truth. -

The fact that thinking about the categorical foundations of the RTH actually leads to logical difficulties is almost an open secret. One of these difficulties, which is often overlooked precisely because it is one of the most elementary requirements of the theory in question, is briefly outlined here.

R. Weinmann pointed out that Einstein already assumed simultaneity in his physical definition of simultaneity; "Two distant light signals, A and B, are for him at the same time when they" meet "in the middle M - namely (what else could this mean?) Meet at the same time" 1).

One will reply: Einstein's definition naturally only concerns the simultaneity of events in different places: it alone is in question. The simultaneity of two events in the same

1) "The untenability of the special RTH" (Nature and Culture, Issue 4). Tyrolia, Innsbruck-Vienna-Munich 1930.

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Places (or at two immediately adjacent) are completely unproblematic.

But is that the case? Simultaneity presupposes time and since according to the RTH there are several equal times, it may be asked in the sense of which time there is simultaneity. Hugo Bergmann gives the answer (for this as well as for similar cases) following Bergson, that here psychological time protrudes into physics 1).

In fact, when the physicist makes time determinations, he is always compelled to determine directly experienced simultaneities (namely that of the physical event to be investigated with the pointer position of his clock) and thus one immediately include time experienced in its results.

Bergmann recognizes it as a contradiction "that physics is not able to completely exclude psychological time from its conceptual structure, but is also not able to cope with it with its concepts" 2). Of course, this should not say anything essential against the categorical structure of modern physics (and therefore also of the RTH), because - as it goes on - "the world of physics is a world of abstraction, and we can no longer expect from physics rather than that abstraction is carried out purely within its conceptual means".

That is certainly correct, but it would have to be a strange abstraction that would be able to introduce contradictions into the abstraction result which are not present in what is being abstracted from. If I abstract that of furniture from the concepts of tables, chairs, benches, cupboards and beds, then this abstraction of mine would certainly be flawed if a contradiction could be shown in the concept of furniture.

Above all, however, there is no psychological time at all in the Bergsonian sense presupposed here (as something coordinated with physical time). The so-called psychological time is rather the experience of time as opposed to time itself; time grasped in experience and more or less modified by conception. At the moment it is related to itself as the number perceived by us in the immediate experience (e.g. a point group) is related to the actual number. To speak of a psychological time in any other than this entirely secondary sense is in fact just as wrong as to speak of a psychological number and say that if 125 perceived points are estimated at 60, then here is a special psychological Number of 60 points available.

If there is no particular psychological time, then it cannot be used to remove the logical inconsistency which we have uncovered above. Rather, it remains unchanged as such.

1) "About some philosophical arguments against the RTH". Kant studies vol. 33, p. 387 ff.

2) a. a. O., p. 404.

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By the way: from an actual one. Eliminating the discrepancy in question is also out of the question for Bergmann. What he is doing is merely to soften it, to push it onto a dead track, as it were. But it is also there for him, and it must be noted that such a staunch advocate of the RTH as Hugo Bergmann recognized and emphasized one of its most fundamental weaknesses.

See d. V. "RTH and Relativism", Ann. d. Phil. II, 3, 1921,

Professor Dr. STEN LOTHIGIUS / STOCKHOLM

THE CLASSICAL PRINCIPLE OF RELATIVITY IS VALID FOR PHYSICS AS A WHOLE AND [FOR] LARGE [SCALE] AND ALSO FOR THE OPTICAL - ELECTRICAL WORLD 1)

While physical theories are generally based on the principle of normal speed, the theory of the interference of light makes an exception. She [i.e. theory referred to] chose the reverse speed for the cornerstone. In and of itself, that's not a mistake.

If one forgets the cornerstone of a theory in calculations and carries out arithmetic operations which contradict it, one will encounter stones of contention.

[Maybe a pun because Einstein translates from German as "one stone".]

In this case, where one relies on a theory that is correct in and of itself, a slip is very forgivable. It can happen to the best: Nemo Omnibus horis sapit [Latin-> No man is wise at all hours]. Such errors, however, are extremely annoying and difficult to spot and, once made, have a tendency to become chronic. Even after it had been found that the logical consequences were nonsensical and that this resulted in a calculation error, one could consider for a long time what this inner contradiction was based on.

One absolutely did not want to work out a theory which proved to be correct even after repeated testing.

[Doesn't seem right.]

All that remains is to logically consider the ultimate foundation of the theory, and to ponder whether it is the only conceivable one or some other possibility, and, in such a case, to make clear the correspondence between these other foundations and the scope of each.

If  $L$  denotes the path of light in water,  $c$  denotes the velocity of light in a vacuum,  $w$  denotes that in still water and  $v$  denotes velocity, then Fizeau has

1) The author takes a very mechanistic point of view with regard to light.

He realizes that the rays of light and the electrons are elastic wires, their undulations take place without the need for any aether (Esquisse etc., Stockholm 1920).

It is since 1922 that the author emphasizes as his view that the Lorentz transformation is flawed from the mathematical point of view.

The following lines give a short excerpt in German translation from his work, which came out in Swedish in 1929: "Achilles and the turtle".

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according to his famous experiment concerning the speed of light in running water, according to the theory of interference, found as the path difference sought:

$$\Delta = L \left( \frac{c}{w-v} - \frac{c}{w+v} \right) = L \frac{2v}{c} \cdot \frac{c^2}{w^2} = L \frac{2v}{c} \cdot \frac{16}{9}$$

After dividing by the wavelength it reached a value again as large as that which the experiment showed, and, therefore, and following Fresnel's theory 1), he declared that the drag coefficient in this special case was  $7/16$ . -

Now to the problem of Achilles and the turtle. But now we do not concern ourselves with the time it takes for him to reach it, but we calculate the path made by the mobile one, as we are now doing, to calculate in a theoretical way the displacement of the interference that results in the different speeds of two rays of light, it is of course necessary to first know the difference in the path before one can get involved in dividing with the wavelength.

If  $c$  is the speed of Achilles and  $w$  is the speed of turtles, since one turtle runs at the speed of  $W + V$  and another only runs at the speed of  $W - V$ , one will find the difference in path:

$$\Delta = L \frac{2v}{c}$$

If the expression  $L \frac{2v}{c}$  is divided by the wavelength, one obtains numerically the displacement of the fringes of the interferences found by Fizeau through experimentation. This means a victory for the classical principle of relativity because it has been proven that the speed of light is changed by  $\pm v$ , which was the speed of the water flow.

For an expert in logical matters, the untenability of the RTH can be explained very briefly and simply. Because the concept of simultaneity and the equally central concept of existence - both of the indefinable ultimate givens or basic concepts

1) The thought of Fresnel deals with different densities. In my private sense, I assume that if you have a carafe of water on the table and then walk around the room with the carafe, the water will have the same density in both cases. Fresnel was of the opinion that part of the ether remained and another part was carried away - it is a daring and somewhat arbitrary arithmetic operation, the arithmetic average number from the struggle to pull to calculate between these two "ethers."

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belong, without which no thinking is possible - are so inextricably linked that with simultaneity also the existence of certain things is thought and asserted: in mathematics the existence of thought things, in physics the existence of real things. Conversely, existence without absolutely simultaneous things is also absolute nothing. Since the RTH denies absolute simultaneity, it (unconsciously) denies not only mathematics, but also empirical reality. A compelling proof of the empirical and logical untenability of this "theory" can be made so fabulously short and simple.

The core point in the immense relativistic confusion of terms deserves to be explained in more detail in connection with other fundamental terms. Without the two basic concepts just mentioned, no thinking is possible, as I said.

The core point in the immense relativistic confusion of terms deserves to be explored in more detail in connection with other fundamental terms. Without the two basic concepts just mentioned, no thinking is possible, as I said. Even the indefinable concept of a set (e.g.) requires that the objects in question be thought or postulated as existing at the same time, regardless of whether they move or not. If one denies simultaneity, one obviously also denies the concept of number. Without simultaneity, there can be no talk of uniformity, non-uniformity, speed and acceleration. Indeed, consider the most general case where two bodies or points P and Q move along their respective trajectories from the starting positions  $P_0$ ,  $Q_0$  at the same time. The trajectories may [be at] rest in relation to one another or move as they like. In any case, we say that the movement of P is uniform with respect to that of Q, if the ratio of the simultaneously travelled distances ([along] railway lines)  $P_0 P : Q_0 Q$  constantly maintains the same constant value C at every instant (time) (or shorter: if any but the same distances covered by Q always correspond to the same proportional distances covered by P). C is called the speed of P if the movement of Q is regarded as normal movement or time. This is a definition in the actual or true sense, which must not be confused with explanations of names (nominal definitions).

So here absolutely simultaneous positions of P and Q must absolutely be postulated, if one wants to form and apply the concepts of uniformity and speed at all. This definition is only an imaginary comparison, but by no means observations, let alone measurements. Thinking is comparing and establishing relations 1). The core of the relativistic confusion of terms lies precisely in the fundamentally wrong view that a (physical) term could be defined by measurements and observations. The strange thing

1) We do not count the representations on which all thinking is based as part of actual thinking.  
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is that an exact conception of this question requires only the most elementary knowledge of the theory of sizes. The relativists therefore lack the most elementary knowledge of size theory, despite the fact that they also want to be mathematicians! Indeed, one must first of all know what to measure before one can even measure. The concept (size) must therefore be present in consciousness either as an indefinable given or as an already defined concept. In other words, the concept in question is in all cases an empirical and logical presupposition of measurement: an empirical one because measurement is not realized, a logical one because it cannot be thought without first thinking of the concept as a determinateness to be measured. In short: the concept is empirically and logically the primary, earlier (a priori), measuring is the secondary, later (a posteriori).

Without exception, measurements and observations always set something to be measured or observed, i.e. an already finished concept. If physics is to be called an empirically and logically exact science, it must never define a concept through measurements and observations. This inevitably creates a logical circle.

Once one has made these irrefutable logical truths clear to oneself, the empirical and logical untenability of the RTH is also immediately clear. It is empirically untenable, above all because it denies the absolute simultaneity, without which empirical reality cannot be thought at all. Because the essence of this reality is that material things exist simultaneously, however they may move. It is a logical impossibility, above all because it denies the absolute simultaneity, without which the uniformly moving inertial systems which it presupposes have no meaning at all. Because without absolute simultaneity there can be no talk of uniformity.

These are the consequences of the tremendous error of the RTH that it replaces logical comparison with technical measurement. She [i.e. the theory] doesn't even know exactly what uniformity and speed are, because otherwise she would know that there can be no talk of these terms without absolute simultaneity, and even less would she set herself the pointless task of "measuring simultaneity" what is already an impossibility because simultaneity is not a "quantity"! To solve this pointless task, a "rule" is set! Such senseless "rules" are called "assignment definitions", and that is what they are called in the relativistic "axiomatics"! - The RTH is the monstrous freak of illogical thinking and will remain a warning example of an uncritical time for all times.

The above is evidently independent of all philosophical views on time and space. Only the most basic knowledge

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from the theory of sizes has been used above. It should therefore not present any significant difficulties in teaching the general public a correct understanding of the untenability of the RTH.

Further explanations can be found in my following works: „ Severity, Inertia and tension “, Annales Acad, Scient. Fennicae [Latin-> Letters], Ser. A, XXVIII (64 pp.). - "The ether and the ether tension" ', ibid XXX (45 p.). - "The ether and the ether tension", ibid XXX (10 p.). - "The world structure in the light of the ether tension", ibid XXX (36 S.) .-- Separate: Academic Bookshop, Helsingfors.

LOTHAR MITIS / VIENNA  
FACTS AND EINSTEIN

The facts incorrectly presented by Einstein can be correctly summarized as follows:

1. All normal natural phenomena, whether they are understood energetically or materially, are without exception subject to the most powerful of all monisms, gravity, they are heavy. These include the sound medium [as] air and the light medium [as] ether.

2. Apart from the bare nature of their means of reproduction, there are also numerous extensive analogies for sound and light: Both phenomena are vibrations into which their media are caused by vibrating or shining bodies. Under otherwise the same circumstances, both cover the same distances at the same time, so they need a certain amount of time to reproduce. In the same medium, they propagate in a straight line. Both are reflected or otherwise distracted. Both move in waves. For their perception, organs of their own have developed in the sensitive living beings. And so on. The analogy relating to the barik\* of the media of sound and light is almost a matter of course. The same result follows from Planck's theorem that wave movement always coincides with corpuscular movement, also according to Broglie, who also assumes physical waves for light.

[\*-don't know translation.]

3. The etheric gravity must therefore normally also manifest itself in the fact that the light beam is at least curved by attraction when it approaches a gravity field. Such a curvature was also noted by Eddington.

4. As a result of the heaviness of the air, nobody should come up with the idea of wanting to detect the earth's movement acoustically by assuming, for example, that the speed of the sound waves must be different, depending on whether they are observed in the direction of the earth's movement or in another direction. Because the sound is listened to in the same way in all cases. Similarly, nobody should want to optically prove the earth's movement (through earthly rays of light). Michelson, to whom the heaviness of the ether

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was still foreign, wanted to provide this visual proof, but achieved no success. The failed attempt proved that earth and earthly ray of light belong to the same system of motion, that the light ether is heavy.

How does Einstein react to all these insights, which to the sober philosopher, physicist and astronomer are presented as plain truisms?

He denies point 1 (ethereal weight). For him, light is a purely abstract, immaterial and therefore Abarian\* miracle thing.

[\*- don't know translation.]

He evades point 2 (analogy for sound and light). Nor does he draw any, or at least not the relevant, conclusions from the sentences of Planck and Broglie.

He also treats point 3 (baric\* curvature of the light rays) by eliminating gravitation. This curvature should not take place as a result of attraction, but for reasons that arise based on the fantastic concept of curved and finite space.

[\*- don't know translation.]

From his Abarian\* attitude regarding point 4 (Michelson experiment), however, the most adventurous wonders of the world result, which immediately evaporate when the air and ether are carried along evenly. To clarify the "negative" result of the Michelson's experiment - this result is positive for the Bariker\* - Einstein sets up two "postulates" (unproven assumptions) of the most peculiar kind, namely:

[\*- don't know translation.]

Postulate 1 describes the speed of light  $c$  ( $= 300,000$  km) as  $\infty$  (infinitely large) with all the mathematical privileges of this largest size. Now astronomy reckons with countless light years. But since  $c$  is only a vanishing fraction of a single light year, so is the equation of this tiny path with  $\infty$  an assassination act on all reason.

Einstein used this sacrilege to set up Postulate 2 "Constancy of the speed of light", which says:  $\infty = c = 300,000$  km  $= c \pm n$ , that is: compared to any other speed,  $c$  remains (because  $c = \infty = \infty \pm n = c$ ) constant, and not approximately (in the practical sense), but in the strictest theory.

In such an unreasonable way, the relativity of time and, in the transferred sphere of activity, that of space can also arise. Because when the same light beam has the same speed ( $c = c - m = c - n$ ) compared to different moving systems should, this miracle is supposed to be "explained" once again by a new miracle, namely by the fact that the time and space units of the differently moved observers are unequal (sometimes larger, sometimes smaller).

This RTH is the sick product of a sick time.

See d. V. "Einstein's fundamental error". Hillmann, Leipzig 1930.

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[Note "Abarian" – don't know what means. Suspect words can't translate here refer to "barbarian" in some way. ]

Dr. VINCENZ NACHREINER / NEUSTADT a. d. Haardt  
AGAINST EINSTEIN'S RELATIVITY THEORY

Philosophy: The "spacetime thing" of the RTH contradicts the undoubted Kant-Schopenhauer theory of space, time and matter.

Analytical mechanics: When changing the law of gravitation, even for spherical celestial bodies, the masses cannot be taken into account as being concentrated in the center.

Dr. K. O. PETRASCHKEK / MUNICH

THE SPECIAL THEORY OF RELATIVITY AS A SOLUTION TO A SPARKLING PROBLEM

1. The principle of the absolute constancy of the speed of light on which Einstein's special RTH is based, which consists in the assumption that the light always travels at the same speed for the observer, regardless of whether the observer flees from the incoming light beam or goes towards it (p. 2) 1), does not include a contradiction in the formal-logical sense (p. 53), since the assumption that a presupposed objective, i.e. a change in speed occurring in the unconscious body world does not need itself also subjectively to manifest as such in the observer's consciousness, does not contain any impossibility of thinking, but does in the material-logical or actually epistemological sense. This is to be understood. The principle of the constancy of the speed of light is like the special RTH, a physical theory based on it, and as such primarily grasps real things and processes in the outside world (p. 54). The theory is therefore based on critical realism, according to which there is a temporal-spatial body world independent of the individual consciousness there (p. 51, A). If this spatial-temporal nature of the presupposed real world is not to lose any explanatory value, then the objective forms of existence of space and time must be assumed to correspond to the subjective forms of perception of the same category (p. 52). The opposite assumption would be tantamount to proclaiming the contradiction as a means of knowledge and thus the complete bankruptcy of all real, i.e. mean knowledge that goes beyond the mere playful contemplation of logical possibilities and one's own content of consciousness (p. 54). Since the assertion of the immutability of the speed of light, and with it the special RTH, actually makes the opposite assumption, from the realistic point of view of knowledge it is to be regarded as a contradicting doctrine, which is therefore a confirmation

1) See d. V. ,, The basic contradiction in the special RTH and its consequences. "Hillmann, Leipzig 1922.

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- and of course also a refutation - by Experience is so certainly incapable as the experimenter is unable to take a stand outside his consciousness that would enable him to compare the proportions seen in the mirror of his sensuality with the real proportions corresponding to them according to a common standard (p. 53).

2. The (logical or psychological) epistemological idealism can only evade the decision about the contradicting nature of the principle of constancy of the speed of light and the special RTH based primarily on it, in no way it can answer the question (affirmative or negative) ; on the other hand, he must not leave the answer to physics either (p. 51, A). Since, however, an answer must now be demanded, the example of Einstein's theory of relativity shows particularly clearly the need to advance from an idealistic to a realistic point of view (cf. Petraschek, "The Logic of the Unconscious", Munich 1926, Vol. II , P. 542, text and note).

3. The principle of the constancy of the speed of light, as well as the relativization of spatial and temporal distances, which has become necessary for the special RTH as a result of the acceptance of this contradicting basic assumption - and thus also of simultaneity - (p. 69) cannot be analogous to the spatial perspective shifts Appearance or as a process that grasps the (whether subjective or objective) forms of perception of space and time itself (p. 48 f., 73 f.). The modern relativity principle, which only states the equivalence of all systems moving in a straight line and uniformly against one another for the formulation of the general laws of nature (p. 20), in and of itself has nothing to do with the aforementioned relativization (p. 29).

4. Since the principle of the absolute constancy of the speed of light can also be formulated as the principle of the independence of the speed of light to be understood with reference to the observer from a possible movement of the light source in relation to this very observer, in the interference experiment made by Michelson and Morley, however, the negative result of which the special RTH usually invokes to confirm the correctness of the principle of constancy of the speed of light on which it is based, a movement of the observer in relation to the light source is not an option, then this attempt does not form a possible basis for the decision the question of the dependence of the speed of light on the state of motion of the light source (p. 19) and therefore no possible confirmation or refutation of the special RTH.

5. Those derived from the contradicting basic presupposition of the absolute immutability of the speed of light

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for the coordinate transformation of systems moving in a straight line with respect to one another are wrong, despite their external correspondence with the transformation equations derived from the point of view of Lorentz's contraction hypothesis, because the expression of contradicting facts; the contradiction, which they merely conceal without being able to eliminate it, only emerges in its full strength in the expanded meaning that Einstein, through the misapplication of the modern principle of relativity, gave them not only to the derivation, but also to the result ( Pp. 35, 39).

6, With the Lorentz transformations in Einstein's interpretation, Einstein's addition theorem of the velocities shares the contradicting nature. The contradiction also occurs here in a form that must lead the special RTH either to the admission of its inability to determine the actual speed of a movement or to the abolition of its own basis (p. 61, 63).

7. As a consequence of the principle of constancy of the speed of light, the assertion of the impossibility of a speed of movement exceeding the speed of propagation of light is to be rejected, as is the basic formula, understood in the relativistic sense, for the dependence of the dimensions of a moving body on the speed of its movement; this does not affect the question of the justification for assuming such a dependency and an insurmountable speed limit, which is based on the observation of facts (p. 66).

8. The assertion that all simultaneity is to be understood only in relative terms, according to the actual content of the relevant statements by Einstein and other relativists, only states that when light signals are used to determine the simultaneity of two events, this simultaneity must not be taken in the absolute sense, when, on the basis of the ether theory of light, the movement of the signal receiver (and the two locations of the event) against the hypothetical light ether and thus the exact value of the speed of the two-sided light signals in relation to the signal receiver is not known. Here, contrary to the view of the special RTH, the possibility of different speeds of light is reckoned with (p. 68 f.) And accordingly a "relativity" of simultaneity and thus of time measures in general is assumed, which is actually an introduction to the understanding of the special RTH The intended relativity of temporal (and spatial) distances proves to be completely unsuitable (p. 69 f.).

9. The special RTH tries to solve a bogus problem. Therefore, with the examination of appearances, it must share the fate of the problem of being put aside (p. 76).

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1. There is no fundamental problem in Michelson's experiment.

It is explained in the simplest way by the fact that the rays of light are carried along by the earth, which is without any doubt the case. The rays of light are carried along as well as the electric waves of wireless telegraphy. Nobody here is surprised that the electric waves run just as fast in the direction of the earth's motion as they do in the opposite direction.

2. The basic senselessness of the special RTH is the assumption that one and the same ray of light should have the same speed in relation to any moving body !!! This is absolutely impossible - it is a completely insane thought.

It is only natural that this thought, if one spins it out further, should give rise to further senselessnesses which it is not necessary to enumerate in detail. The following are mentioned for illustration purposes only. It is an absurdity that time stands still or even runs into the past, that bodies become two-dimensional beings when one moves with the speed of light or move faster than light. This absurdity is not canceled out by the fact that nobody can move at the speed of light, or that faster than light is "forbidden" by the relativists. The forward direction of time is certain a priori. It is the most certain fact there is. It is set with the happening itself. Wherever there is movement there is a passage of time, even if one thinks a body is moving at the speed of light. In reality there are no two-dimensional beings at all, but it is very possible that there is a faster movement than light, e.g. gravity. No less absurd is the assumption that time and space expand or contract. Bodies can expand or contract in space and time, never time and space itself. The height of absurdity is to want to find confirmation for the RTH in experience.

3. The measurement of a body by an observer who is firmly connected to the body, resting opposite it, has the character of correctness under all circumstances, especially since the result of the visual sense is always through other senses, e.g. the sense of touch, can be confirmed or corrected. Any other observation from a moving system is, on the other hand, subjectively shifted if it leads to different results. Our perception, the way we see things, can be influenced by light, never things themselves.

4. The assumption that simultaneity is relative is completely absurd.

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Each point in time is identical to itself. Now there are no points in time in reality, but only processes that are extended over time. But it can be a process of reality, e.g. the flash of a light, taken as a unit, and all processes of reality can be mathematically related to the process mentioned. This is only not possible if there are processes even faster than the movement of light. For this reason, the fastest process is the basis of timing. So only in this respect does light have a meaning for time. Should an even faster movement, for example in gravitation, be detected in the future, this would be the time scale for all processes in space.

5. Much more puzzling than the content of the RTH is the fact that it is widely used. Reason and logic seem too simple and self-evident to be able to satisfy people in the long run. Rather, setbacks and catastrophes (such as wars in the cultural history of mankind) must appear here from time to time so that reason can rise anew and its light can again become visible to mankind. The recognition of the RTH is considered to be one of the strangest aberrations of the human mind remain memorable.

See d. V. "The absolute in motion", Archive f, System. Philos., Vol. 29, Issue 3/4; "To the RTH", Leipz. Daybl. 1922; "To the RTH", Frankf. University newspaper, December 31, 1921.

Dr. ARVID REUTERDAHL / ST. PAUL, Minn., U. S.A.  
EINSTEINISM /ITS FAULTS AND DECEPTIONS

(Translated by Dr. E. Ruckhaber)

Classical relativity is correct, but Einsteinism is wrong. The term "relativity" must therefore not be associated with Einsteinism. The modern twist of true relativity must be labeled "Einsteinism" so that healthy science men and healthy science who work with facts and not with mathematical fictions are protected from false suspicion.

Its main fallacies.

1. The fallacy of the absolute speed of light. Einstein's postulate that the speed of light is absolute is completely wrong. The postulate of an absolute as a counterpart to the relativity destroys the relativity as a true general principle.

Einstein's first writing (1905) is mathematically incorrect because he derives a spherical wave front instead of an ellipsoidal one from its light source.

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Everything that moves, including light, has relative, not absolute, speed with respect to the observer. When the light is excluded from this law, the universal meaning of a law becomes an abuse of word. The facts contradict Einstein's postulate.

2. The fallacy of the Fitzgerald-Lorentz shortening.

The Fitzgerald-Lorentz hypothesis of foreshortening is a purely mathematical fiction that is not supported by any known and observable fact. It was invented to explain the alleged negative result of the Michelson-Morley interferometer test.

If the time for both paths in the interferometer is the same, then the reason for this result is the effect of external factors in space and not an alleged shrinkage of an interferometer arm. If there is real contraction then, according to real science, it can be measured. This alleged shrinkage has never been measured. It is therefore a pure fiction.

If there is a difference in the time of the two ways, then the relative motion between the earth and the ether is a fact.

In both cases, Einstein's postulate of the absolute speed of light does not shrink to anything.

### 3. The fallacy of the principle of equivalence.

Einsteinism claims the equivalence of acceleration and gravity. In other words: He teaches that an effect (acceleration) is equivalent to its cause (gravitation). This thesis is a crude absurdity.

### 4. The fallacy of "space-time".

Einsteinism means that real space-time is only one and that both space and time are artificial products of the mind. This is a fallacy. The truth is that although space and time are always connected in this phenomenal world of action, space is nonetheless so fundamentally different from time that no unity can be established. On the contrary, a dualism between the two is essential for a correct understanding of physical effects. The space is reversible. Time is not reversible. The space is static. Time is dynamic. Both together represent the event, which includes both situation and change of situation.

Time cannot, by Einsteinism or any other kind of alchemy, be transformed into actual space as its one coordinate. The fictional mathematical term known as the "root of minus 1" is too powerless to turn one reality into another reality.

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### 5. The fallacy of curved space.

Matter can only affect other matter. It cannot bring about changes in principles and laws. Space and time are not matter. Hence the existence of matter in space-time cannot change the nature of space and time. The space is not a material thing that can lock something like the walls of a box. It is not curved because a curvature can only apply to material objects that are present in space. Hence the space is not limited and enveloping. Space is an elementary fact - fundamental, like a principle, because its possible uses are unlimited.

### 6. The creation of space and time by the observer - a fallacy.

Einsteinism teaches that man can make space and time by means of measuring rods and clocks. This is pure sophistry. What is measured is there before the measurer appears. Space and time are not born through the act of measuring. On the contrary, measuring is a quantitative assessment of the amount of a reality. Since space and time are elementary realities, all normal minds can draw the same conclusions about their nature.

### 7. Mathematical calculations determine the nature of space and time - - A fallacy.

Despite claims to the contrary, Einsteinism practically teaches that the character of space and time is determined by mathematical speculation. The fallacy in this is immediately evident. The real task of mathematics is the precise and concise representation of the phenomena. But mathematics cannot create anything - not even four- or n-dimensional spaces.

8. The conceptions of the molluscan reference system and the unit field - works of the imagination without contact with reality.

Einstein's Gaussian reference mollusc, like the animal after which it is named, consists mainly of a shell. Inside the bowl is nothing but the vain hope that the device will work. Since the mollusk has no contact with reality, it can not even raise themselves from the bog of inconsistencies that gave birth to them.

[note- Einstein calls this new, flexible relativism of space co-ordinates 'mollusks':

<https://multisenserealism.com/2012/10/16/after-einsteins-mollusk/> ]

The same criticism applies to Einstein's latest speculative product - the unit [i.e. unified] field, which is set out in his paper "On the unified field theory" (1929). As a generalizing principle, it generalizes until every trace of reality is swept away and stirs up a mathematical dust that completely blinds the [people that have been] Einstein-duped.

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9. Alleged Evidence from Observation - Either worthless or completely devoid of conclusiveness.

a) deflection of light.

The photographs were chosen to confirm Einstein's hypothesis. Those who were elected did not confirm it by 1 percent, a difference that is not allowed in healthy and honest scientific work. In addition, Einstein does not take into account the refraction caused by the gaseous atmosphere of the sun.

b) Rotation of the plane of the planet Mercury.

Einstein was forced to amputate his theory in order to be able to reveal in a magical way Gerber's Newtonian formula, which he used, without mentioning it, to make his calculations. The movement of the plane of Mercury therefore proves the correctness of Gerber's Newtonian calculation, but not the correctness of Einsteinism.

c) Shift of the spectral lines.

The observations on the shift of the line towards the red are without conclusive force. The careful work of Burns, Curtis, Meggers and others flatly contradicts Einstein's claims. The observation can confirm a different theory than Einstein's and so invalidate their claim to be the only one with regard to the spectral lines. This also applies to the Shapley effect.

10. Einsteinism - A speculative network of mutual contradictions.

Since Einsteinism is spun out of fictitious and incoherent fibers, the whole system is full of mutual contradictions.

In 1911, Einstein's theory derived a deflection of light equal to 0.83 arc seconds. In 1916 Einstein found the deflection equal to 1.7 arc seconds. The latter is around twice the former. Einstein gives

no excuses or explanations for these glaring contradictions. So they remain in his work as permanent monuments of the colossal scientific prank of all time.

In 1919 Einstein boldly announced that there was no ether. In his lecture in Leiden (May 5, 1920), however, he changed his mind and tried to replace a real medium with a mathematical continuum. Meanwhile, light waves cannot be made out of X's and Y's.

In his Special Theory, Einstein asserts that the speed of light is the same in all directions in space, regardless of the speed of the light source and that of the observer. However, in his General Theory, he rejects this alleged law and boldly claims that it does not hold in a gravitational field like that of the sun. Laws that contradict one another are the core and essence of Einstein's ridiculous structure.

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11. The aesthetic claims and claims regarding uniqueness - false.

In science, only what is true can claim to be beautiful. Einsteinism, therefore, because it is false, is not beautiful.

All of Einstein's problems can be solved without recourse to his fantastic mathematical speculations. Hence, his argument that his theories are true because they are supposed to be the only ones falls into the water.

The delusions, of Einsteinism.

1. Bombastic advertising.

When Einsteinism flooded the world like a tidal wave, I called Einstein the Barnum of science because of the bombastic advertising of his foolish ideas. Since this unscientific publicity has not waned, the accusation is still legitimate.

2. A mere mathematical speculation.

Its entire structure is not based on facts, but on mathematical speculations, which even surpass the puns and sophistries of the unbridled scholastics.

3. The Nobel Prize.

Einstein received the Nobel Prize for his law regarding the photo-electric effect. This law had previously been proven wrong by the research of the American physicist R. A. Millikan (see his work "Das Elektron", p. 230, edition 1917).

Dr. O. E. Westin in Sweden brought this illusion to light. Einstein's unjustified lecture on the subject of "relativity," which violated the rules of the Nobel Directorate, led the world to believe that the Nobel Directorate approved Einsteinism as a sound and experimentally proven theory. However, the Nobel Prize Directorate expressly stated in its award ceremony that this is not the case.

The Directorate requires each recipient of a Nobel Prize to give a lecture on the subject on which the award is based within a specified time. In Einstein's case, the price was not given for relativity, but for his deceptive law regarding the photoelectric effect.

#### 4. Einstein's priority?

a) Minkowski and Einstein adopted but distorted the original idea of Melchior Palägyi, the great Hungarian philosopher, regarding time as a dimension connected with space. Palägyi also referred to the phrase "the root of minus one"

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in relation to time. Palägyi's work was published in 1901. Einstein's first font [i.e. paper] is dated 1905. Minkowski's first font [i.e. paper] appeared in 1907.

Palegyi did not teach the unity of space and time, nor did he ever say that the length of a measuring stick depends on the time of its observation.

b) Einstein's formula from 1911 for light deflection is essentially the same as that of Johann Georg von Soldner from 1801. Soldner's formula was based on Laplace's Newtonian celestial mechanics. Contrary to the remarks by Dr. Robert Trumpler, I have demonstrated that Soldner's use of size  $2g$  instead of  $g$  is justifiable.

c) Paul Gerber's formula from 1898 was used by Einstein in 1916 to determine the amount of rotation of the plane of the planet Mercury.

d) In 1902, the author of the present document outlined the idea of a unitary field that encompassed all types of force in a lecture called "The Atom of Electrochemistry" and given in the American Electrochemical Society. In 1913 I coined the hyphenated "space-time", which was copyrighted in 1915, occasionally in my lecture (given at Kansas State Agricultural College and the University of Kansas) and titled "The Space-Time Potential, A New View of gravity and electricity". Einstein's mollusk reference system was built according to the plan of my potential zone system, only with the important differences that my reference zone was built on the basis of facts and applied to real physical determinations, while Einstein's mollusk is a mere mythical structure that has no contact with reality.

My space-time kinematics from 1923 encompasses all kinds of effects, those of gravity, electrical, thermal, mechanical etc. This was also used in definitive determinations. Einstein's unified field of 1929 - a piece of purely mathematical fiction - has no real applicability, because it is based not on facts but on mathematical speculations, which are subject to deceptive assumptions.

Dr. GUSTAV RICHTER / BOZEN

THE RELATIVIZATION OF THE SPATIAL-TEMPORAL SCALE CAN ONLY BE DETERMINED WITH THE HELP OF AN ABSOLUTE SCALE

The RTH of Einstein may play whatever role in science, for philosophy it is either a banality or nonsense. It is banal when given with consideration of the various judgments which

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make various observations about the temporal order or duration of certain events, take the skeptical standpoint, and claim that every observation is relative; is dependent on the accompanying circumstances and therefore no one can say with absolute certainty that his judgment is absolutely true.

This already results from the relativity of all movements.

However, it is nonsense to assert that we have to understand this relativity of the various possibilities of observation as the absolute, while our need to clarify what is contradicting each other and to establish a unified, logically correct worldview or at least to the possibility of such a unification believe should be thrown in the junk room as obsolete.

The relativist judges, if he is honest, as follows: I, too, strive for the unity of the world view, but I see this unity in the unity of the natural law i.e. in the problem-free functioning of the mathematical formulas found for this purpose or in the fact that the mathematical equations that have been set up work completely.

Since in truth they do not come up completely, but a remnant everywhere, even if only a small one remains, I am ready to sacrifice the unity of space and time to the unity of natural law, i.e. to blame the changes in space and time with the different spatial and temporal positions or with the movement of the observer for these deviations.

This is not illogical in and of itself. It is only nonsensical to conclude that the various measures of space and time are not relative but rather absolute, i.e. that they measure space and time absolutely correctly.

Because either this difference can be determined or not.

If it is not established, the theory would make no sense. But if you can test it, then one must also presuppose an absolute measure of space and time beyond the relative measures of space and time, with the help of which one can determine this difference.

And for the RTH this measure is the law of nature, the formula.

From the deviation of the place or the time of the event from this formula, according to the self-made assumption, the exact change in the measure of space and time compared to the absolute measure of space and time can be calculated.

So even if the spatial and temporal conditions change depending on the place and (speed, we can determine the changes and calculate with a measure that is independent of place and speed. And construct with the help of this measure

We have an absolute space and an absolute time, since we cannot do violence to our need for a unified world order. Whoever does not admit this has not thought through the relativistic idea to the end.

It was not only Einstein who discovered that every measurement is relative. Einstein confuses subjective and objective relativity. The meter measure is a relation to the circumference of the earth. It is a natural prerequisite for its general use that all people use it from the same distance, at the same distance from the body to be measured, but not one from this, the other from that distance. If a measurement is not possible by bringing the measuring stick up to the body, i.e. from a distance of zero, it must be done indirectly; the computational consideration of the distance then corrects the measurement and brings it into agreement with the only valid objective-relative measurement from distance zero.

Exactly the same applies to the time measurements as to the space measurements. Einstein, however, makes the joke that he gives time measurements from different distances the same objective validity, objectifies subjective standpoints and thus also relativizes the transsubjective world events which are completely independent of human observation. It is not enough that, according to him, one and the same event can have two different times at the same time, man becomes an omnipotent being, a little god, because he can change things, their sizes and times, their gravity, etc. at will by nothing more to do than change his position.

The fundamental error of Einstein, like that of his predecessors Mach, Petzoldt and others, is a purely logical one and exists entirely independently of any epistemology or metaphysics. All scientific progress consists precisely in arriving at objective relativity by uncovering subjective relativity, and the great deed of Copernicus exists for the most phenomenal as well as for the idealist as for the realist, for the skeptic as for the dogmatist; for the same logic applies to all, the identity of the concepts, the unambiguous adherence to the assumptions made. For logic it is irrelevant which measure of time we choose, whether we use the moon, the earth or the sun, an hourglass or a spring clock: all that matters is that the agreement once made is clearly adhered to.

Einstein does not notice that he is simply trampling logic. The violation of the identity principle, the elevation of ambiguity to a principle, necessarily leads to violations of other laws of thought. According to Einstein, the statements "The stone falls straight" and "The stone falls crooked" are objectively equal, i.e. according to him, the same stone can take two different paths at the same time, occupy two different spaces. Einstein contradicts himself when he speaks of a stone, since this would be precisely the third trans-subjective [thing] that he denied. Nor does Einstein ask why the stone falls straight for one point of view and crooked for another, a question

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the answer to which cancels subjective relativity and results in an objective one. Einstein therefore disregards the principle of contradiction as well as that of reason.

It is also a serious, purely logical mistake to speak of curved space, since "curvature" is a motoric term and every movement, including every curvature, already presupposes space.

Only the confusion of patient mathematical formulas with reality, which cares little about them, allows us to understand how Einstein can make the length of a body dependent on the time in which

it moves forward. Reducing time to space is the same as trying to reduce movement to rest. Here, too, there is a heavy equivocation. One can explain the statics as a special case of dynamics, but not reduce the dynamics, the primal fact, to the statics, and it is the height of absurdity to say that space has devoured ether and time.

The Michelson experiment can never be the occasion for a relativization of time, since numerous dynamic factors are able to explain the apparent anomaly, as well as Einstein's calculations, as Dr. Israel has proven just after Einstein's own assumptions (not carrying the light beam) are wrong.

Einstein's attempt to eliminate the contradiction held against him between the special and the general RTH, according to which the light can be influenced, was completely unsuccessful, because it was based on the comparison with electrostatics used for this purpose and dynamics follows the opposite of Einstein's conclusion, namely that the ray of light can be influenced in principle. Here, too, there is a curious lack of logic.

Einstein's "conclusion" that there can be no speed greater than the speed of light is not an inference,

but an arbitrary assumption that is not justified by anything. Even if in the expression  $\sqrt{1 - \frac{v^2}{c^2}}$  the value under the root becomes smaller than 1, it is still not imaginary. In an essay in the "Annals of Philosophy". Vol. 10 (1930), No. 8/10, I have provided evidence that the negative numbers always represent real values, which means that there are no imaginary numbers. The expression under the root therefore corresponds to a real value, regardless of what value, in no case does it mean "size below zero". The building block's "conclusion" is firstly no conclusion at all; secondly, if it were a real conclusion, the assumption on which it is based would be wrong.

The theory of relativity is a mathematical masquerade, behind which there is an almost inextricable tangle of confusion of terms, contradictions, fallacies, arbitrary assumptions and disregard for sound logic. The world is made into a bundle composed of an infinite number of possible coordinate systems, in

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to which all dynamics and causation, but also all actual physics, disappear. This world of relativity is a broken egg.

The theory achieves its record with the relativization and reversibility of the terms before and after, cause and effect, and similar cinema jokes, which at least have the good thing that they open the eyes of those who cannot find their way through this whole chaos of thought.

What needs to be fought even more than this nonsensical theory itself is the audacity of a section of the press that goes to every possible effort to trumpet such an unprecedented masterpiece of illogicality as the worldview of the future and with concealment [i.e don't report the opposition to Einstein], that the opposition [to Einstein] is far greater than the serious supporters [of Einstein] , [and thus] to mislead the public.

See d. V. "The RTH refutes by the contradiction principle and the natural explanation of the Michelson experiment" (Hillmann, Leipzig) and the satire "Relativia, the novel of a prophet" (Dr. W. Kuntz, Berlin - Spandau).

Professor Dr. STREHL / HOF  
RELATIVITY OF RELATIVITY THEORY

For me, Einstein's theory is a functional transformation of reality. His frame of reference: changing space and time scale, unchanging speed of light (despite changing refractive index) is not my taste.

See d. V. "Wave Optics" (including literature; Zentr. Zeit. F. Optics, 1926/27).

Dr. KARL VOGTHERR / KARLSRUHE  
DISCLAIMER OF THE THEORY OF RELATIVITY

The RTH can be refuted if one of its basic requirements can be proven to be incorrect. As such we want to pick out Einstein's assertion that the simultaneity to be measured of events in different places "one determination can take place at one's own discretion" 1) or, as H. Reichenbach puts it, that this measured. (within the period of time left open by the fastest transfer of effects) "is not an object of knowledge but an arbitrary determination" 2). - We ask first of all, what do we know for certain about space and time before we measure? Everyone, as long as they are of sound mind, must admit that a straight line i.e. line of unchanged direction cannot be a closed line running back in itself, likewise that not several diverging straight lines cannot pass through the same two

1) About the special and general RTH 5th edition, p. 15.

2) Philosophy of spacetime theory, p. 150, 1928.

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points. (If it is supposed to behave differently in the "higher" geometry, then this becomes completely inedible for the unspoiled, intuitive thinking, to a meaningless play with words that are not based on anything tangible.)

These axioms are apodictic, certain a priori, and a priori cannot be corrected by future refined observation and measurement. Unexceptional generality and strict necessity, i.e. the inability to imagine the opposite behavior are their hallmarks. The entire geometry can now be derived from theorems of this kind, in fact we only need three actually geometrical axioms: 1. Two given points completely determine one and only one direction and one and only one distance 1). 2. Lines and angles are of constant magnitude. 3. It gives a congruent segment and a congruent angle in any position for any given segment and any given angle.

All other required axioms are a priori certain propositions of more general meaning. - Assuming this, the directly illuminating proposition can be proved that for every given triangle there must be a congruent one in any position 2). That also the sum of the angles in a triangle cannot be greater than two rights can, as has long been known, be derived from the theorem of the single straight line through two points, i.e. from axiom 1. But that the sum of the angles cannot be less than two rights

can be seen in the following way: We define straight line as the line of unchanged, identical direction. Sections of the same straight line therefore have identical directions to one another. From this definition it follows that two straight lines or any subsections of the same can only be in one directional relationship to one another, just like i.e. an object of consistently the same color can only have one color relationship with another one (with regard to the type and degree of color difference).

Two straight lines that intersect have different directions and a difference in direction which corresponds to the acute angles formed. If a half-ray  $a$ , which emanates from point  $B$  of a horizontally presented straight line  $c$  and forms an acute angle open to the right and above, is rotated against  $c$  in such a way that this angle becomes ever more acute and smaller than any given angle, however small the theorem that the direction of  $a$  approaches the direction of  $c$  without end. If, in the same way, a half-ray  $b$ , which may emanate from point  $A$  of the straight line  $c$  to the left of  $B$  and form an acute angle with  $c$  that opens to the left and above,

- 1) The direction  $AB$  is also differentiated from the direction  $BA$  as being opposite to this, which, however, presupposes the idea of movement and is not strictly geometrical. However, even with this view, the following proof could be carried out and only the representation would have to be changed somewhat.
- 2) The proof can be derived from the nature of the straight line or the direction and should be demonstrated elsewhere.

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is rotated against  $c$  so that this angle decreases more and more, then the proposition that the direction of  $b$  approaches the direction of  $c$  without end. All of this remains unchanged if, for example, the distance  $AB$  between the pivot points increases during these rotations, since this does not change the directional relationships. It follows from both propositions that with such a movement, or more correctly with the continuity of such positions, the direction of  $a$  and that of  $b$  approach the same direction without end, which is also immediately evident from a consideration of the figure. In other words: equality of direction (identical - same direction) is the limit which the direction of  $a$  and that of  $b$  approach without end. If the straight extensions of  $a$  and  $b$  intersect somewhere, the same must also apply to the sections immediately adjacent to this intersection point  $C$ ; . B.  $90^\circ$ , i.e. the maximum possible difference in direction, have unchanged, since two straight lines can only be in one directional relationship and since the direction of the  $C$  sections is identical to the direction of the  $A$  and  $B$  sections. The "double-asymptotic triangle" of hyperbolic geometry and thus its prerequisite, that the triangle angle sum can be smaller than two rights, has been proven to be impossible 1). Thus, only Euclidean geometry applies, all propositions of which are a priori true and apodictically certain.

In the realm of mathematical time we find the following immediately certain insights: 1. Time is a one-dimensional continuum. 2. Time goes by diligently, i.e. there is only a transition from earlier to later, not the other way around. 3. Separate the times

- 1) The logical (or relation-theoretical) framework of this proof is independent of its special content. One set for example, instead of directions, stretches, numbers, colors or tones, which stand in the same relationships of equality - difference and constant closeness, and one arrives in the same way at a result that is the same in form. This also shows that the movement, that is, the representation

of time, is not essential for our proof, because numbers, e.g. cannot move in time. The movement is only used for a simpler and shorter expression instead of the sequence of directions  $a_1, b_1, a_2, b_2, \dots$  etc., between which there is a continuous transition. - The alleged proof of the unprovability of the fifth postulate of Euclid and the inconsistency of the non-Euclidean geometries is based on the previously usual basic concepts and principles (whereby, by the way, as far as the "spherical space" is concerned, the theorem of the single straight line through two points tacit convention ignored). It does not apply if one takes another basic concept directly from (pure, nonsensual) intuition, which, although everyone is familiar, is not used in school geometry, namely that of direction. Likewise, the proof that non-Euclidean geometries are inconsistent by tracing them back to the inconsistency of arithmetic naturally loses all validity if one puts the former in the light of a concept which, like direction, is not a concept of size at all. The non-Euclidean geometry is thus geometry after the concept of direction has been eliminated, i.e. a type of incomplete or mutilated geometry.

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Time segment depends on which mathematical greats are attributable. 4. Time (like space) is limitless. 5. There is an unambiguous and generally measured at different places. - The latter can be explained in the following way: imagine one leg rotated at a straight angle towards the other, then, when both coincide, two points of the two legs at the same distance from the apex meet at the same time. Likewise if two of the same size angles are moved against each other in such a way that two of the legs always coincide and the other two run parallel, then two points of the parallel legs that are equally distant from the apexes meet at the same time, and the same applies to the end points of two equally long stretches which be moved against each other on a straight line (see p. 58 above, paper 7, p. 617). This mathematical measure is "absolute", i.e. unambiguous, a priori evident and of infinite precision. It cannot be "redefined" and arbitrarily replace with another without getting into deadly conflict with geometrical truths. It is also important that from these simplest simultaneity theorems, which, by the way, can easily be summarized in a single axiom, the so-called theorem of the parallelogram of velocities (the addition theorem of "classical" physics) can be proven that they are together with the theorems of Geometry is sufficient to lay the foundation for all (pure) kinematics, which, like pure space and time, is a priori science of an apodictic kind.

For the physicist, however, it is a matter of determining the place and shape of real objects and the time of real events by measurement, and the question arises of what guarantee is there that the measuring instruments he uses, the compasses, measuring rods, Measure rulers, rays of light and honors "correctly"; i.e. that they are actually rigid or straight or that they delimit the same periods of time? Of course, this cannot be determined again by measurements of the usual kind, but it cannot be assumed without further ado. Under these circumstances, is an arbitrary definition of the measuring instruments even possible? Well, as far as space is concerned first of all, "correctly measuring" can have no other meaning here than that the physical straight lines and physical lines used as measuring instruments with regard to the coincidences in the constructions and bearings carried out with them are those of the geometry for straight lines and lines correspond exactly to the required coincidences. Because there is only one geometry that is certain a priori, and physics and physical measurement are based on the geometric conception of space and must be based on them, which they cannot therefore contradict.

[Glz. Taken to mean measured]

In short: several diverging physical straight lines can just as little go through the same two points as straight lines of pure geometry, because they are supposed to be realized geometric straight lines and the same applies to the physical route. Experience shows that it arises

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found out that the physical straight lines and lines defined in this way are distinguished at the same time in a causal relationship, they are the solid bodies under constant conditions (temperature, tension, pressure, etc.) and the rays of light in homogeneous media on which no lateral influences act (Schr. 9, p. 100). Of course, if one thinks purely mathematically, the objection can be made that the rigid bodies and physical straight lines defined in this way are transferred to another location could be subject to so-called "one-to-one continuous point transformations", thus stretching and bending without this ever being revealed by a change in the observed coincidences. From a physical point of view, however, such an assumption is a causeless one change or causes and forces that are fundamentally forever hidden from us, a highly fantastic hypothesis and mere mathematical fiction. And if we reject such highly improbable assumptions and replace them with what is highly probable according to all our other natural knowledge, we are by no means acting arbitrarily. Thus, our definition of spatial measuring instruments implies at best a hypothesis with a very high probability, but it remains free from any arbitrariness.

As far as the definition of the "clock" is concerned, it is formally possible to classify the duration of the same processes that follow one another under the same conditions as either the same or different mathematical time periods. If we do the latter, the result is accelerations or delays of the same processes under the same conditions and in this case we would either have to forego the principle of reason with regard to the duration of physical processes or imagine that these accelerations and delays also have a reason in causes and forces hidden from us. But we are by no means arbitrary if we adhere to the principle of reason throughout and, on the other hand, reject such hidden influences that accelerate or retard the course of the world as a whole in the same way everywhere as fantastic and highly improbable, for which we can assert the same reasons as in the deformations in space. Thus, the watch can also be arbitrarily defined as a mechanism that works by itself, i.e. through the course of nature, the same processes under the same conditions are lined up seamlessly by creating the initial conditions again and again.

However, measuring the time of events requires not only "clocks" in the same place, but "clocks" in different places that show the same time, i.e. the synchronism. How can determine by measurement? Assuming the movement of a body or the propagation of a signal takes place from A to B under exactly the same conditions as from B to A or from A to C or from C to D (if  $AB = AC = CD$ ), it needs to follow these paths the same time and thus determines the measure at different places

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(Schr. 7, p. 4) 1). We already know this before we measure from the causal principle and we use this knowledge to measure. A sound signal, for example, determines the measure when there is no wind and the same conditions everywhere (temperature, air pressure, etc.). at all equally points protruding from the starting point. If, although the causal conditions are the same, one way AB takes more time than the other AC, the body or the propagation process at one end point (or at one of two points that are equidistant from A) would have a greater instantaneous velocity and thus have a greater kinetic energy than on the other, e.g. can close an electrical circuit here, not there. The

same causes could result in unequal effects, which is impossible according to the causal principle. Since the same conditions are possible on paths of the same length or an infinite approximation to them, the "absolute" and unambiguous measure possible at different locations or an infinite approximation to the same, even before we measure and regardless of the type of measurement. The physical measure is therefore just like pure mathematical equation. necessarily unambiguous, universally valid and determined by the matter itself, therefore not arbitrarily determinable and not "redefinable" 2).

However, for practical reasons of measurement accuracy, the equation can be determined by light (or electrical) signals. We now make the assumption that there is a system (a space) at every place and only one (whether it is moved or immobile compared to the position taken), related to which in the vacuum and after elimination of all influences emanating from the matter the light has the same conditions of reproduction and consequently the same speed on all paths, and we call it a system at rest in the ether 3). Further let us assume that the rigid bodies did not contract as they moved through the ether. From both assumptions and the negative failure of the Michelson experiment as well as the space-time axioms and principles of space-time metrics developed above (above all the one required for the theory of the Michelson experiment, mentioned above

1) This measure is the one determined by a signal of infinitely great speed measured logically equivalent.

2) This objective unambiguous measure of events, even if they are not measured and (with probability) could be determined, already disproves the RTH, at least in so far as she asserts with H. Reichenbach that the slowing down of the moving Clock takes place "by itself and without human intervention". This leads to speaking arrangement to the fact that perceptible things or events in the one System are permanently present or are going on, by a system that is moved for this purpose from a point of view no longer exist or never occur (cf. 3, 6, p. 52, 8, p. 16).

3) The assumption of the ether as the homogeneous medium of the light waves can be appeal to induction, namely to generalize the observations of other wave movements, as found in solids, liquids and gases, The medium of the wave movement is sensually tangible before our eyes and the constancy of the speed relative to the (homogeneous) medium can observe directly. But induction is not an arbitrary principle.

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measured -Sentences) it follows that the ether system on the earth's surface is almost or completely at rest, at least participates in the translational movement of the earth 1). The now necessary explanation of the fixed star aberration I gave earlier (Schr. 2, 4, 5), it is based on the assumption that the inertia of the light energy when the light passes into aether from a different state of motion delays or cancels the change of direction required by the original wave theory 2). These three assumptions are by no means arbitrary presuppositions or determinations, and they are by no means on the same level as the assumption to the contrary. Rather, they are real hypotheses, assumptions about probable behavior, which in principle, i.e. with enough advanced fineness of observation can be checked by experiment 3). Since the Michelson experiment shows that the aether rests on the earth's surface or its relative movement to the earth remains below the observation accuracy so far, it is necessary to determine it

1) According to the result of the experiment by Michelson and Gale, one must assume that the etheric envelope of the earth does not participate in the daily rotation of the earth, which is in agreement with the assumption that the ether is frictionless and is only held on the earth's surface by gravity .

It does not seem impossible to increase the observation accuracy even further with an improved experimental arrangement according to Trouton-Noble and to prove the assumed relative movement of the ether to the earth's surface (at the equator 463 m / sec), which would also experimentally refute the RTH to excess. We would like to propose this experimentum crucis [Latin-> cross experiment].

2) This assumption has also found the approval of a physicist of the rank of P. Lenards, who seems to have recently given up his hypothesis that a special substance, which he calls "primordial ether", is supposed to take over the guidance of light in the case of aberration. (See Sitz.-Ber. Heidelb. Ak. D. W., 1929, 8. Ahhandl., P. 21.)

3) An attempt to prove the ether system is suggested in Note 1, p. 59. - As far as the Lorentz contraction (in the sense of Lorentz himself) is concerned, this can also be observed in principle as a result of the associated deformation of the earth's surface and change in the polar elevation of the earth locations, provided that it is present, as Courvoisier has shown (Astr. 241). However, these attempts still need to be checked and we therefore believe that we can foresee the Lorentz contraction as unlikely for the time being. But it is theoretically of interest that even in the presence of a Lorentz contraction the movement of the ether system and thus the measure could be determined objectively, which is mostly overlooked. – However, only as a thought experiment possible determination of the state of motion of the ether system and thus the objective equilibrium, which is independent of the assumption of a Lorentz contraction, can be accomplished in the following way: Connect three rods like one right-angled axes with each other, bring in the intersection of the same light source on and on the poles at six equidistant from the light source points each an extremely sensitive apparatus, which the intensity of the light radiation allowed to measure. It is clear that only then have the same intensity at all six points can be present when the apparatus is at rest in the etheric system, and one can get through try to find out in which of the mutually moving inertial systems this takes place. This thought experiment does not require any further kinematic theorem than that the movement of light in a certain system, the "etheric system" is the same in all directions, and thus refutes the claim that it is not only technically, but in principle impossible, the measure to be determined without an arbitrary definition (definition) of the same or any other arbitrary kinematic Postulate to be sent in advance (see H. Reichenbach loc. Cit.). - About astronomical measurements, which allow the third assumption to be examined, see Schr. 4 and 5, 55

the measure on the surface of the earth by light signals no correction, which takes the ether movement into account. And since all of our presuppositions are partly a priori true propositions, partly hypothetical assumptions, the inferences cannot contain any arbitrariness and is therefore the most probable measure according to our current knowledge. determined in an arbitrary manner. But this makes the arbitrary determination of the measure superfluous, yes forbidden and the first and most important requirement of the RTH is thus proven to be its *πρώτον ψεῦδος* .

Or should Einstein perhaps use the relative and ambiguous measure did not understand correctly himself and neither did the interpreters of his teaching authorized by him? Would it not be conceivable that Einstein's measure is not arbitrary, but hypothetical or as a statement about the probable physical-real measure can at least be thought? From everything we have already said, it is clear that this is impossible and that the discoverer of the relative measure correctly assessed this. Since, as shown, both the mathematical as well as the physical equilibrium preceding the measurement. is unambiguous and absolute, it cannot possibly be determined with probability as relative and ambiguous. Yes even if the physical gloss. could in fact only be set arbitrarily, but what is not the case would be Einstein's equation. to refuse. This is because the idea of time and glare, which we already have before it was measured and which is the prerequisite for the measurement, cannot be cancelled and eliminated by the measurement and would also be given if the measure demanding consideration for the purposes of measurement.

Above all, it is worth mentioning that the RTH is also incompatible with the true concept of physical movement. The movement of an object or the rest of an object (or coordinate system) is objectively and physically as meaningless as that above and below, right and left and serves only for sensual illustration. The true physical concept of movement is that of change in distance and position. Physical as well as mathematical movement is a relation between two or more objects, as well as i.e. "Brotherhood" is a relationship between two or more people (Schr. 8, pp. 9 ff. And 34 ff.). The assertion of the RTH that a clock that is in motion always goes more slowly than a clock that is at rest and of the same nature cannot be expressed by the mere change in distance and is on the same level as the assertion that a clock on the right is always slower than one on the left. Such a thing would not even be allowed as an arbitrary stipulation or consequence of such, since it has nothing physical as its object. Even worse but if the ears of the RTH are supposed to behave like this "by themselves and without human intervention". 1) - - It is also incomprehensible if

1) See S. H. Reichenbach, *Axiomatics of Einstein Spacetime theory*, 1924, p. 70.

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experiments are devised to investigate the consequences of the supposedly arbitrary measure. - Check the definition (e.g. the rate slowdown of the moving watch as a "transversal Doppler effect"). It is no different than when someone arbitrarily "stuck" in one in front of him the standing vessel contained 15,643 grains of wheat and then wanted to count whether it was correct. Unfortunately, these experiments cannot be carried out because they require a measurement accuracy that has not yet been achieved.

What kind of strange quirks the philosophy of the relativity theorists produces can also be seen from the following: The sequence of times at the same place, although something immediately given, is "defined" by H. Reichenbach, namely: "If  $E_2$  is the name of the effect of  $E_1$ ,  $E_2$  later as  $E_1$  this is the topological assignment definition of the time sequence" (*Philosophy of space-time theory*, p. 161). However, as Reichenbach repeatedly emphasizes, assignment definitions are arbitrary determinations. "Like all definitions, they are arbitrary; the conceptual system that is obtained with the advance of knowledge depends on their choice" (*ibid.*, p. 23). Accordingly, it would be an arbitrary stipulation that the effect is later than the associated cause and the opposite is "in principle equal"! The consequences of this type of philosophy are truly monstrous. Think e.g. to the administration of justice. Can it tolerate defendants being and still being convicted on the basis of an arbitrary determination? Countless processes in which an acquittal was made on the basis of a proven alibi or a conviction based on the evidence relating to the temporal context should

be revised as soon as possible! Anyone convicted in this way could, referring to the RTH, demand at least a postponement of the sentence until the question has been scientifically clarified. What do the legal scholars say, what does the Imperial Court say about it? It would also be a doctoral question for budding relativity theorists how a suicide is possible with the contrary determination. Can a dead man make up his mind to kill himself and bring him to execution?

As far as the general RTH is concerned, it should only be pointed out briefly that it is absolutely impossible to understand a gravitational field as a relative, "covariant" term. An unreal gravitational field would be nonsense, but a real one cannot be relative, because a relative reality is also nonsense 1). Furthermore, the general RTH is to be rejected for the reason that, as shown, a non-Euclidean geometry is impossible a priori, that is, not the form of the physical

1) The same argument must be made against the relativity and reciprocity of physical movement in the traditional view.

The physical movement, be it only kinematic or dynamic, must be considered "invariant", i.e. be understood independently of the coordinate system or reference body, as is only the case for the mutual change in distance and position (Schr. 8).

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can be reality 1). It must also be emphasized that Newtonian dynamics by no means presuppose the conception of absolute space in the Newtonian sense, but rather can be presented independently of this in an epistemologically impeccable manner, so one is by no means forced to decide on absolute space or RTH, as is the case from the side the trailer of the latter is usually placed like this (Schr. 8, p. 34) 2).

See d. V. : 1. "About the cosmic movements of the ether", Scientific weekly Vol. 20, p. 393, 1921. - 2. "About questions of aberration and light propagation", *ibid.* Vol. 21, p. 20, 1922 - 3. "A new clock paradox", *ibid.* Vol. 21, p. 497, 1922. - 4. "About aberration and the Michelson experiment", astronomer. News, Vol. 217, No. 5203, 1922. - 5. "Comments on the propagation of light in moving ether", *ibid.* Vol. 222, No. 5317, 1924. - 6. "Where does the RTH lead?". Critical considerations from the physical and epistemological point of view. Hillmann, Leipzig 1923. - 7. "Considerations on Time and Time Measurement", Physical. Time- script, Volume 25, pp. 609 - 617, 1924. - 8. "Is gravity relative?". Critical Considerations on Relativism in Latest Physics. Macklot, Karlsruhe 1926. - 9. "Theory of Relativity and Logic", Annals of Philosophy, Vol. 7, Issue 2 and 3, 1928.

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SOME OBJECTIONS AGAINST EINSTEIN'S RELATIVITY THEORY

1. Einstein's assumption that the speed of light in vacuum is constant contradicts the generally accepted theorem that if two speeds  $a$  and  $b$  are simultaneously transferred to a mass at an angle  $\alpha$ , they combine to form a resultant, its magnitude and direction is determined by the diagonal of the parallelogram formed from the two speeds.

When a beam of light collides with the earth moving around the sun and is reflected in the process, two speeds adhere to the carrier of light, the electron, that of the reflected light and that of the movement of the earth. His assumption would only be correct if this diagonal was always the same size as the component representing the vacuum velocity. However, this only takes place in exceptional cases when

$$\cos(2R - \alpha) = \frac{b}{2a}$$

where

1) What use are all "Gaussian coordinates" when Gauss himself says: "There is no doubt that the impossibility of triangles whose sum of angles exceeds 180° can be most rigorously proven" (Werke, Vol. 8, p. 186, 174, 190). Thus, according to Gauss, the impossibility of the general RTH can be proven "with all rigor"!

2) The alleged empirical confirmations of the general RTH through the observation are partly incorrect (redshift), partly they do not agree sufficiently with the empirically determined amount (perihelion deviation of Mercury), sometimes they allow another explanation (light deflection at the edge of the sun).

There can be no question of a flawless empirical confirmation (which, by the way, is excluded from the outset in the case of an epistemologically impossible theory, since there are always other possible interpretations).

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b is the lower speed, i.e.  $b < a$ . Before he dared his hypothesis, he should have proven the above sentence as false. This evidence is still missing.

2. If this generally known sentence is still valid, Michelson's attempt can be explained with the previous ideas without any difficulty, as in the book: Walte, "Power and Energy" (Otto Hillmann, Leipzig), No. 110, p. 132 ff. Then, for Einstein, the only reason that prompted him to set up his theory falls away. Lorentz's hypothesis can also be regarded as finished.

3. From his formula for  $t'$  Einstein deduces that of two clocks that are exactly the same in and of themselves, one, if it is set up at the North Pole, goes faster than the other, if it is at a point on the equator, and that is why because the pole is at rest, but the equator point rotates around the earth's axis once every 24 hours. The formula for  $t'$  assumes that  $x$  and  $v$  have the same direction. If the directions are different, then only the projection of  $v$  onto the direction of  $x$  can come into question. But since  $x$ , the view of the observer at the pole towards the equator, and  $v$ , the path of the equatorial point, are perpendicular to one another, the projection of  $v$  onto  $x$  is equal to zero, i.e.  $t' = t$ . Accordingly, Einstein has concluded wrong from his own formula.

4. In the formula for  $t'$ ,  $v$  and  $x$  can also have opposite directions; then  $vx$  is negative and  $-vx/c^2$  positive, then  $t$  must be greater than  $t'$ , while according to Einstein it should always be smaller.

5. Of two clocks that are exactly the same, one is again at the North Pole, the other is on the equator in a southward direction, the minute hands on both pointing eastwards so that their tips move southwards. At the pole the speed of the pointer tip is  $x/t$ , at the equator  $x'/t'$ . Between these

There can be a difference between the two speeds, at least according to Einstein; but it must be very low because these speeds must be proportional to the times measured by them, but according to Einstein these have such a small difference that it is by our most sensitive instruments cannot be determined. Then  $x/t \sim x'/t'$  by inserting the Einstein values for  $x'$  and  $t'$  one obtains an equation which, after appropriate reduction, changes into  $x/t \sim c$ . The speed of the tip of the minute hand in the clock at the North Pole is then approximately the speed of light.

But that's nonsense.

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6. Einstein derives the equation from his fundamental forms:

$$x'_1 - x'_2 = \frac{x_1 - x_2}{\sqrt{1 - \frac{v^2}{c^2}}}$$

and deduces from this that, since the denominator on the right is less than 1,  $x'_1 - x'_2$  is greater than  $x_1 - x_2$ , so that a length in the system at rest receives an increase in length in the moving system, i.e. a body gains a body gain. A change in the state of nature is connected with this increase; this is not possible without shifting energy, at least as long as the energy principle is recognized as correct. Because if energy can neither disappear nor be recreated, there can only be a change in nature caused by change of location of energy; and the only reason for the latter is the difference in the level of the energy in neighboring places, combined with the striving of each energy to eliminate the difference in level. Accordingly, the enlargement of a body derived from Einstein's formulas without expenditure of energy contradicts the energy principle.

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THE SPECIAL RELATIVITY THEORY

The insufficient cause - the wrong premise - The absurd consequences - the other possibilities

A theory that claims to reshape our entire worldview under, admittedly!, Unheard-of demands on our thinking and renouncing any clarity, has the increased obligation to demonstrate its necessity by giving all others, switches off simpler possibilities and proves the compelling reason for their installation.

The special RTH cannot do both.

The occasion is: Michelson's experiment, "contradiction" between this and the Fizeau experiment, maintenance of the classical principle of relativity in connection with the pre-relativistic law of the constancy of the speed of light. This occasion, with its concrete-optical Nature in itself grotesquely disproportionate to an overall transformation of the worldview, does not hold up and does not lead

to Einstein's absolute constancy of the speed of light, the core and actual content of the special RTH with which this, i.e. the relativization of space and time stands and falls.

1 . The Michelson experiment proves, with or without the assumption of an ether, under all circumstances the connection of the light propagation with the movement of the cosmic body (earth), but not with inner terrestrial systems (trains etc.). A Michelson experiment for the latter is not available! - and cannot exist. Because with phoronomic evidence is through constancy to world bodies (= c) variance

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[phoronomic means relating to motion without relating to force or mass.]

to moving systems on celestial bodies ( $= c \pm v$ ) conditional. One and the same moving point cannot have the same speed with different moving points. An absolutely unworkable thought! (By the way: why don't the physicists of the relativity theory finally try the experimental proof of absolute constancy by Michelson experiment in a train or an airplane, which can only be discussed for them?)

2. The Fizeau experiment confirms the Michelson experiment instead of contradicting it: with the constancy of the tube (independent of the moving media water, air etc.) it also proves the constancy of the earth system firmly connected to the tube, i.e. he speaks - even if one holds on to the ether - not for resting, but only for aether resting on earth, exactly like the Michelson experiment. And he makes it clear that even a Michelson experiment with reference to an inner-terrestrial movement would not deliver c.

3. The principle of relativity includes the constancy of natural occurrences in relation to the respective superordinate system, but expressly the variance of the speed in relation to associated systems 1). The "natural occurrence" in our case is not the speed of one and the same light ray or point, but the speed of light. This is constant compared to the system to which the light - - dynamic! - listened to: earth, world body. (Proof: just the Michelson and Fizeau experiment!) The individual light ray (point) is, depending on the situation, constant or variant. In a purely mathematical and very general way, Einstein links one movement of light with any coordinate system without distinguishing between them as real - superordinate or subordinate - body systems. (Which means that, for the sake of the mathematical approach, space and time lose their unambiguous existence; just like when one and the same sound, flying bird, moving car, etc., are constantly set to different moving bodies, instead of per sound, etc., to per body.) Einstein emphasizes this Relativity principle, while at the same time referring to it. -

The solution can only be: If light, including starlight, is opposite to the world body - this can only be the case according to what has been said - is constant under all circumstances, then there is division, Division of the light, distribution of the light rays to the world bodies that are at enormous distances from each other and by no means in distanceless translation (such as railway embankment and train) in such a way that they enter into their movement (be it through gravity or otherwise through dynamic connection) regardless of the movement of the light source.

In the simplest way, this assumption is sufficient for that made by the principle of relativity

1) S. Einstein. Commonly understood, p. 8 - p. 12 the opposite is asserted, p. 13

the "dilemma" established from this and the special RTH postulated as the solution to this self-created dilemma.

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only required and only possible relative constancy. But if there were even distance-less translation between cosmic bodies, then on the other side  $c$  would really also apply to opposite Railway train, etc., it would be assumed that either the divided light medium or a split-off light beam would be carried along.

Of course without the unnecessary changes in space and time. (Like sound with air with guidance always constant, with non-entrainment variant the speed to moving bodies.)

This physical hypothesis gives, instead of a causally insubstantial, mathematical fiction, a descriptive causal arrangement 1), is compatible with every theory of light (including and especially quantum theory), leaves - in the sense of all other physics! - our laws of thought and our view of space and time remains intact and protects us from all absurdities (euphemistically: difficulties) of the Einstein theory; namely, time expansion, space shortening, the clocks lagging behind, the body shrinking - "from the standpoint of the resting Observer off"; furthermore the relativity of simultaneity, establishment of a limit speed. These absurd, purely computational consequences of absolute constancy expose their presupposition, precisely this constancy, as false and impossible, are therefore also through not to save the possibly correct mathematical way and mean a completely groundless and senseless destruction of every, natural and epistemological, concept of reality. Since the Change of point of view is theoretically possible at any time, there would be any number of realities according to the RTH: the earth i.e. existed once in all its abundance known to us, at the same time and just as real, with the appropriate choice of the observer coordinate system, as thin Disc, as good as not at all. The reality of nature has ceased to be an imaginable, a conceivable stable something.

"The observation point of view" contradicts the sense of physics, which aims at the supernatant point of balancing all points of view, regardless of the position of the observer.

If, however, one wanted to grant the RTH a different logic, other laws of thought and perception - an impossible undertaking in itself, because these laws are timeless and therefore not subject to any change - then one cancels the RTH itself, which deals with its conclusions and to apply proof to the authority of generally valid human reason - to whom else ?!

Therefore: even if the indicated possibilities of a positive explanation were not taken into account and the solution of the relevant questions, including the - likewise purely optical - aberration, the Doppler effect, etc., initially open or further light theoretical

1) Mind you: The Michelson experiment, thus a real earthly process, should be explained, not a fictitious, kinematic event in a gravitation-free space! But the RTH does not explain this either, it only states - wrongly - the result of the Michelson experiment.

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research should be left to (Unless one wants to accept long-existing, non-relativity-theoretical explanations of great simplicity) - Einstein's solution is unacceptable under all circumstances.

There can be no question at all of a positive epistemological significance of the RTH. Even methodologically, there is no way from physical observation to epistemological positions. Phenomenalism and subjectivism, but also epistemological idealism of any kind, is doubly wrong to see the RTH as a kind of "empirical confirmation": the physical observation point of view has nothing to do with the epistemological reference system of human consciousness in general - and especially the idealistic epistemologist with the primacy of consciousness proclaimed by him, he must put the laws of this consciousness before all experience. For obvious reasons, the realist will reject the RTH from the outset as ontologically and logically impossible. Finally, the phenomenologist must reject Einstein's relativization of space and time as absurd, contrary to the idea of both. -

But what is the fact that gave rise to the confused and confusing claims of the RTH?

Light and light signals, included in the general cosmic play of movement, in addition in a very complicated, perhaps never entirely determinable way, do not allow absolute time and space measurements in the cosmos, which would only be possible in an absolutely still space opposite absolutely moving in it Bodies. Even the "resting ether" - in the event of a positive failure of the Michelson experiment or to explain the aberration or in the sense of Lorentz - would initially only be synonymous with a system firmly connected to the sun (instead of the earth).

The observer who is moving (resting) alone achieves measurement results that do not require correction or that can be corrected without further ado, be it through the application of a scale or through subordinate signals (whether light, whether sound, etc.) in his own system. So with light in terms of earth (World bodies) or the bodies moving on them (trains etc.). Einstein's postulation of a signal subordinated to all bodies at the same time violates nature and reason and refutes itself through the abstruse consequences of the abstruse phoronomic presupposition. Only the assertion of the constancy of the world body i.e. of the subordinated signals. That is why "the" light has for every observer who moves along with it, i.e. its ray of light has the velocity  $c$  to the proper cosmic body system, but of course  $c - v$  to the world body system moving on the other hand (with the same direction of movement of signal and body) - while its moving observer measures for his light beam  $c$ . This respective constancy of light does not lead to time-space relativization, i.e. H. to follow up  
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of the clocks through movement and to shorten distances for the stationary observer, but only to a different position of the clocks through light signals from a common starting point when the systems are already moving. The same would of course be true for acoustic signals, e.g. on earth, the fall - - as a result of the different, respectively inserted impulses! In the case of synchronization on the basis of mutual rest, the movement that begins afterwards can of course produce no effect, which according to the relativity principle assumed by Einstein - the influence of the uniform movement on all processes! - is impossible: The clocks remain the same and keep the same hand positions. The ghost of Einstein's paradoxes does not dissolve into anything. Even in the harmless form admitted above, the possibility of clocks being set differently by Light signals remains an idle thought game. For our astronomy, which is now once oriented from earth, it cannot have any results. Even less, of

course, in the Einsteinian form! The alleged astronomical confirmations must be accidental or arbitrarily derived - for it is in the nature of theory that it cannot make any statement about realities.

Last but not least, it speaks against the special RTH that the General RTH restricts it to the area of gravitation-free space that does not exist in the real world of the body; that the question of the constancy of the speed of light is completely forgotten in the general RTH. -

Einstein didn't have science either like that about the classical, i.e. the one and real and eternal relativity principle led out. The light, also the electrodynamics, obey this, of course, as long as the light movement is sensibly classified into cosmic events. Understanding, intuition, nature cannot be dictated that  $c \pm v = c$ . That would only work if  $c$  is infinitely large or  $v$  is infinitely small. Practically, concretely, it's something like this. And that is why Einstein can practically do no harm. But before the forum of science, the theory of truth cannot stand,  $c = c \pm v$  destroys the meaning of the number and thus the meaning of the mathematics that the RTH invokes again and again.

Without Einstein and against him, the idea of relativity and the principle of relativity remain untouched, but they do not, as with him, lead to the absolute via the absolute constancy of the speed of light chaos.

See d. V. "Attempt to finally refute the special RTH W. Hillmann, Leipzig 1926. - - "Anti-Einstein-Quintessence", Archive for System. Philosophy, Vol. 30, Issue 3 and 4. - "The absurdity and the superfluosity of the special RTH", Annalen L Philosophy 1929, Vol. 8, Issue 1 and 2. - "The untenability of the special RTH", nature a Culture 1930, 27th year, No. 4.

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35 THESES AGAINST EINSTEIN'S RELATIVITY THEORY

1. The foundations on which Einstein builds his RTH are of a highly problematic nature. He readily accepts certain errors of older physicists or mathematicians as facts and builds a theory on them without giving any sufficient reason.

He's just making claims. So he accepts the four-dimensional space, a thought that Riemann and Helmholtz (one must say, in their weakest hours) once had, while there can never be a four-dimensional space. He makes a fact out of the merely fictitious possibility, which is not even that. He also accepts the errors of non-Euclidean geometry, where it is just a matter of different nominal definitions, but Euclidean space in reality always remains the same and only three dimensions of the space are possible. He accepts the doctrine of a finite space, while space can never be finite and after all it must necessarily extend into infinity. Kant and Schopenhauer had long since recognized this clearly.

2. Einstein confuses dimensional space and real space, measured time and real time. Space and time, which are fundamentally different (space has three dimensions, time only one and is also in us), he regards as a unity and thus sets up the wrong concept of a space-time union, which is philosophically untenable (only for physical purposes one can unite space and time in certain calculations, but what a purely mathematical matter). The philosophical concept of a space-time

union would mean the same thing as if someone declared water and iron to be the same thing and spoke of a water-iron union.

3. Einstein confuses space and mass. For him, space sticks to objects, whereas objects are rather in space; yes, it is an object to him, so that every body has a special kind of space. To him, space is a piece of matter. He knows nothing about the way space is viewed, about the great discoveries of Kant, whom he has probably never read. Space has absolutely nothing to do with bodies and matter per se; only that the bodies are in space.

4. The first sentence of his alleged RTH is totally wrong. Einstein states the complete relativity of movement and asserts that all statements about movements, e.g. whether the stone thrown from a moving train falls vertically or in the parabola are equal. He declares every subjective appearance to be equally true, according to which the stone would fall in the most varied of curves or lines, and every claim about it would be equally correct. Accordingly, every thermometer reading, whether the thermometer is read from a certain height

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or from below, would have equal rights. Of course, only one is correct when the eye is in the level of the mercury level.

5. Einstein cancels Newton's law of mass when he claims that it is completely the same to claim that the earth revolves around the sun or the sun revolves around the earth. Newton's law of gravitation is mathematically proven. Einstein thereby denies the concept of an active force, he denies that there are forces in the universe and also abolishes the concept of causality.

6. Einstein teaches a curved space - an unbelievable mistake in reasoning, since the space has no design and expands into infinity in all directions.

Einstein also teaches that the straight line returns in itself. He puts a curve under it and thinks of the meridians. The straight line runs perfectly straight and to infinity on both sides.

7. The most incredible mistake of reasoning is his assertion of the relativity of simultaneity. Accordingly, the current point in time at which I write this, e.g. on the Sirius, would be a completely different one. The time should depend on the state of motion of the body. According to this, people would get younger or older depending on the state of movement in which they are. One can only understand this theory in a humorous way. In reality, time moves continuously, every point in time is fixed, and it takes an extraordinary superficiality of thought to claim that points in time could be relative.

8. Einstein goes even further. He even claims that cause and effect can be reversed (at one point in the "Annals of Physics" 1). He therefore considers it possible that the effect could one day precede the cause. So the shot could go off before the [gun] cock is cocked! The chicken could be there before the egg!

9. Einstein declares the ether to be non-existent, while through it alone a propagation of light is possible and the whole continuity of the universe would be destroyed if no light ether is assumed between the molecules and atoms and empty nothingness between the fixed stars. Rather, the

ether is a basic component of matter, and I have stated that it is the basic material from which all matter first developed 2).

10. According to Einstein, it is completely irrelevant to say whether the observer or the environment is moving. If an iron tap suddenly stops, according to the RTH the ground should receive a sudden jolt according to the law of inertia.\* After the RTH would have to result

[\* Not very clear – think referring to if turn on a tap for water, that the reaction of the ground feeling the water it hit can be reversed.]

1) "On the inertia of energy required by the principle of relativity", Annalen d. Physics, Vol. 23.

2) In my as yet unpublished treatise "New Hypothesis on the Systematics of the Universe and the Milky Way Systems".

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the wrong application of the relativistic idea all houses and church towers collapse like houses of cards, and one would like to be careful not to live in such a world where everything moves relatively and only the point of view of what is considered to be moving matters. It's downright incredible to explain the appearance of a ship traveling along the bank as true as if the objects on the bank were moving in the opposite direction to the direction of travel, which does not occur to them.

According to the RTH, it would be completely the same to say: the train moves forward and the embankment stands still. Or: the train stands still and the embankment moves backwards.

11. According to Einstein, since all motion can be regarded as relative, the outermost fixed stars would have to have high multiples of the speed of light, which refutes the theory itself, since the formulas then become meaningless. Einstein had to do this himself and has given up his RTH himself - while they were developing his disciples away. - - So there is the curious case that the theory is already refuted by itself. Except that the world doesn't know or believe it!

12. According to Einstein and Minkowski, space and time disappear into schemes, into nothing. But anyone who wanted to jump the distance from Berlin to Königsberg or even to Sirius or who tried to imagine the period between the ancient world and the present Quaternary period will notice that they are something. From such examples you can see what to think of it when you simply declare space and time to be nothing or speak of a space-time union in reality, while space and time as completely different forms of perception can in fact never be united and only for the purpose of Purposes of mathematical-physical calculations can be united in a purely practical sense, but never realiter\* . Furthermore, space has three dimensions, time only one and is also present in our consciousness, but space is not. Palägyi had also overlooked this in his concept of space-time union.

[\*- maybe "realer"]

13. There is hardly a word to be said about the alleged change in the lengths and dimensions of the bodies. Lorentz had accepted a factual change on the basis of a misleading understanding of Michelson's experiment. Of course, I am assuming knowledge of the facts here. - - Einstein makes the fundamental mistake that he measures the length of bodies by determining the time. The earth, if it moved with the speed of light, would become an absolute surface according to the RTH, that is

to say orbit around as a "surface" in space - an unbelievable idea - and its kinetic energy would nevertheless be infinitely great. Woe if a world body collides with this surface moving with infinite energy! Incidentally, the length of a rod moving at the speed of light would be zero; so he would just go away. - One can call such physics a fairy tale or witchcraft.

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14. The kinetic energy of the radioactive  $\beta$  rays, which almost reach the speed of light, would have to be almost infinitely large and sufficient to throw the universe out of joint - which is not the case.

15. Einstein calculates the specific weight of 53,000 for the companion star of Sirius! Logically possible! But woe if this dreadful mass falls to earth! The weight of a person would be monstrous on this star.

16. Einstein's well-known example of the box flying upwards in uniformly accelerated motion is false and proves nothing; for the observer would have to be very foolish if he could not easily deduce from indirect criteria what is really moving. Einstein assumes a very harmless and physically uneducated observer.

17. According to Einstein-Minkowski, time is a fourth dimension of space. I already pointed out the complete impossibility of realiter\* uniting space and time in this way and even adding a time dimension to space. With its three Euclidean dimensions, space already has enough and can never absorb something completely different, heterogeneous, just as little as it can absorb iron. He doesn't digest it (pardon the joke!).

[\*- probably "reality"]

18. Einstein constructs a spherical space and teaches the finiteness of time and space. The assumption that time is finite is a gross misconception, since time is necessary in the infinite runs, which is why it is often represented under the image of a straight, infinite line that never bends and does not run backwards. The same applies vice versa for space, which has three dimensions running into infinity and consequently no design, therefore can never be spherical and cannot curve (see thesis 6).

19. A person who walks or flies straight ahead from a point in space without changing direction would have to return to the same point after the RTH. This is only the case on earth and a completely wrong generalization of earthly conditions. Infinite space is simply viewed as a spheroid (see thesis 6).

20. Einstein confuses purely phoronomic and dynamic movement. He does not know a dynamic movement at all and thus denies, as already said in thesis 5, the concept of force and thus also that of causality, since no causal relationship can take place without force. The Einsteinians go even further in this, because they do not allow any laws of nature to apply. - Certain mathematicians today also declare the mathematical definitions to be arbitrary, there they mistakenly regard all definitions as mere nominal definitions, and neointuitionism even denies it as a result of a misconception of certain mathematical theorems, e.g. the infinite dual fractions, the principle of

contradiction. Here one speculates wrongly with the concept of the infinite, which is grasped realiter\*, while it is only the negation of the finite.

[\*- probably "reality"]

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21. Einstein denies the influence of uniform collective movements on the special movements of a system. If this were correct, i.e. the rotation of the earth have an influence can affect the course of the Passate\* , but it does. The flattening of the earth would be inexplicable or would have to be explained in an entirely impossible way by gravitational forces.

[\*-didn't translate.]

22- Palägyi rightly says in his work "New Theory of Space and Time" that "all playing with the transformations is a dangerous tautology, since it gives the appearance that it contains a demonstration of the principle of relativity while it is only the logical-methodical principle expresses that we represent the absolute regularity of a movement in differential equations, whereas the concrete elements of the same are represented in constants of integration".

23. Einstein defines space as the epitome of spatial experience - which is a tautology. Nothing is said or even proven with that. In reality, space is the three-dimensional form in which we must necessarily look at things. Time is not a fourth dimension of space, but rather the form of perception of the inner sense, as Kant says, or better of consciousness 1).

24. Einstein lets the geometric properties of space be conditioned by matter. In reality, space is something heterogeneous in matter and rather, as Kant correctly recognized, it conditions the experience of the perceptual world, and is therefore a form of perception a priori. So the relationship is exactly the opposite. - About the confusion of space and mass as well as the confusion of measuring space and real space. Theses 2 and 3.

25. E. J. Walter says in his essay "RTH and Philosophy" in the "Journal of the Natural Research Society of Zurich" 2) rightly: "The inhomogeneous, humpbacked space of Einstein just conceptually presupposes the homogeneous thought space of Euclid. - Incidentally, this is the case with all supposedly new spatial views of non-Euclidean geometry, which only shape other nominal definitions, but in reality always necessarily have to build on the Euclidean spatial view. All talk is nonsense of the parallels supposedly intersecting in infinity. They never intersect or even think about it, just as little of the straight line thinks of returning to itself or the space to bend in honor of the RTH. Today we are desperately looking for something new and want everything old and scientifically proven

1) Cf. my treatises: "Critique of some basic concepts of transcendental idealism", Archive for Systematic Philosophy 1908, 14th BdL, 3rd issue; "Investigations into the view of space, size and time", ibid. 1913, 19th volume, 3rd volume; "On Stumpf's theory of space and related theories", Archive for the History of Philosophy 1924. 29 Vol. 1 and 2. Booklet, as well as my work "Critique of Recognition", Carl Georgi, Bonn 1914 ( edition out of print).

2) 69th year, 2nd issue, 1924.

knocked over to make it look as if great new discoveries had been made.

26. According to the claims of the Einsteinians, Newton's "absolutely still space" should be dispensable. In reality, the room is always at rest and cannot move at all because it is a mere form, is not a body. In reality there is only this one resting space and movements of masses in it, but not a movement of space itself, which is a *contradictio in adjecto* [Latin -> contradiction in terms].

27. The assertion that all motion is only relative is fundamentally wrong. All relative motion is based on an absolute; otherwise one could not speak of "relative" at all. This is a fundamental logical mistake of the RTH. Incidentally, this presupposes absolute values everywhere; i.e. Einstein speaks of the alleged "constancy of the speed of light", which, incidentally, is not proven by anything.

28. The perihelion movement of Mercury is by no means just explainable by the RTH interplanetary masses are there and are most likely. The scientific crowd to use this expression once can only be lulled by such alleged "evidence" of the RTH. One does not see the serious logical errors of the RTH.

29. According to Einstein and the Einsteinians, the line is made up of points, the lines and surfaces are the amalgamation of an infinite number of points - again a very serious and obvious mathematical error of reasoning, since an infinite number of mathematical points is never a line, at least not result in a surface or even the three-dimensional space.

Harry Schmidt, an Einsteinian, names i.e. the cylinder is a one-dimensional continuum; since it is said to be made up of equal circles, he also calls it two-dimensional. - You can see that the terms "one-dimensional" and "two-dimensional" are thrown together and the basic mathematical terms are simply thrown overboard. Of course, the cylinder is three-dimensional and is not made up of circles, since an infinite number of circles never results in a body.

30. Space is not composed of an infinite number of subspaces, but can only be mathematically divided into parts of space. But there are no physical parts of the room that one could handle and from which it should first be composed. Rather, space is a uniform form of appearance, in a Kantian sense a priori, i.e. given before the experience, which runs into infinity, and there are only infinitely many bodies which occupy parts of space and therefore have certain "volumes". Everywhere one finds a complete reversal of the actual situation in the RTH. Of course, the concept of spacetime is alogical.

31. Space and time should depend on the mass or be conditioned by matter. There is a mix-up of space here

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and mass (see theses 3 and 24). This mistake goes back to Riemann and is one of the few serious mistakes made by this great mathematician, but it had unexpected consequences.

32. What remains of the world after the RTH are reference molluscs. The RTH leads to a dissolution of the world, since the basic concepts of space, time, force and causality are switched off.

33. By Einstein's RTH, the causal law would be abolished, since according to it there would be no forces in the universe and no dynamic movement; even the concept of natural law would fall with it. The world would then collapse.

34. Erich Ruckhaber was the first to show in his excellent work "The RTH refuted by the principle of contradiction that the Fizeau and Michelson's experiments do not actually contradict each other, but can be combined, and that the Michelson experiment has a previously neglected source of error and the natural explanation of the Michelson's experiment "1). This outstanding researcher seldom combines extensive physical knowledge with keen logical thinking and philosophical clarity.

35. Grebe's observations in Bonn about the redshift of the spectral lines were made with imperfect, outdated apparatus and are therefore quite unreliable. The observations on the deflection of the light rays at the edge of the sun showed values that were far too small and values that corresponded to the influence of refraction and aberration. So the physical causes are quite normal and there is no trace of the supposedly strict "evidence" for the RTH. The whole theory turns out to be a monstrous mistake of thinking, which is made up of a large number of grave errors in thinking and, in the event of a serious criticism, as I gave it in the most abrupt brief, collapses like a house of cards.

Epilogue.

I also point out the monstrous errors that follow the RTH and are more or less consequences of it. There should i.e. the law of causality may have fluctuated because the circling electrons give up their energy in quanta. The ejected energies of the electrons cannot be calculated in advance with certainty, although it should be noted that everything is still a hypothesis here. That's the simple fact. From this we want to conclude that a given cause has the same or even an effect only with probability. If this were really the case and if there was not just a deficiency in the observation or in the theory, then the

1) See p. 49.

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far necessary to have long been together; because it would then be i.e. by no means certain that the earth attracts us and all bodies permanently, and the moon would have i.e. can fall to earth "without cause" long ago, which he does not do now, because the law of gravitation binds him. It might be expected that I would e.g. fly "without cause" to Sirius, because then it is not certain that the earth will attract me permanently. These possibilities are necessary consequences of the theory that the law of causation is not certain and has only a certain probability. This also relates to Reichenbach's theory, which in a similar way abolishes causality and thus the legality of nature and wants to allow me to accept a certain probability.

Equally absurd is Hilbert's axiomatic, according to which the basic mathematical and logical principles are only agreements that can be made at will. You can of course do anything with it and set up any definitions. Only you will soon realize that the Basic laws of thought not to be trifled with. One can, of course, make arbitrary definitions; but they will very soon prove to be nonsensical. The real axioms, on the other hand, have eternal validity and the mathematical theorems have apodictic

ones certainty. It is nonsensical talk that the parallels should intersect at infinity, that the straight line should return to itself, and the like. The popular demonstration:  $0.5 = 0.3$ , i.e.  $5 = 3$ , is completely wrong. There is simply a serious mathematical mistake here, because 0 is not an actual number, just the negation of a number.

Likewise, one should not grasp the value  $\infty$  realiter\*, since it is only the negation of the finite.

[\* probably "reality"]

Kant has long shown - and that is one of his main achievements - that mathematics and the mathematical natural sciences have apodictic certainty. Today, however, one sets up arbitrary "definitions" and "axioms", declaring all concepts to be relative and will even the law of causality, indeed the logical principle of contradiction, on whose absolute validity all our thinking rests. This necessarily leads to perfect nihilism, to the abolition of all science. That is the real meaning of the "RTH" and the alleged "revolution in the knowledge of nature" which it caused.

I finally notice that so far two brilliant satires have been written against the RTH, most of which should be unknown. It is the ingenious satire of Gilbert "The principle of relativity - the recent fad of the scientific sheep" 1), and the previous excellent satire by E. Ruckhaber "Relativia" 2). Hopefully the time is not far off when the tremendous error of science has finally been recognized as such.

1) See pp. 76, 86 citations, Gilbert.

2) See p. 49.

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FURTHER

OPPONENTS AND OPPOSITIONS

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BLANK

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It is of course impossible to include even approximately all voices, to exhaust all relevant literature, even to locate all occasional utterances - as much as it served the purpose of this work. If possible, the following is an overview of Einstein's other opponents and at least some of their writings 1).

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1) Compiled by Dr. R. Weinmann.

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QUOTES FROM OPPOSITES

Edited by Dr. R. Weinmann

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Some statements follow from the literature cited, which - of course - could be multiplied at will.

Dr. H. Fricke, op. a. 0. 3

"Einstein's RTH caused a sensation because of its overturning of our concept of space and time and because of its alleged confirmation by the observations of the solar eclipse expedition. In recent times, however, the voices of those who reject the theory as completely absurd and logically untenable have increased. The aim here is to present the issue in the simplest and most descriptive manner possible and to discuss Einstein's fundamental error.

Einstein based his mathematical theory on two alleged "world postulates", which he claims are the "irrefutable consequence" of optical experiments. The first postulate, that of relativity, which gave the whole theory its name, is the less vulnerable, so to speak more harmless. It asserts the equality of systems moving at different speeds, but uniformly.

Even if the postulate is highly contestable from the point of view of the physicist, because it takes no account of the presence of the carrier of optical phenomena, the light ether, at least there are no logical objections to it, so that one can at least do so can still be regarded as a valid hypothesis. It is far worse, however, with the second postulate, which asserts the constancy of the speed of light relative to observers who are moving at random. The conflict with the usual logic begins here.

Einstein's followers mostly only speak of a "principle of the constancy of the speed of light", which sounds physically harmless and has therefore unfortunately been accepted by the critics in many cases without any concerns. Only by emphasizing the observer's point of view does the inner contradiction become more easily recognizable. A physical phenomenon that is generally seen as objective and, so to speak, tangible, the ray of light, is said to have the strange property of always yielding the same value relative to all observers, even if they move uniformly in completely opposite directions. The sense of this monstrous assertion can easily be illustrated. A hiker will be able to accompany a river in such a way that the river is at rest relative to him (at least approximately). Now try to imagine a river that rests relative to two hikers moving in completely different directions! And now imagine a large crowd of people flowing uniformly through each other on the bank on all sides, plus a river

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which rests relative to every single person! This example seems to me to clearly prove that Einstein's postulate of the constancy of the speed of light relative to any uniformly moving observers is not a

permitted hypothesis, but a complete conceptual analysis that must lead to the choking of all physics.

Einstein does not at all deny the contradiction between his formulation and "ordinary common sense" as well as usual logic, but claims that the contradiction would disappear assuming an intricate dependence of time on the movement of the observer. This supposedly extremely "ingenious" idea has been tried to make clear through "twins, one of whom is sent on a journey immediately after his birth, returns home as a schoolboy, and finds his brother an old man with white hair, if he has not already died is. What nonsense comes out of the logical continuation of this idea, Gehrcke has in his work "The RTH, a scientific mass suggestion" (Verlag Köhler, Leipzig) in a very humorous way. Since, according to Einstein, each of the two twins, due to the relativity of all movement, considers himself to be at rest and his brother to be moved, each may consider the other to be young, but himself to be aged or even already for - declare dead. Gehrcke compares the situation created by the RTH with that which Andersen describes in his fairy tale "The Emperor's New Clothes", where a garment is woven that only those who are clever enough can see, and where finally everyone looks in front of them in admiration and amazement standing by the empty looms.

Einstein now claims that his principle is the "irrefutable consequence" of the observations. On the basis of such an assertion the reader will be able to judge when he learns that measurements of the speed of light by observers moving in different directions on earth have not yet been carried out. Wherever something has been done in this direction, as in Sagnac's experiment, the exact opposite of what one had to suspect after Einstein has emerged. In the absence of direct observations, Einstein relies on an intricate reinterpretation of cosmic experiments that prove nothing in this regard. He claims that the experiments of Michelson and Fizeau as well as those on aberration are in insoluble contradiction to one another, although all these experiments can be easily explained if one assumes that the carrier of the light waves, the ether, behaves as if he were take part in the earthmoving. (Compare with Gehrcke's controversy with Einstein, Relation to phys. Ges. 1918 and 1919; also Fricke, lecture in Jena 1921, Phys. Tent very. P. 636 - 639 and "The error in Einstein's RTH '6, Wolfenbüttel, 1920.)

A vivid comparison from acoustics can show how phenomena like the "constancy of the speed of light" come about. An observer who examines the sound of a certain

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sound source once in the laboratory or in the open air when there is no wind, then in a closed moving railroad car and finally in a free balloon that is soon blown here and there by the wind, always becomes relative despite its almost always different state of motion to itself a "constancy of the speed of sound" observe. Nevertheless it is self-evident for every physicist that there cannot be a "universal postulate of the constancy of the speed of sound relative to any observer moving", that rather the state of motion of the carrier of the sound waves, the air, is of decisive importance.

It is obvious that Einstein's strange ideas about the mysterious dependence of the speed of light from the observer's standpoint are incompatible with the assumption of an objectively verifiable substantial ether, which until now has formed the basis for the systematic elucidation of electrical and optical phenomena. Therefore the theorists who follow Einstein believe that any physicist who still believes in the old ether is allowed to classify as backward. The life work of the physicists, who

have set themselves the goal of an explanation of the etheric physics and its clear interpretation, is therefore belittled by the representatives of the Einsteinian direction at every opportunity. It is not Einstein who is attacked, but he himself attacked the logical foundations of science in such a terrible way that it is only self-defense if the physicists unite more and more against him in order to fight a contemporary struggle against the growing threat in all areas to lead anarchy.

So what about the alleged experimental evidence for RTH? Einstein first gave a formula for the deflection of the Mercury perihelion, which should follow from a generalization of his RTH. How little such a special calculation formula proves for general theories is best shown by the fact that exactly the same formula was derived by Gerber from ether physics 18 years before Einstein. Einstein also has the deflection of the light beam by the gravitational field of the sun as evidence of the correctness of his theory in contrast to Newton's theory. But now, more than a hundred years before Einstein, the German scholar v. Soldner calculated the same deflection of the light beam by the sun's gravity from Newton's theory!

Lately Stjepan Mohorovicic, Zagreb, has been studying natural science. Wochenschrift 1922, Issue 11, pp. 145 - 53, developed an elementary theory of gravity, in which Einstein's results are derived without relativizing space and time. Einstein's theory of gravity can therefore be justified quite independently of the RTH with the impossible principle of the constancy of the speed of light. In fact, Einstein already restricted this principle in his gravity theory; it should only be valid for constant gravitational fields, but should be valid for example on earth. Straight

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here, however, its validity is highly unlikely, and so far there has also been no verification. As a result of this restriction, the principle does not lose any of its internal contradictions. So there is nothing left but to drop the unfortunate idea of the connection between the speed of light and the observer's point of view and the relativization of time in general, and thus everything that contradicted the usual scientific way of thinking in Einstein's theory. Everything that Einstein cites as evidence for his world postulates can evidently be explained much more simply and naturally without the space-time relativization, so that not the slightest evidence remains for the overthrow of the concept of space and time and the abolition of the world ether. "

Dr. S. Friedländer 1), a. a. 0.

"Einstein changes the concept of time without worrying about time itself. But by changing its concept, no object changes "(p. 30). "Our dear old space is drilled with all violence to logical possibilities, and this is how the curved and n-dimensional space emerges. . . . Dialecticians problematize Euclidean geometry, simultaneity itself, because certain rays of light are not perceived at the same time 44 (p. 31 f.).

"Is the sentence: "everything is relative "also only of relative validity? Is he belying his own claim ?! Or is such stupidity at least absolute? "(P. 33).

"Today, the simpler mathematical formula is confused with an over-Newton" (p. 34).

“Einstein dialectically identifies mathematics and kinetics. The physicist Einstein is untrained in transcendental logic. Empiricism and relativism, with weak judgment, conceal the strictly proven truth discovered by Kant, that the power of the intellect stands above all sensuality and nature. " to do. Objective reality is pushed aside by the RTH; it is only interested in the relation to the observer and thus blurs the difference between appearance and reality. With "four-dimensional space-time" one does not unhinge either Euclid or Kant. The measurement of time and space is combined in a single formula, but imagines that he has mixed up time and space himself. Without Kant's a priori elements, which are by no means relative, no RTH can be achieved "(p. 35 f.).

“In Dingler's attack on scientific mathematism, empiricism. . . Marcus sees "a dawn of science". . . Our modern over-Copernicuses and over-Newtons, the gentlemen "overcomers" Euclid and classical mechanics he controls properly "(p. 40).

1) Despite Friedländer's own contribution (p. 8), as later by Kraus and Linke, he made a few significant statements.

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„. . It is incidentally the fundamental flaw of modern relativistic physics that it believes that it can do without dynamics. After all, pure mathematics can make no difference whether one calculates in Ptolemaic or Copernican language. But only Copernicus dynamically brings the true solution "(p. 44).

“As a result of inadequate epistemological training, Einstein confused mathematically useful fictions with realities. He claims i.e. against all common sense, that one cannot distinguish an apparent movement from a dynamic real movement could: - is the train or the embankment moving? Why can't you set the embankment in motion like a train by pressing a lever ?! "(p. 57).

“It is easier, also more sensational, to skeptically dismantle the concept of truth, and consequently also more modern” (p. 59). “Einstein is not modest enough to be a mere physicist, who as such only has to deal with empirically fulfilled time. Einstein gets, without noticing it, into philosophizing, and in this he is no master like Kant. . Without the in relative a priori time, the empirical time would not be able to last for a moment, for the a priori time is the condition of its duration. It is not a physical object at all, and the physicist who attacks it turns into a philosopher, and a very bad one at that. . . . If one does not assume uniformly empty time, then one cannot at all know material processes with regard to their time size compare more. If empty time were also relative, the character of all measure would be lost. With the unity of time, that of intellect, experience, and all uniform laws would be abolished. Without the uniform empty time, the relativities of the fulfilled undetermined cash, consequently the RTH itself impossible. You messing around with Kant, i.e. into sound judgment means their own suicide "(p. 64 f.).

Professor M. Fresisen-Köhler, a. a. O., p. 162 ff.

“It is crucial. . that. . . the setting and recognition of a space-time system encompassing all phenomena is indispensable. " presupposes a common, for them, an absolute reference system that encompasses them. If he now concludes from this that the time determinations of the various observers differ from one another in the various reference systems, then an assertion about this difference is only possible on the basis of an absolute reference system. . . “In fact, the RTH sets a uniform reference system in the exact sense of Newton and Kant in the room advance in which the

movements occur. ". . . One demands. . . an absolute freedom of projection of the world in space and time, then

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if every possibility of making universally valid statements about a majority of experiences disappears, then the concept of natural law cancels itself. " "The demand for a uniform conception of the phenomena in a causal context includes the setting of a universal reference system that encompasses them, which, if certainly not perceptible, is epistemologically indispensable. This corresponds to the fact that our theoretical physics is viewed from the most varied of sides. . . towards an "absolute" theory. . . . Which meaning hence Einstein's definition of time can claim in a mathematical respect: in philosophical terms, since it only relates to the content of time and not to time itself, it should in fact not cause a fundamental overthrow. "" If it were according to Natorp's explanations if the RTH might seem to provide a kind of confirmation of transcendental idealism, if, according to Petzoldt, it should mean the most perfect proof of positivism, it can now be concluded that it is indifferent to all forms of idealism and positivism. Just as a fundamentally possible positive failure of the Michelson's attempt would not have shown absolute motion or absolute time as "existent," just as little does the negative failure prove anything against the objectivity of one time in the sense of the critical Realism. The decision about this cannot be made through observation and experimentation. "

Note d. Ed. It is significant that even the Einsteinian E. R. Neumann, perhaps the clearest interpreter of the RTH, comes to the result: „. . . that this Einsteinian theory is also based on the assumption of a preferred space-time system, that is, the assumption of a certain distinctive space system and also a certain distinctive time calculation. We can say: Even Einstein's special RTH is based on the idea of an absolute space and an absolute time. "(“ Lectures for the introduction to the RTH ”, Fischer, Jena 1922, p. 55.)

Professor E. Gehrcke, a. a. 0. 1

". . . Einstein has. . . had very different views in the course of time and changed his point of view several times ... The fluctuations in Einstein's view on such a fundamental question as the principle of relativity could actually have been enough to astonish the professional world and to be skeptical about the RTH fulfill "(p.8 ff.).

“The relativity principle, which plays a role in the RTH, concerns the relativity of movement processes. In fact, everything that is meant by the word relativity in the press and sometimes in specialist journals has nothing to do with this relativity of movements. That “everything is relative” with the theoretical RTH. . . have such generalities. . . to create nothing. As a catchphrase that affects the masses, where everyone believes they have heard something they are more or less familiar with and where hardly any two think of the same thing, the “relative” is eminently suitable for introducing and recommending the RTH ”(p. 10f .).

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“The relativization of space and time is supposed to mean a spiritual renewal and a turning point in the human way of thinking, in contrast to which the deeds of Copernicus, Kepler and Newton pale.

The relativization of space and time becomes. . . presented mathematically dressed as a fundamentally learned matter, so that in many cases the non-mathematician has got the impression that he will never be able to measure and understand the depth of these world-shattering thoughts. And there is hardly an object in the entire RTH that can be made clear with so little effort in terms of learned expressions and formulas than this. . . . The mathematical formulas only give us information about how large the individual effects are, but they say nothing about the point of view on which they are based "(p. 11 f.).

"If you put the "concept of time into perspective", you destroy the idea of the one, general, objective nature." The result is "the standpoint of a physical solipsism." "The RTH leads ... to an old, worn-out, skeptical standpoint is the "new revolution of modern thought"... "(p. 16 ff.).

L. Gilbert, a. a. O.

"Most people who speak of it (of the new principle of relativity, ie the RTH) know nothing certain about it after their own admission, but they" believe "that there must be something phenomenally profound behind it" "a reckless pseudo-belief asserts itself, which mocks all logic and negates the achievements of the greatest minds of the past in the field of mechanics and physics and replaces them with phantasms. . . . As a result, the Theoretically, physics of the last few decades has moved more and more into a labyrinth whose most famous dead end in history is likely to be the principle of relativity 64 (p. 9f.)

"The misunderstood has always been the greatest. . . Been a mystery to which mankind bowed. If you want to be successful, be dark! Be incomprehensible! Especially for naturalists! Especially for exact! And most of all for math! Our mathematicians have always had the urge to do theirs. . . To regard flourishes, which only get meaning, content and weight through thinkers, as sacred Kabbalah signs in which divine spells dwell. You will be in it. . . supported by their spirit, which functions in a purely formal manner and which lacks any understanding of the simple and large interrelationships of nature "(p. 68 f.)

"The simultaneity of the happening, that powerful law of control, which alone still makes it possible for us to think, compare, test, recognize - the law of the absolute simultaneity of the infinitely small differential

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of the moment that sharply divides the past from the future, and which we call the present - this iron law of reason can be cancelled by a cocky professor to the cheers of other professors! " . . . "The now is now (and this is here). This remains inviolable, the only one, the arch-absolute, on which we can build: the here in the moment of the now! . . . The ship's captain takes a precise chronometer with him on the journey and records it (the now) all over the world. He would be an absolute ass, if he used the Einstein light telegraphy instead. "

"Only the "simultaneity in itself" of several events is the undoubted, is the fixed point of thinking, physics, mechanics, is the only absolute. . . is the only steel point of reference in the restlessly fermenting vortex, in the chaos of what we call the world "(p. 70f.).

“Every speed of propagation, so every ray, such as that of light takes place in a medium. . . . the medium has a certain movement. . . and direction in space, so does the ray. . . also this with; he is, as it were, in a vehicle on which he goes along. . . . So the result of Michelson's experiment is - what Hertz suspected for a long time - quite simple and natural. . . . That is just the greatest mistake of the gentlemen: They ignore a matter of course in order to be able to invent an enormity”(p. 84 f.).

"Einstein's principle of the constancy of the speed of light (brings) the physical appearance of light in regular dependence ... to an aphysical abstract thought thing, a completely empty coordinate system that has been stripped of any conceivable physical property. . . . “Einstein's constancy can therefore only permanently satisfy those formulaic people who are unable to overlook a larger complex of natural phenomena and to bring the various forms of world activity into solidarity; only those for whom the “coordinate system” and “vector” are fetishes ... Higher mathematics becomes the fetishism of modern physics ”(p. 106 ff.).

"If you put". . for the speed  $c$  the value infinite, one obtains the old, classical, correct Newtonian relativity theorem. Now what does it mean if we put  $c$  equal to infinity? This means that when the time was falsified, a value  $c$  was smuggled in, which apparently simulates the speed of light, but in reality simulates a speed of propagation of time. Through the formulas, unconscious of all relativists, the aphysical miracle arises, as if the moment were moving with speed in space. As a result, the curiosity arises that the speed of propagation of time depends on the translational speed of the earth, like all bodies in general (p. 113f.).

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“A thing cannot be unequal to itself, that is the first sentence of logic. A ray cannot have one and the same speed relative to two bodies or coordinate systems moving against one another or even to an infinite number of them. Because then the jet would have two or many different speeds at the same time. Anyone who does not see this cannot be helped ”(p. 121).

Summa Summarum [Latin -> the sum of sums]: The Lorentz-Einstein -Minkowski “discovery” is a mistaken doctrine. . . . It boldly and joyfully hits Newton's old, famous relativity theorem - Galileo's face. . . . means highly scientific “form of the genius of absurdity” (p. 123).

A. Kirschmann, a. a. 0.

The "concept of relativity has been attached to a certain misty indeterminacy since time immemorial, of which the latest phase of its development, Einstein's RTH, of which the majority of humanity is already beginning to speak as if Einstein had" invented relativity ", is by no means free. "

“If one applies relativity to everything, if the relative cannot be opposed to anything absolute, then such a relativistic philosophy - just like that of radical skepticism - commits suicide at the moment of its birth. When everything is relative then the concept of relativity is at least completely superfluous ”(p.58f.).

“There can be no maximum sizes. However, Einstein's theory assumes that this is not the case for speed. It sets a maximum value for speed, the speed of light. It thus negates the principle of relativity as a general basic law that allows no exception. Now, of all quantities, it is precisely the

speed that relativity needs most. The idea of a maximum speed is incompatible with that of the relativity of movement "(p. 72).

Professor O. Kraus, a. a. O. 5 and 7

"Einstein's special RTH is not a physical theory, it is a calculation example solved with the help of absurdities (mathematical fictions)" (5, p. 341).

"You (Einstein) demand that when comparing one speed with any other arbitrarily large speed, the result is always the same size, always the same comparison result, always the same speed, namely 300,000 km / sec! What you are saying is not only not a law of nature, but is fundamentally absurd. A priori impossible demand that you make of nature. . . When I say that your postulate of invariance is logically unsatisfiable, I mean that nothing in reality corresponds to it

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and everything that is logically inferred from it can only be established in thought or on paper, as a consequence of an absurd premise." "The building of the special RTH is nothing more than the structure of all mathematical reductions resulting from the — in itself absurd — invariance postulate of the speed of light. . it is and remains a reduction of impossible premises, a mathematical concept poem."

"The immutability of the basis for comparison applies . . . generally taken for granted for the fixation of the concept of measurement. It is part of the definition of measurement that the unit of measure is immutably thought" (7, p. 29 ff.).

The "thought absurdities . . . start with the first words of the RTH and increase with each of its levels. . . . The RTH is at best a perfectly solved calculation task: how must the "measurement", i.e. calculation, shape the unit of measurement of time and space in order to result in the speed of light as invariant?... The matter amounts to an amendment of the concept of unit of measure. .

"It's . . . the over-examination, coupled with philosophical incomprehension, which lies in the philosophical expressions of most relativists, which outrages me. It is the usual measure of advertising-exceeding behaviour of a large part of the daily and trade press that confuses minds. ... It is the fact that every quark that seems to be in favour of the theory is greeted by the relativists with kind gestures and receives speeches from Mr. Einstein!!!, while a serious criticism is mistreated."

"The collapse of theory is inevitable" (7, p. 91 ff.).

Dr. J. Kremer, a. O. I, 2 and 3

"The" time relativity "surpasses everything that has gone before. With the concept of simultaneity, the concept of the present is shaken, the ubiquity of the infinite world sinks and splinters into nothing but individual, subjective moments without a common bond. " " .. it is . . the - albeit unintentional - merit of the "RTH" for having exaggerated the absurdity of "absolute relativism" to the point of self-refutation "(1, p. 57).

"Even today none of Einstein's supporters knows what the reliable result of Einstein's RTH actually consists of. According to one, it is a physical theory, according to others (e.g. the Einsteinian H, Reichenbach) a philosophical theory, according to Einstein it is neither, but purely phenomenological".

"I do not know whether a similar case of mass suggestion and misleading serious scholars has occurred in the history of science on a scale that is scarcely possible. It seems inconceivable how mathematicians, physicists, philosophers, even sensible

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people in general, could allow such things to be persuaded even temporarily. . . "(From 2).

"There are so many theories of relativity as different attempts to" understand "the Einstein theory, because nonsense cannot be understood. That is also the secret underlying the mutual accusations of "not understanding" of the Einstein theory among physicists and philosophers. "

"It is inappropriate to distinguish between" physical "and" philosophical "truth in order to secure the Einstein theory a place within the" physical "truth reserved for specialist physicists. There is no need for a philosophy to be a nonsense as such to be recognized and rejected, but only of a healthy understanding ... "" That "all measurements are relative" means that each measured length is a multiple of an arbitrarily selectable, but unchangeable unit of measurement, so something completely different from Einstein's Change of the chosen unit of measurement as a "consequence" of an arbitrary, mental choice of the reference system by the physicist, through which the entire maturity order of arbitrariness of the positivistic physicist. . . (from 3).

Professor P. Lenard and F. Schmidt, a. a. 0. 1 and 2

"Let the imaginary railway train now make a clearly irregular movement. If everything goes to rubble through inertia, while everything outside remains undamaged, then, I mean, no common sense will come to a different conclusion want to pull than that it was the train that suddenly changed its movement, and not the environment. "

"Because we as natural scientists do not want to investigate the mathematical admissibility or usefulness of coordinate choices, but we want to arrive at a consistent representation of reality, and here are two coordinate systems, one of which leads to faster than light speeds of material bodies (- Earth's rotation -), the other not, by no means equivalent "(1, p. 15).

„. . one will have to admit that taste for difficulties in thinking, which are not dictated by the nature of things, must be taken as unnatural "(1, p. 21).

"We assume a primordial ether that is everywhere and that does not take part in the movement of the earth, while the earth, like every piece of matter, has its own ether, which surrounds it with a blurred boundary and moves with it. . . . The light is always propagated at a speed of  $3 * 10^{10}$  cm / sec and always relative to the ether in which the light runs. "(Based on this hypothesis, an informal explanation of the Michelson experiment - also with fixed star light -, the aberration, the light path curvature, the C. Miller's experiments in great height of the earth.) (2, p. 81 ff.)

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Professor P. F. Linke, a. a. O.

"That. . . this (the "worldview") side (of the RTH) is exposed to very serious objections, admits today everyone who honestly tries to adopt a different attitude than the - unfortunately very widespread - mere uncritical admiration "(p. 399). "Nothing is more mistaken than to address Einstein's so-called relativization of the concept of time as an epistemological achievement" (p. 407). "In truth, physical and philosophical time are as closely related as can be: in idea both are the same. . . . No empirical period of time can "flow" as a period of time differently than ideal time. . . . In all of this lies the impossibility of speaking of a different rate of flow with regard to time. That leads to absurdity in every respect. Because how do you want to determine the speed differently than again with the help of time? So one is led on a vicious circle. This of course makes the relativity of simultaneity impossible. Because if time is always the same everywhere and there are consequently no different "system times", all time distances must remain the same in all reference systems: what is simultaneous with regard to one cannot be temporally torn apart with regard to the other. Of course, what is simultaneous for A can be measured by B as being non-simultaneous. But then only one of these determinations is correct, the other necessarily wrong. The possibility of a difference in the passage of time itself has nothing to do with it. It must be rejected on the basis of the doctrine of the homogeneity of time "(p. 436 ff.).

Professor F. Lipsius, a. a. O. 1 and 2

"It is the task of philosophy. . . , to be brought back to the perception through the concept. The abstract, objective view cannot be the final solution to the world riddle; reality is more than a general term or a mathematical formula. All objective knowledge is therefore relative; But even natural science must not forget that the absolute always remains the presupposition of the relative. . . . "" The radical relativism. . . proves to be a double-edged weapon. He either demands of us that we should consider opposites to be true at the same time, thus overturning the principle of contradiction, or he explains. . . the principle of the ground war! " (1, p. 444 f.).

... . Even the friend of the RTH would actually have to admit that a calculation can be carried out completely correctly, while the approach on which it is based is wrong. And the contradictions that Kraus and others find in Einstein's teaching are only there in the requirements. . . . The "beauty" of a formula system is never proof of its validity in reality. . . . Of course, some mathematicians seem to forget that their equations must have a meaning that is independent of the symbolism of the

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Tensor analysis in words should be indicative. If this also does not apply to the entire path that the calculation takes, it does necessarily apply to its starting point and destination. . . . An absurd result. . . becomes. . . not be tastier even with the most elegant formula "(2, p. 5f.).

"Einstein's basic idea (is) contradicting itself and therefore impossible. For the alien system undoubtedly belongs to my own space and time world, because otherwise I would not be able to relate its change in position to my world at all, and the assertion is absurd that in my space and in my time another space and another time are their essence float. . . . The shortening of the scale is neither an optical nor a sensual phenomenon at all, but the result of a mere correction calculation "(p. 13).

“Here (in the principle of the constancy of the speed of light) we have the relativists' famous witchcraft: the less [than] speed of light System speed equals the speed of light! According to the same logic, the speed of sound should obviously be the same everywhere, or one could say that the speed of the crane's flight is always the same. . . . After all, birds have an average flight speed that differs according to species, the size of which is determined by “natural laws”. But all these speed determinations only make sense according to the real relativity law if the reference system is given. Einstein, on the other hand - a strange confusion of thoughts - turns a relative speed into a "law of nature" and thus misuses the concept of law, while at the same time he falsifies and fundamentally corrupts the classical principle of relativity, instead of improving and supplementing it, as he believes. (p.16f.).

Einstein's “teaching is revealed. . . as a purely mathematical-formal theory, which, far from opening up the prospect of a new natural-philosophical worldview, is merely an expression of the current unsatisfactory state of science. It is an internally contradicting mediation hypothesis without the strength for real new creation ”(p. 18).

"The . . . internal logical contradiction in the presuppositions of the theory is covered up and, so to speak, made mathematically harmless by the relativization of space and time. . . The contradiction contained in the relativization of space and time. . . consists in the proposition that space and time depend on the state of motion of the observer. But now it is without a doubt the movement that presupposes space and time! . . . This doctrine of the shortening of space and the elongation of the course of time is really an epistemological monstrosity. Because it is not the empty form of time or space that can stretch or contract, but only the content of space and time that such a thing can happen ”(p. 19 f.).

“What cannot be measured, according to Einstein, is not there either. . . . But there is a risk that there too, (this principle)

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makes use where only the actual limitation of our aids, i.e. not a theoretical but only a technical obstacle blocks the way to knowledge. The RTH cannot be spared the accusation that it is guilty of such a mix-up ”(p. 24f.).

. . The special (RTH) is downright wrong. " "It is really not always easy for someone who has grasped the meaning of the theory, because of the unnatural thought contortions that it imposes on us, to express its meaning unmistakably" (p. 27). "Simultaneousness cannot be defined" at all, because it is a fact that is directly posited with our time consciousness. " " . . "The world in which we live and work is only one, the events of which we must therefore also mentally classify a single passage of time" (p. 30 f.).

". . . also the dispute over the experimental basis. . . has not yet been finally settled. . . . The previous experimental basis is far too narrow to be able to erect a natural-philosophical building like Einstein's! " (P. 36).

“Inertia and gravity can only be exchanged as long as homogeneous gravitational fields are taken into account. But an absolutely homogeneous gravitational field is a mere thought. . . . The man in the box owns. . . in principle, it is possible, through appropriately designed experiments, to

determine whether one's observation space is freely suspended in a gravitational field or, in the opposite direction to the apparent direction of fall, is being drawn away by an unknown force "(p. 115).

"Science has. . . not only the task of computationally coping with the phenomena, it should also offer us a satisfactory overall view of the reality spread out in space and time. The RTH, on the other hand, gives us countless worldviews that seem to have equal rights. ". . . The general RTH. . . irrelevant for our scientific worldview. . . has only the value of an interesting mathematical speculation and is therefore, from a physical point of view, beyond true and false "(p. 117).

"The gradual dissolution of the complex of phenomena (moving train – earth) requires that we relate the rest or movement of the train first to the earth and not to another carefully chosen coordinate system. That is the completely unambiguous state of affairs in a dynamic relationship, which we can at most falsify by no arbitrary "change of position - shift 44." "Einstein's fusion of gravity and inertia offers us a new unit for this, but the loss in this case is likely to be greater than the gain to be expected" (p. 120).

"So (contradictions between the interpreters of Einstein: Wintemitz, Schlick, Thirring) the builders of the RTH are already fighting with each other over the issue of building the first foundations of their Babylonian tower."

"Furthermore, from what has been said (about the rotating disk) arises the compelling conclusion that the special and the general

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RTH are based on assumptions that are absolutely incompatible with one another, because the first makes its statements from the standpoint of the system that is not moving in the moving system, the second makes its own from the standpoint of the observer who is moving with it "(p. 127).

"Non-Euclidean space is a fiction" (p. 129). "In reality there are only flat and curved surfaces, not such or otherwise types of spaces" "(p. 131).

"It is true that laypeople who shy away from jumping into the non-Euclidean cauldron because they are rightly afraid of losing their feet here are gladly consoled by pointing out that the structures of super-mathematics are 'unimaginable' but are conceivable - of course only for a professionally trained thinking! But since the perception of space is a qualitative fact of consciousness, an unimaginable space also becomes unthinkable. . . . The term . . . can never demand something that contradicts the laws of our imagination, i.e. unite two ideas that cancel each other out, as would be the case with the pseudo-terms of the square circle, the crooked space or the intersecting parallels. If, therefore, recently a supporter of the RTH, perhaps a little too optimistically, said that the new conception of space and time had become naturalized surprisingly quickly, it remains to be seen whether reverence for the priests of the new faith and their esoteric language is not a sacrificium intellectus [Latin-> understanding the sacrifice] for some heads coerced "(p. 136). " ,In reality' . . . there is no Riemannian space. . . . Is there . . . also no 'space in itself', so we can't avoid an objective

order of things or events. . . to have to assume as their adequate representative. . . only the Euclidean Space can apply "(p. 141).

Professor St. Mohorovicic, a. a. 0.2

"Mohorovicic has the merit of having shown in a series of mathematical treatises that if one is already starting to devise an RTH, one can divide up a whole lot, namely an infinite number of special theories of relativity; As in other cases, the one world of nature can be contrasted with an infinite number of possibilities of mathematically formulated widths and physics. With his extremely simple formula for the so-called redshift of the spectral lines M. opened the eyes of the physicists to the fact that the RTH is not necessary to theoretically derive a redshift of the spectral lines "(p. 5, preface by Gehrcke).

"Recently I have succeeded in tracing Lorentz's transformation equations back to the Galilean ones in a very elementary way, where Newton's law of addition of velocities applies. I also showed that. . . the two observers moving against each other are actually measuring Newton's absolute time.

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I have emphasized that all the conclusions to which Einstein's special theory leads us are only fiction "(p. 26, note 25).

„. . . that there can be no question of the experimental confirmation of the general RTH, the more so as other theories also arrive at the same results. "(reference to Gerber, Seeliger, Reichenbächer, Wiechert) (p. 42).

"The Einstein RTH is. . . only one link in the series of purely speculative mathematical-metaphysical theories "(p. 45).

"The hypothesis of the constancy of the speed of light for all observers who move against each other with a constant relative speed  $v$ , in the case that there is no gravitational field (or in a homogeneous part of such a field), is the darkest point for the whole special RTH "(p. 62).

"The majority of relativists are victims of suggestion; nobody wanted to run the risk of possibly showing their own ignorance, and one of them pulled the other with him. " (Reference to Gehrcke) (p. 63).

"The RTH is content only with the mathematical description of natural phenomena, and it dispenses with any physical explanation. The character of this theory is purely formalistic-phenomenalistic. . . , without taking any account of reality. H. Dingler rightly says: 'Confusion only arises when the mathematician thinks he can do physics in this way' "(p. 67).

"The axiom of Einstein's theory that there are no distinct coordinate systems and that all coordinate systems are equivalent in describing natural phenomena is untenable. . . . In physics, some have coordinate systems. . . an advantage over the other; when we others. . . we run into unnecessary math complications. This is best seen in the rotation. " "Einstein is. . . inconsistent, since he introduced an excellent inertial system (with the finite world), and he uses space ... in the Newtonian sense "(p. 68 f.).

"Einstein's RTH leads us to conclusions which a serious natural scientist cannot accept under any condition! . . . Einstein's theory. . . is just a passing theory. . . Also Weinberg ... came to the conclusion that the theory is slowly disappearing on the horizon. . . . The relativistic ship is sinking, and many, including excellent relativists, are already jumping into the lifeboats; many, including the first physicists, are already singing it the funeral song "... J. H. Ziegler writes to me that there is nothing better;. . . than to make the world aware of the great truth that every great new truth must be something simple and universally understandable. The difficulty of understanding a thing is almost a criterion for its inaccuracy. Every truth is necessarily also a clarity and therefore not a darkness, like the eccentric doctrine of relativity '" (p. 71 ff.).

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A. Nyman, a. a. O.

"In our time there are hardly two systems of thought that stand in greater opposition to one another than the doctrine of relativity and Bergson's philosophy." Bergson's "work: ,Duree et simultaneite. A propos de la theorie d'Einstein' [French-> , Duration and simultaneity. About Einstein's theory ' ]... is not only of interest because it puts certain basic requirements of the theory of relativity under severe pressure. "

. . Significant correspondence with the theory of fiction and Hans Vaihinger's As teaching in the interpretation of the theory of relativity. . . . "With that return" to the more careful interpretation. . . , the Lorentz. . . had given. . . "Both equations" ( $c + v = c$  and  $c - v = c$ ) "are algebraically equally offensive. If one nevertheless does not want to forego any of the above-mentioned principles "(mechanical relativity principle and postulate of constant speed)", the tension is evened out by changing the common terms time and space instead "(p. 178 f., 180, 182).

"How do the multiple Einstein times behave. . . ? Are they really to be understood as real in the same sense as "fundamental time", "la duree"? [French-> the duration] Bergson replies: no. They are artificial, mathematical fictions of time and, if you understand them correctly, Einstein's theory confirms, better than any previous one, the common assumption of a universal time that is common to all. "" And he strongly warned against seeing realities in these perspective, mathematical expressions "(pp. 190, 194).

Professor M. Palägyi, a. a. O.

"Union" of space and time. . . This thought by Palägyi, developed in its full scope and with a brilliant presentation. . . , has become the basis of the later RTH. One would think that Palägyi, as the philosophical founder of the RTH, would have become a follower of this doctrine that fascinates everyone, but this is not the case. Palägyi's keen understanding was clear about the impracticability and fundamental failure of the RTH, and early on he moved into an opposing position to it, although he was actually the spiritual father of the theory. He has repeatedly expressed his displeasure to me that his thoughts about space and time have been dealt with by the relativity theorists. . . have been so distorted, and he was able to mock the "naivety" of the computers\*, which too strove to blur. "Mathematics doesn't protect against foolishness," he once called to his audience. . . to. . . . If the idea of evolution has established itself again in science, then perhaps the question will become topical whether there were people back then who, in spite of all suggestive fads. . . had retained

their calm judgment and clear vision for the great line of progress. One such was Melchior Palägyi "(S. Vf., Preface by Gehrcke).

[\*Computer – meaning in the old sense of a person who computes; not an electronic computer.]

"In my opinion, the independent and polar  
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different character of time and space must be emphasized all the more sharply, the more we feel compelled to synthetically combine them both into a unified double order of the world of phenomena. Because only the polar difference of time and space compels our understanding to regard them as absolutely belonging together. ... But if you let space and time sink into indistinguishable shadows, you will unnoticed confuse the two concepts of order with one another, i.e. to identify two fundamentally different conceptual contents with each other, which obviously involves a logical contradiction "(p. 35 f.).

"Strangely goes. . . Einstein's RTH aimed directly at banning the concept of ether from theoretical physics and thereby destroying its most beautiful achievement. "

"There is, of course, a kind of philosopher, the "phenomenalists", who cannot tolerate the concept of substance at all and who want to refer the ether and matter out of physics, but this kind of thinker never gets beyond a sterile, skeptical verbal argument. For it is absolutely impossible to imagine a movement without having to assume something that moves, because it is this something that takes up different places at different times. "

"The unified doctrine of space and time exists. . . not in that we deny the differences between the two orders, but rather their independence. "" Monistic thinkers usually consider themselves obliged to "trace back" the basic differences that exist in nature and in our conceptual contents to one another, and in this way afterwards completely undo the fundamental distinctions that they are forced to fix themselves in the beginning do. . . . They annihilate the basic differences existing in nature and thereby also annihilate the human ability to differentiate, the human understanding. . . . On the other hand, the main task of human thought seems to us to be to research the existing and irreversible basic differences and to gain the deepest possible insight into their mutual conditioning or correlation, i.e. their actual unity "(p. 77 ff.).

"Never before has a doctrine appearing in mystical-mathematical guise caused such a sensation, of course aroused so much enthusiasm and enthusiasm in those who don't understand a word about it. But there are also increasing critical voices, especially in the Circles of the most level-headed experimental physicists who seriously question the alleged significance of the theory of relativity. They believe that the so-called relativity concept is far from unifying the physical structure of teaching; on the contrary, this concept carries the spirit of uncertainty and doubt into exact natural research, indeed it decomposes the basic concepts of the same without forming useful ones in their place "(P. 84).

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Dr. L. Ripke-Kühn, op. a. 0.

"Einstein's RTH, no matter how right or wrong its individual constellations and particular physical research results may be, is untenable as an overall form of thinking because it destroys the concept

of theoretical reality through a relativism that has to bury it itself under its ruins." . But that is not the beginning of a new way of thinking, it is the end of all thinking! ". . I assert that three quarters of the difficulties and errors would have been avoided if our physical researchers were to understand certain basic concepts, differences between category and space-time form, between phenomenal and real, between phoronomic and dynamic movement really made it clear. " ,,. The sphere of the purely phenomenal, which knows and cannot know any truth in the strict sense. . . eats up the sphere of the real. In this way our science is either thrown back to a most primitive standpoint, despite learned detours, or, what results in the same effect, is broken down again into such a standpoint where the question of truth becomes meaningless. Did Einstein overthrow 'absolutism' ', so he overthrew scientific truth, smashed the theoretical concept of reality in its necessary uniqueness. ". We have to assume that what is to be determined is also 'solid', regardless of a point of view, in fact, absolutely 'Otherwise we will scoop water into a sieve and can give up our thinking at all. If something can not only appear different, but also in itself, different ', is', itself, is relative, i.e. depending on the point of view and the state of the beholder, - not only, for example, in the conditions of measurement, but in what is measured itself, then all thinking ceases. The rest is skepticism, confusion, relativism "(p. 4 ff.).

(One) "sees the physical theorist zealously sawing off the branch on which he is sitting, i.e. . . . the researcher bound to the basic conditions of theoretical thought destroy the basis of all theoretical determination in general: it is the a priori presupposition of uniqueness, more precisely: of the identity of the natural processes intended, which the interpretation seeks. It is about . . . the abandonment of the last principle that cannot be separated from the theoretical, that the underlying can only "in reality" behave in a certain way. Einstein's principle of equivalence (the General RTH) is the slap in the face of the theoretically necessary and a priori given concept of truth. . (P. 8).

"Above all, Einstein fails to recognize the fundamental difference between the brazen phoronomic and the dynamic, as already exemplified by Kant,. . the real basic evil of the arguments. The equivalence and interchangeability of two processes can meaningfully only be phenomenal, pure  
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phoronomic are understood, their application to the dynamic is the typical offspring of this confusion of terms, therefore back to Kant and his clear distinction between the phoronomic and the dynamic, from pure movement and the forces (energies, causes) of movement, i.e. from, visual and categorical forms', of phenomenality and reality in a strictly valid sense! "" Einstein's RTH can neither theoretically nor empirically be regarded as perfect. Theoretically not, because it leads to the self-annulment of a theory at all. . . . Not empirically because, as he himself admits in most cases, his presuppositions cannot really be checked against the factually given empirical conditions, be it that the speed in question or that the necessary masses cannot be raised should show the effect theoretically predicted by him. "" A reality that is not only 'relatively' interpretable, but also, depending on the point of view, 'relatively' behaving, in which the processes can behave in one way or another. . . , is just as absurd in itself as a truth that is relative (relative in itself) "(p. 11 ff).

"Wrestling relativity into concepts such as gravitation, etc., is called the entire experience in phoronomy. . . transform. . . . The dynamic (presupposes) material movement, original forces. "( The

author aims primarily at the general RTH.) "This limit to the real 'movement', which then also has a real cause and effect, d. H. The RTH must not exceed theoretical, real consequences "(p. 15 f.).

"The limit of the RTH is therefore the force. "" The theoretically real must. . . be clearly determined. ... Anyone who renounces this unambiguity renounces the core of science "(p. 18f.).

"The mere appearance can result from two indeed opposite reasons; knowledge can only assume one reason " (P. 21).

". . . we are not interested in ... what the observer can think - but what he is. . . may think .... But if it is to be seriously asserted: The (real) cause can be one or the other .. then Einstein leads the fatal blow against the basic law of all thinking that something can have one and only one cause that doesn't vary depending on the observation site changes (p. 23 f.).

"That the observer is not easy. . . can differentiate (whether gravitation or acceleration) is a matter of course, but, with additional 'he must be able to decide and distinguish, otherwise he will not get out of the phenomenal range at all" (p. 37).

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Dr. JE. Thedinga, op. a. O. 1

"If the measurement of the speed of light on earth always results in the same quantity, then that can mean nothing other than that the process of light propagation belongs to the earth system, that is, that there is some dependency on the optical process the speed of light from the earth's movement must exist. Experience has shown that this dependency cannot lie with the light source, and consequently it must be found in the light-receiving body. . . . From the moment when a ray of light rushing to earth hits [after it] leaves the sun, it belongs to the earth system, yes, without the earth that ray of light would not have been set in motion at all. . so that their speed goes into that of the light beam. . . . Attraction theory ... This theory is consistent with the principle of relativity, according to which the propagation of light, like any other movement process, is only dependent on bodies,. . can be . . ., while the RTH Einstein has to change the norms of our thinking to accommodate this to achieve harmony. With such a procedure, however, the theory undermines the very soil on which it stands; for only under the premise that these norms are irrefutable could the theory provide evidence of their correctness; i.e. in one of the norms of our thinking deduce a consistent chain of inferences that their path is the right one. For this proof, the RTH uses a means whose suitability it itself questions "(pp. 20, 36 f.).

Professor B. Weinstein, a. a. O. 1 and 2

"Since in all determinations only rays are mentioned and the determination of simultaneity by rays, nothing can be inferred from this theory that relates to anything other than rays and time control by rays. If, therefore, one of Einstein's conclusions is that if a clock goes absolutely simultaneously (synchronously) with a second clock located in a different place, the simultaneity is lost as soon as you get that clock has moved towards the second clock, it cannot possibly mean that the clock actually changed its rate as a result of the movement, it only means that the relative simultaneity, controlled with rays, after the movement of the clock to the second clock not exists, the absolute has remained. ". , also a rod viewed in relative terms (is) not different from a rod viewed in absolute terms. . . In short, there are no physical conclusions attached to this theory at all, only formal-geometric ones. . . (1, p. 156 f.).

“For an observer at rest, a sphere in the relative system changes into an ellipsoid of revolution whose flattening and position are constantly changing. Inferring from this that such behavior also affects real bodies is inadmissible. ... it's a mathematical transformation that. ". only for rays wins value when one

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resting observer is forced to calculate the time and length for the moving rays as assumed. So all such statements as that moving bodies can even appear to the resting observer infinitely flattened and stretched to infinity, namely when the bodies move with the speed of light, are quite idle, it does not affect the bodies at all. . . . It is similar with a corresponding inference about time. . . . The clock as a mechanism is not left behind, only the controls. . . show by means of rays. ". lagging behind. Returning to the starting point, one finds synchronism again through the same control ” (2, pp. 286f.).

“You serve these (relativity) theories and science much better if you limit them to what they can be. It has not occurred to any natural scientist before to see in the fact that the solution of a differential equation contains arbitrary constants something other than a mathematical result which must follow from the way in which we have just set up differential calculus. But what does this particular mathematical institution have to do with world views?”(2, p. 309).

H. Wittig, a. a. 0.

"In summary, about the validity of the special RTH, it should be briefly stated that it comes from physical analysis as a theory of 'dragging observations'. . . emerges, as a consequence of the discovery of the finite energy velocity  $c$ , which corresponds to Natural processes in the own system are perceived differently in time than they happen in the foreign system. ... As before, however, the fact remains that abstract kinematic, i.e. Geometry of motion observations cannot reveal any really material processes. Observational shifts of events are not physical changes in the shape of things in the outside world, neither in time, space nor material respect. "

“There is only one physically real time” (p. 37 f.).

"The observer (in the box example of the general RTH) could. . . actually determine (through an “accelerometer”) within his own system that his movement (upwards) is not a gravitational movement. ”“ The general RTH therefore does not lead to a general physical relativization of arbitrarily moving systems against one another ”(p. 51).

“The gravitational ether resting in its generating field therefore meets all the requirements that physics must place on it on the basis of the results of the various optical experiments. And what is most important, it is sufficient for them without requiring a relativization of time and space in the various systems

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would. ”“ The classical relativity principle has general validity for all physical processes. ”

“The only attempt that led to the establishment of the light constancy principle was carried out in a moving field of force and not in a sluggish void system, as the abstract example of a train showed. . . ”

"For physics, there is no reason to refrain from assuming an 'ether'. If natural science were to annul the ether entirely on the basis of purely formal developments, it would have to resort to another auxiliary hypothesis for material reasons to be able to explain the near effect at all, which it introduced in the place of Newton's long-distance effects "(p. 59 f.).

Professor Th. Draw, a. a. 0.2

"What . . . As far as the actual foundations of Einstein's theory are concerned, these are originally limited to Michelson's experiment and a few other experimental observations. It is very doubtful and many respected physicists doubt whether these scanty attempts, which allow a great many explanations, are sufficient to support Einstein's hypothesis. . . But even if you assume that all. . . Facts in further observations provide numbers that completely agree with Einstein's theory, this is by no means proven. The history of physics in particular urges the utmost caution in this regard. . . . Mathematically correct development of the formulas and confirmation through individual observations is therefore not always sufficient to finally prove the correctness of a theory. In particular, one must always think of the possibility that the theory in question contains individual correct assumptions, and that this content of correct assumptions helps it to obtain many, even numerous, confirmations, but that it is in its totality because of numerous additional false assumptions and Conclusion is incorrect. Especially with Einstein's theory, in which many assumptions are grafted onto one another, this possibility is to be expected to a high degree. For the time being, one should therefore always strictly distinguish between the individual Einsteinian assumptions and speak only very carefully about the theory as a whole. In the last few years the conviction that the question of relativity is not just a physical or even a mathematical problem, but ultimately belongs to the forum of epistemology and thus of natural philosophy, has rightly taken hold. It is most remarkable that precisely such an excellent physicist as Lorentz has only recently emphasized this epistemological character and has provisionally rejected other Einsteinian hypotheses. "

(On the box experiment: ) "We wanted the falling movements of the body  
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on earth to an accelerated upward movement of the observer, or if an observer located outside the earth wanted to do this, then, since such falling movements are observed everywhere on earth, the assumption must be made that the earth passes through mysterious forces of the fixed star sky are torn apart in all directions, which is actually not the case. In the overall complex of our findings, only the view of the observer in the box fits in, according to which the fall is caused by an attraction takes place in some way on the earth's side, but - in spite of the absence of differences in the measurement results - not on accelerated movement of the box. . . upwards. "

"For knowledge theory it will always be important to arrive at a minimum of relativity. We consider it a step forward if, instead of the relative movement of the landscape, which I observe from the moving train, I use the less relative one set my turn; We regard it as a new step forward when I find that the train is at the same time the rotation of the earth around itself. . . (etc.). . . participate. I get there. . . never to a final absolute movement, but is for the epistemological standpoint it is clear in which direction the progress of knowledge lies. From this point of view, too, we come to the conviction that there can be no talk of an equivalence of the various relative perspectives. "

“Against the meta-geometrical character of physical space, the particular objection is that the metageometric structures and sentences are initially only logical-algebraic fictions that may offer great interest for “pure” mathematics, their spatial meaning and their meaning for But the reality of nature is definitely doubtful. ”

“Be it. . . In conclusion, I would just like to point out that more and more well-known physicists have recently been questioning or directly rejecting Einstein's arguments ”(pp. 87-91).

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