The World Formula
A humanity on the wrong track

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Overview

Can "science" presume to offer solutions to "global" problems, even if after more than 2000 years of "searching", not even an answer to the question of the "world formula" has been found? The well-known physicist Stephen Hawkins wrote in his popular science book "A brief history of time": "If we discover a complete theory, it should be broadly understandable to everyone over time. Then all of us, philosophers, scientists and ordinary people, will be able to participate in the discussion about why we and the universe exist." But neither quantum theory nor general relativity is understandable to everyone, nor does a complete theory exist. This contribution to the discussion of the "world formula" is intended not only for scientists, but for "normal" people who ask the question of the world formula, the meaning of our existence and the feasibility of saving the planet and the survival of humanity. As a result, it is determined that today's physics and science suffer from fundamentally flawed premises about the nature of "time" and that the formulation of a world formula would have to explain the nature of the speed of light in the first place. It is shown that "time", as it is defined today in the system of units of physics, does not exist.

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1 Does "the" world formula exist, or does it not exist?

The "world formula" is generally understood as a hypothetical "theory of everything" in physics, which precisely describes all phenomena observable in the universe and thus combines all four basic forces known in physics. To date, such a theory has not yet been found. In February 1958, the physicist and Nobel Prize winner Werner Heisenberg presented a "uniform theory of elementary particles" in Göttingen, which was to be the "world formula". The announcement caused a sensation. But the mathematical formula could not meet the requirements and since then physicists have found it difficult to announce a "world formula", although the world formula is actually what theoretical physics should provide to humans as a result. All other natural sciences, chemistry, biology but also the social sciences psychology, sociology and economics are dependent on the "physicists" to inquire about what our world is built on in the smallest as well as in the largest, how time and space, cause and effect and the meaning of life are to be interpreted, and how "knowledge" in the individual areas can establish the reference to an objective reality and thus does not remain merely "opinion" or "faith".

The expectations of a world formula are therefore great, because if it can precisely describe all phenomena in the universe, then this theory also answers all questions about the meaning of life and the existence and nature of God and - starting from the idea that our "world view" reflects our "self-image" - also all questions regarding our self-perception.

Today, there are two fundamentally opposing positions that scientists and physicists take with regard to the question of a world formula. On the one hand, there is a "faction" of scientists who consider the formulation of a world formula impossible and consider the search for it accordingly pointless. A representative of this position is the physicist and Nobel Prize winner Robert Betts Laughlin, who wrote the book with the appropriate title "Farewell to the World Formula". Laughlin contrasts the idea of a world formula with a theory of "emergence". In a very simplified way, this position denies the existence of elementary laws of nature that could be discovered or postulates that such elementary laws of nature in principle elude human knowledge. [1]

On the other hand, there is a position, such as that advocated by Stephen Hawkins, which considers the formulation of a world formula to be possible and also necessary. As a representative of this position, the physicist and Nobel Prize winner Gerardus t'Hooft can also be mentioned. Even though t'Hooft still predicts a long way to a world formula, he considers one to be the "goal" of

[1](Laughlin) Farewell to the world formula. The reinvention of physics. Piper, Munich 2007, ISBN 978-3-492-04718-0 (A different universe – Reinventing physics from the bottom down. Basic Books, 2005).

theoretical physics. After all, in his opinion, physics should not only describe what happens, but also explain it. And with regard to quantum mechanics, an "explanation" is missing.

Without delving into the details of the various theoretical buildings of physics, three expectations regarding a world formula can be outlined from the point of view of ordinary man today:

Assumption A: A world formula does not exist and therefore cannot be found.

Assumption B: A world formula exists and, if found, it should expand and complete our previous knowledge and worldview the closer we get to it.

Assumption C : A world formula exists and it will show – if it is found – that our previous knowledge or theories are wrong and that our world view against the background of the final world formula is not only erroneous or incomplete, but "inadmissible" and requires a fundamental "rethinking".

"Scenario C" would be the GAU (biggest accident to be assumed) in modern science par excellence, because within the last hundred or thousand years we have refined and elaborately confirmed our view of the world so much that letting go of the central beliefs of today's science would be an admission of error that would go far beyond a "change" of assumptions about the solar system. Galileo's realization that the focus should not be on the earth but on the sun would be a comparatively negligible "small" correction to the social worldview. And after all, it took many decades for this "small" correction to the world view to be accepted by society.

Would science still be able to admit an "overwhelming error" today, when in the 21st century with the development of quantum computers and artificial intelligence we think we are at the forefront of evolution and believe we know more than any human being before us?

Would society be able to accept a overthrow of modern science on a scale that would far exceed the overthrow of the geocentric in favor of the heliocentric, when "faith" and trust in science today more than ever represent the foundation of Western culture, in which religions and faith in God have become less and less important in view of the sovereignty of interpretation over world events claimed by science? and continue to lose?

2 Flying Blind through Space – Fundamental Need for Explanation in Physics

In a very simplified sense, according to the current state of theoretical physics, our current "world view" is essentially based on two "great" theories: quantum theory and general relativity. Both theories have been tested again and again with a lot of money and hardly any scientist today

considers it possible that one of these theories could ever be falsified, i.e. could prove to be "wrong". An attempt is made to combine both theories with a theory of quantum gravity or string theory, but all efforts in this regard in the last 30 years must be described as failures and so it seems as if the science of physics is still primarily concerned with interpreting the contradictions or incompatibility of general relativity and quantum theory. So there is still disagreement as to how the empirically very well-established quantum theory should be interpreted or what it should actually tell us about the properties of the universe. Is the universe based on chance or does it give us in principle inaccessible information that decides the fate of the universe?

For a critical observer, the facts must be clearly stated: physics as a science has failed and can in no way live up to its claim to "explain" the world to us. Physicists need to explain the exact "functioning" of black holes and dark energy are only accompanying symptoms that distract from the central problems in theoretical physics.

The basis of quantum theory, like the general theory of relativity, is based on Albert Einstein's postulate on the speed of light in a vacuum or "empty" space.
In connection with the study of the thermal radiation of black bodies, Max Planck "guessed" a connection that should say that atoms "energi"e in discrete "quanta" from and take up according to the context[2]

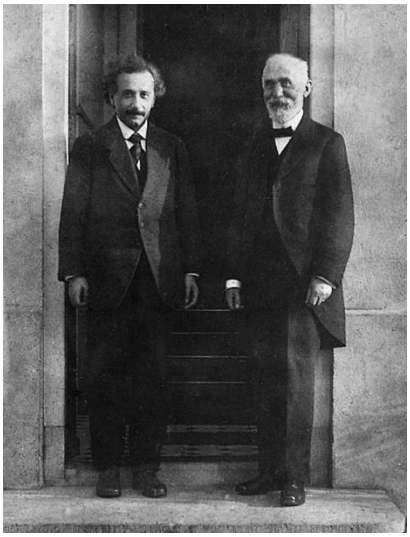
$$\Delta E = hf \quad \text{(Planck's Law of Radiation)}$$

He himself was allegedly quite dissatisfied with this at first, as the connection ran counter to his understanding of basic physical assumptions. However, he received the Nobel Prize in Physics in 1918 for the discovery of his radiation law. In 1905, in a paper on the photoelectric effect, Albert Einstein underlined the connection found by Planck by showing that light quanta increase energy.

$$E = hf \quad \text{(Einstein's equation for the quantum of light)}$$

show.

[2]Max Planck: *Zur Theorie des Gesetz der Energieverteilung im Normalspektrum.* Verhandlungen der Deutschen Physikalische Gesellschaft 2 (1900) Nr. 17, S. 237–245, Berlin (presented on 14 December 1900).



This assumed connection between energy and frequency according to Planck and Einstein was criticized in a lecture at a congress of mathematicians in Rome in 1908 by the Dutch physicist and Nobel Prize winner (1902) Hendrik Antoon Lorentz (on whose work Einstein's special theory of relativity is based),

1. Einstein and H.A. Lorentz - 1.1.1921

but even after many controversial discussions, Lorentz remained skeptical of the quantum hypothesis in the end and formulated in 1925 in a lecture at the Physical Society of[3] France:

> "This is all very nice and extremely important (quantum theory), but unfortunately we don't understand it. We don't understand Planck's hypothesis about vibrators or the exclusion of non-stationary orbits, and we don't see in Bohr's theory how light is ultimately generated. Because the mechanics of quanta, the mechanics of discontinuities, this must be admitted, has yet to be done."

Basically, this is still the state of physics today: We still do not really understand quantum theory, even if there are scientists who may claim this. At best, there are "interpretations" of this theory, of which none can really convince so far. The 1927 "Copenhagen interpretation" of quantum theory simply stated that the behavior of individual energy quanta was unpredictable and could only be predicted statistically. This, however, is in fundamental contradiction to the essential premise of the natural science of physics: Physical theories should be able to predict "events" on the basis of causal relationships and thus "explain" them in the sense of "cause" and "effect".

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[3] Lorentz, Hendrik A. 1925. L'Ancienne et la nouvelle mécanique. In Le livre du cinquantenaire de la Société française de Physique, pp. 99–114. Paris: Éditions de la Revue d'Optique Théorique et Instrumentale

> *"Tout cela est d'une grande beauté et d'une extrême importance, mais malheureusement nous ne le comprenons pas. Nous ne comprenons ni l'hypothèse de Planck sur les vibrateurs, ni l'exclusion des orbites non stationnaires et nous ne voyons pas, dans la théorie de Bohr, comment, en fin de compte, la lumière est produite. Car, il faut bien l'avouer, la mécanique des quanta, la méchanique des discontinuités, doit encore être faite."*

The (quantum) physicist David Bohm had already formulated in 1990 in a discussion round in Amsterdam ("Art Meets Science and Spirituality in a Changing Economy - From Fragmentation to Wholeness") in general:[4]

> *"Thinking has traditionally evolved in such a way that it claims not to influence anything, but only to tell you how things are. So people can't see that they're creating a problem and then apparently trying to solve it."*
>
> *"Thinking thinks there's a problem out there and it has to solve it. But that doesn't make sense because thinking simultaneously performs all the activities that cause the problem, while at the same time performing a series of activities that try to overcome it."*
>
> *"So the first thing we need to do in the long run is to look at our entire mindset that has evolved over so many millennia. I don't think it was the original way of thinking of humanity, but for many complex reasons it happened."*

When and why has our thinking possibly changed and is our current "way of thinking" possibly wrong? Is a fundamentally wrong way of thinking possibly the reason why we still haven't found the world formula?

3 The Elephant in "Space": The Problem with "Time"

Isaac Newton omitted in his contributions a definition of time and assumed it as known and springing from perception (given by God).[5]

> "Time, space, place and movement as known to all, I do not explain. I only notice that one usually understands these quantities no differently than in relation to sensually perceptible, and thus certain prejudices arise, for the abolition of which they are suitably distinguished into absolute and relative, true and apparent, mathematical and common quantities."

[4] https://www.youtube.com/watch?v=ix9nJmz4mGg

"Thought has developed traditionally in a way that it claims not to be affecting anything but just telling you the way things are. Therefore people cannot see that they are creating a problem and then apparently trying to solve it."

"Thought thinks there is a problem out there and I must solve it. Now that doesn't make sense because simultaneously thought is doing all the activity which make the problem and then there is another set of activity which try to overcome it."

"So the first thing we have to do, in the long run, is to look at our whole way of thinking which has developed over so many thousands of years. I don't think it was the original way of thinking of the human race at all, but for many complex reasons it came about. "

[5] Newton Isaac 1686 . Philosophia Naturalis Principia Mathematica

Newton had thus connected the basic physical quantities of time, space and movement with sensual perception and not conclusively defined them.

In his work of 1905 ("On the electrodynamics of moving bodies"), Einstein wrote in the introduction under §1 "On the definition of simultaneity": [6]

> *"It might seem that all the difficulties concerning the definition of 'time' can be overcome by putting the 'position of the small hand of my watch' instead of 'time'. Such a definition is indeed sufficient when it comes to defining a time exclusively for the place where the clock is located: however, the definition is no longer sufficient as soon as it is a question of linking series of events taking place in different places in time or – which amounts to the same thing – evaluating events that take place in places distant from the clock in time. "* (page 893)

He continues:

> *"We arrive at a far more practical determination by the following consideration. If there is a clock in point A of the room, an observer in A can time the events in the immediate vicinity of A by looking for the clockwise positions at the same time as these events. If there is also a clock in point B of the room – we want to add, 'a clock of exactly the same nature as the one in A' – then a temporal evaluation of the events in the immediate vicinity of B by an observer in B is also possible."* (page 894)

Unlike Newton, Einstein defines very precisely what "time" should be in the physical sense. With regard to Einstein's introductory considerations, however, it should be noted that a clock in a "point" of space is an idea that presupposes the idea that time can pass even without space, alone in a "point" of space without spatial expansion.

This basic assumption, which Einstein puts before his considerations and explanations, is therefore a hypothesis or a claim (there is a "time" in point A), which is not verifiable at all. As a "measuring device", we cannot design a clock, regardless of its nature, without spatial expansion, and we cannot imagine such a clock.

Against this background, Einstein's premise seems clearly irrational. Thus, already at the beginning of his work, an "illusion", or an unverifiable assertion, finds its way into the theoretical building.

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[6] Albert Einstein 1905 On the Electrodynamics of Moving Bodies

http://myweb.rz.uni-augsburg.de/~eckern/adp/history/einstein-papers/1905_17_891-921.pdf

Subsequently, Einstein defines in his work under "§2 On the relativity of lengths and times" a universally valid time in the sense that he names a "clock" whose nature is precisely defined and which applies in all points of space and thus defines "simultaneity".

> *'2. Each beam of light shall move in the 'stationary' coordinate system at the specified speed V, irrespective of whether that beam of light is emitted by a stationary or moving body. Where:*
>
> $$Geschwindigkeit = \frac{Lichtweg}{Zeitdauer}$$
>
> *Whereby "duration of time" is to be understood in the sense of the definition of §1."* (page 895)

However, by defining or postulating that light in empty space propagates at a (natural) constant speed, "time" in the sense of this definition is always a "duration of time", i.e. to be measured over a (space) length or the length of time that light needs to get from point A to point B in empty space.

In contrast to Einstein's explanations is that on the one hand time can only be "measured" between two points of space, but nevertheless a "time" should also be able to exist in a space point alone (which is not measurable).

Nevertheless, Einstein adheres to the idea that space, or a distance or length in space, should be determined in such a way that "clocks" could exist in "space points" or are to be "thought";

> *"We also think of clocks attached to both ends (A and B), which are synchronized with the clocks of the stationary system, i.e. whose specifications correspond to the time of the stationary system in the places where they are currently located; these clocks are therefore 'synchronous in the system at rest' (page 896)*

There was always criticism after the publication of Einstein's work, but no one has been able to refute Einstein's work so far. This is also not possible, because Einstein had very correctly recognized that time and space or our sensory perception, our "measuring instrument", cannot consider both independently of each other. Einstein's definition of a universal "clock" in the sense of the constant speed of light defines time as a "duration" between two points in space, namely the duration that light in empty space needs to travel from one point to another.

In his work, Einstein thus defines two completely independent constructs of "time" or two very differently "functioning" clocks. While his definition of the duration of time between two points

A and B in space can be measured via the "clock" in the sense of a light beam and this cannot be refuted in experiments, the "clock" assumed by Einstein in a point in space can neither be measured, detected nor falsified, since such a clock must in principle be "imaginary" and cannot be real.

It is this "imagination" that leads to an incompatibility of the two great theories (relativity and quantum theory).

It goes so far that in quantum gravity, i.e. the field of physics, which tries to combine relativity and quantum theory (so far unsuccessfully), there is a serious discussion as to whether "time" exists as a fundamental quantity at all. "Does time exist in quantum gravity?" asks theoretical physicist Claus Kiefer in a 2004[7]essay.

How can the scientifically interested layman understand what "science" can tell us about the universe, about evolution or about the meaning of life, if not even theoretical physicists can answer the profane question of what everyday time actually means in the physical sense, and whether it exists at all?

The full extent of the complete disorientation of today's science can be visualized by the layman in the following thought experiment on "clocks.

[7]Claus Kiefer 2009. Does Time exist in Quantum Gravity? https://arxiv.org/pdf/0909.3767.pdf

Ein Gedankenexperiment zu „Uhren“.

Originally, "time" or "duration of time" had been "measured" on the basis of the celestial bodies. For example, a day should represent a rotation of the earth around its own axis and last from sunrise to sunrise. A year, in turn, should represent a rotation of the earth around the sun and last from the beginning of spring to the beginning of spring. Such "clocks", which are to be called "gravitational clocks" here, naturally depend on the existence and strength of gravity. In the event that gravity between the Earth and the Sun were to increase, the Earth's orbit would have to be lower at the same tangential speed. The duration of an orbit or a year would therefore decrease with increasing gravitational force or the "time" measured in this way would run "faster". Let's think of the case that gravity would suddenly no longer exist, i.e. no more space-time curvature would "hold" the Earth in its orbit around the Sun. Then the earth would move away from the sun on a straight path and, viewed from the sun, time would "stop" in a "point", since the earth no longer "circles" around the sun but disappears into a fixed point on the horizon.

Another "gravity clock" is e.g. an "hourglass" or an "hourglass". Here, fine grains of sand trickle through an opening and thus depict a "time flow". It is easy to understand that the time that an hourglass measures would also run "faster" with increasing gravitational force. Conversely, in the event that the gravitational force suddenly ceased to exist, the hourglass would simply stop: time would then cease to pass (or the grains of sand would cease to trickle) if we understood what Einstein wants to understand as time as "time": what "clocks" indicate or measure.

"Atomic clocks" have only existed since about 1949, i.e. only a few decades after Einstein used the hand of a clock as the basis for his definition of "time" in 1905 and constructed an "electrodynamic" clock at the speed of light, so to speak. Atomic clocks are often used as "proof" of Einstein's theory of relativity, which predicts an influence of "gravity" on the passage of time: Time would therefore pass "faster" on a mountain peak than in a valley, because the gravitational force or space-time curvature on the mountain top is lower. This is exactly what can actually be measured: the atomic clock on the mountain top runs slower than the one in the valley and the gravitational clock in the valley runs faster than the gravity clock on the summit.

But the question does not have to be asked: What do these watches measure at all? Do the clocks not actually measure the strength of the "gravity" at the location of the clock and not the "time"

The "misunderstanding" regarding the physical quantity "time", which leads to the incompatibility of general relativity and quantum theory, thus seems to be the upside-down behavior of "gravitational clocks" and "atomic clocks". While one "clock" runs slower on the mountain top, the other "clock" runs faster and vice versa the behavior in the valley is shown.

"Who measures, measures crap" is a saying. But isn't "measuring" the central essence of the sciences?

4 Only "measuring" is objective science

Insofar as there can be "objective" knowledge at all, this must be formulated intersubjectively, i.e. by members of a group of individuals with subjective perception "verifiable". In contrast to the humanities (philosophy, sociology, theology, etc.), it is common in the natural sciences (physics, chemistry, biology, astronomy) to understand theories about or models of reality as a set of statements, each of which can be true or false and can therefore be checked (confirmed) or falsified (refuted) in experiments. Anyone can therefore check models and theories again and again in the experiment and regard this knowledge as "secured", as long as there is no result deviating from the prediction in the experiment.

An objective truth can therefore only arise through the formulation of a closed set of statements (formulas) that can be recognized by each individual as truth or untruth through examination in experiments. If all individuals agree with the statements/formulas because each individual can or has verified them in experiments, a "common", "objective" truth can emerge. A distinction to mere "belief" arises from the requirement of the falsifiability of a theory / statement or its verifiability in experiments.

Experiments are always associated with a "measurement" (e.g. physical quantities) or represent a measurement of physical quantities. A "measurement" of physical quantities is always a (quantitative) "comparison". A physical quantity is compared qualitatively and quantitatively with a comparable physical quantity by "defining" a physical quantity, a unit of measurement and a measurement process for this purpose.

According to Aristotle's idea, two categories of definitions can be distinguished from each other: the "real definition" and the "nominal definition". While the real definition describes a (physical) object or a physical property of the object or object of observation (such as a physical quantity) informatively and represents a hypothesis that can be true or false, a nominal definition is a binding determination in which a term is replaced or defined by other terms (which in turn are defined by nominal or real definition). According to this idea, nominal definitions cannot be false or untrue.

However, a theory based on nominal definitions or a statement about reality can be falsified by an experiment. Strictly speaking, statements or theories can only be falsified if their statements are nominally defined.

Z.B. Can the term "apple" be defined in real and nominal terms? A real definition would be to specify that those objects are an "apple" and are measured in the unit "piece of apple" that look and taste similar to a reference apple. According to this definition, however, one could argue for a long time whether there is even a second object that tastes like the reference apple. The point of view to be taken is that the reference apple is unique and in this respect no second apple can exist in truth or objectively. Nominally, however, an apple could be defined as a solid with a weight between A and B grams of weight and a volume between C and D cm^3. According to this definition, it would be objectively measurable how many apples there are. Of course, this measurement depends on the definitions of weight (mass) and volume (space). If, for example, the earth's gravitational field and thus the measurement result changes to the weight, the number of existing apples changes.

All this (defining) does not change reality, but it does change our discourse about what is real and what is not. Whether in centuries of armed conflicts there is a dispute about who is entitled to which apple is often associated with different views of reality.

Objective, i.e. by each individual verifiable and consensual "knowledge" can therefore only be formulated in science by statements (theories) about reality, which are represented exclusively by nominal definitions.

Of course, real definitions always remain part of our theories about reality in which we argue about taste, but we must understand this as a subjective view that eludes objective verifiability in the sense of a measurement according to a measurement rule (nominal definition).

> First of all, the "world formula" must provide a nominal definition of space and time as a premise and universal objective measuring instrument for measuring the universe. Space and time as the "stage" of world events cannot be "found" or "discovered", but must be made available.

Between Newton's works and Einstein's works falls temporally (historically) the "meter convention". In 1875 in Paris, an institution (today the Bureau International des Poids et Mesures) was created for the first time by international treaty, which was to determine the binding units of measurement. Today there are 7 basic sizes and associated basic units of measurement, from which all other units of measurement can be derived.[8]

[8] Bureau International des Poids et Mesures: https://www.bipm.org/en/home

Here is a comparison of the historical definitions for the length of space and the duration of a period of time:

Year / Institution	Physics. Size	Unit	Definition
1793 / Franz. National Convention	Length (L)	Meters (m)	1/10000000 Part of the length of the earth's arc from the North Pole to the equator on the meridian of Paris
1889 / BIPM	Length (L)	Meters (m)	One meter is the length of the original meter as a rod made of platinum-iridium alloy with reading at temperature of 0° Celsius (30 identical prototypes)
1960 / BIPM	Length (L)	Meters (m)	One meter is 1 650 763.73 times the wavelength of the radiation emitted by atoms of the nuclide 86Kr at the transition from state 5d5 to state 2p10, propagating in vacuum
1983 / BIPM	Length (L)	Meters (m)	One meter is the distance that the light passes through in a vacuum within the time interval of 1/299 792 458 seconds
until 1956	Duration (T)	Second(s)	One second is the fraction of 1⁄86,400 of the mean solar day. This setting was introduced so that an average solar day is 24 · 60 · 60 seconds long. This corresponds to the time after which a fictitious middle sun is back in the same place. (The solar day is about 4 minutes longer than the Earth's rotation time because the Earth moves around the Sun during the day, and therefore it takes a little longer for a point on Earth to be directed back to the Sun.)
1956 / BIPM	Duration (T)	Second(s)	One second is the fraction of 1⁄31 556 925.9747 of the tropical year on January 0, 1900 (= December 31, 1899) at 12:00 UT. It refers to the relationship at that time between the duration of the year and the Earth's rotation.
1967 / BIPM	Duration (T)	Second(s)	One second is 9,192,631,770 times the period duration of the radiation, which corresponds to the transition between the two hyperfine structure levels of the ground state of atoms of the nuclide corresponds to 133Cs

Initially, even without taking Einstein's thoughts on time and space into account, the definition of the length of space on the basis of planet Earth from 1793 seems unsuitable for the formulation of objective knowledge. Because assuming that the Earth would "shrink" to half its size over time, our measurements and our perspective show that the universe would double in size, because we measure space according to this definition by comparing it with the size of the Earth. Thus, even if the Earth were a perfect rotational ellipsoid and the Earth's body were thus suitable as a "scale" for measuring space on Earth and in the universe with geometric means (projections), the "length of space" as a physical property of reality or as a physical object itself would depend on the existence of the Earth. If planet Earth and our solar system did not exist, according to the original definition of 1793, "space" (nominal) would also cease to exist. Simply because we would then no longer be able to measure it on the basis of the "nominal definition" or measurement regulation and objectively only what we can measure intersubjectively exists. Of course, another (nominally defined) "space" can still exist (defined in real terms), but only then could it be proven with other

measurement regulations and which may have completely different physical properties, and thus the previous models and theories of reality are falsified.

The definition introduced in 1889 of the physical size of the length of the room and the unit meters based on a "primordial meter" as a rod made of platinum and iridium also shows problems of this kind. Here, too, space is defined as a function of matter, i.e. without this matter as a "comparative measure" it can no longer exist "nominally". Only the presence of the primordial meter in the form of matter, according to this definition, justifies the existence of space, which cannot be measured without this comparative measure and thus cannot be proven. In addition, the physical quantity "temperature" is additionally connected to the room. If you want to measure the distance with the original meter, it is not enough to geometrically project the original meter or to place it next to each other. In addition, the temperature of the original meter must always be measured and corrected using coefficients of expansion. Without a "thermometer", length measurement becomes impossible.

The definition of the length of the room and the meter introduced in 1960 on the basis of the radiation emitted by a certain atom in a certain state or its wavelength does not fall back on the temperature, but in turn refers to the property of a certain form of matter, without the existence of which space would also (nominally) lose its existence again. Likewise, the change of properties of the designated atom or the natural constants and interactions would affect properties of space.

The definition of the length of space, which is still valid today, is the definition introduced in 1983, according to which the length of space is measured by the propagation speed of electromagnetic waves in a vacuum. This speed of propagation (speed of light in vacuum) was set (fixed) as a natural constant by a "number" and is no longer determined by "measurement".

The nominal definition of the length of the room based on the physical quantity of the duration of time was defined as follows:

> One meter is 1 650 763.73 times the wavelength of the radiation emitted by atoms of the nuclide 86Kr at the transition from state 5d5 to state 2p10, propagating in vacuum.

Now the "space" defined in this way or its physical property "length" (between two points in space) is independent of matter and only dependent on the existence of electromagnetic waves (any wavelength) or their measurability which presupposes their existence and of course on the existence of "time" or the "measurability" of the duration of time. Without the existence of electromagnetic waves, however, the objective existence of "space" is also eliminated with this definition, since our nominal "measuring instrument" no longer exists.

The time or duration of time on the basis of which space or its physical property of the "length" is currently defined was defined by the mean solar day until about 1956. This definition was therefore based on the rotational movement of the earth around its own axis, which was assumed to be stable and uniform. This rotation of the earth around its own axis can only be measured by fixing the sky image. Here we are reminded of the thought experiment on the gravitational clock shown. Based on this definition of the duration of time, the passage of time would slow down or accelerate, depending on the gravitational force between the Earth and the Sun or depending on the rotational speed of the Earth around its own axis. What's more, time would no longer exist if the solar system no longer existed because the clock defined as a measuring instrument would no longer be available. If the length of space (as is currently the case) is also measured over time, the rotation of the Earth would of course also invalidate the length information in the entire universe.

In 1956, the duration of one second was then defined on the basis of a tropical year at a fixed time (1900) to avoid irregularities in the mean solar day. This definition is based on a fixed date in the universe and is therefore much more universal, since this "time" would not be dependent on a change in gravitational force or mass, for example. Nor would this time be dependent on the existence of the solar system itself, because the time defined in this way can be "transferred" to other clocks, which it has yet to be defined. From this point of view, this definition leaves it open with which type of clock or measuring instrument the physical quantity "time" is measured. This definition of time is therefore based on Einstein's idea, according to which a "second" time (in addition to the time between two points of space) should also be able to elapse in the absence of space or without the existence of space, for example, in a single space point (without spatial expansion), i.e. theoretically time exists as an imagination in our thoughts and the alleged existence of such a time has no proof, i.e. no observation or measurement would be accessible. This "second" time thus officially (nominally) becomes an object of "faith" through this definition, and thus a kind of "image of God" in science.

In 1967 (obviously on the basis of this "interpretation of reality" or with this "belief") the measurement of time was transmitted on an atomic clock by defining time on the basis of the properties of the cesium 133 atom:

> *One second is 9,192,631,770 times the period duration of the radiation, which corresponds to the transition between the two hyperfine structure levels of the ground state*
> *of atoms of the nuclide corresponds to 133Cs*

But even with today's definition, there is an objection to be raised. Although a "clock" in the sense of the definition is already a single caesium -133 atom, i.e. relatively of very small spatial expansion, this "clock" still requires a certain volume of space for existence, namely that of at least one caesium-133 atom. A clock with which a time passage or time date could be measured in a

"point A" of space, this clock does not represent either. This definition also makes the existence and "velocity" of the time course dependent on the existence of matter (atoms) and also on natural constants, which affects the electromagnetic interactions in the atom. Just as a "gravitational clock" would change the time course depending on the gravitational force, so an atomic clock would change the time course depending on the electromagnetic interaction or its underlying natural constants. For example, changing the fine structure constant would change the time course in the universe. So we can never measure or determine with an "atomic clock" whether we measure a change in the size of time, or a change in the size of gravity or electromagnetic interaction.

In addition to all these problems, there is also the fact that the definition of time is used in the current definition of the length of space via the propagation speed of electromagnetic waves. Thus, space is again only nominally or objectively measurable and existing if matter exists. The existence of electromagnetic waves is not enough.

The idea that space and time should have arisen in a kind of Big Bang (the formation of electromagnetic waves, matter, space and time) does not follow from observation of nature or from experiments, but from our irrational definition of time and space, which prescribe this "result" or already contain it as a premise.

Einstein's definition of the duration of time and Einstein's considerations of simultaneity leave open how to construct a "clock" that could measure a time course in the "point A" of a space. What else should he do if the impossibility of constructing such a watch is obvious.
While an atomic clock runs faster on the top of the mountain than in the valley at the foot of the mountain, an hourglass runs faster in the valley and slower on the top of the mountain. However, since we combine the concept of "time" with the concept of "causality" (which in turn can be understood as the basis of rational thinking), this thought experiment shows us the irrationality of our basic assumptions about reality or the irrationality of our previous definitions of space and time.

Now this "elephant in space" is largely ignored by physicists and scientists in general today or "time" is presented as a mystery, although it is a very trivial statement that the idea of time that Einstein and Planck left us is simply irrational and inconsistent in itself. Both hourglass and atomic clock only measure the magnitude or strength of the gravitational force at the location of the "clock" in different ways. To conclude from this that "time" would somehow be influenced by the presence of masses is not a rational thought and, after all, simply neither verifiable nor falsifiable.

Now, however, Planck's theory or the Planck-Einstein relation is

$$E = h\,f$$

(Energy of a photon E , Planck's effect suantum h, frequency of the photon f)

and thus refutes the foundation of quantum theory in its basic statement by the proposed appreciation of the definitions of space and time. Because the frequency of the photon or the electromagnetic wave increases or decreases depending on the clock used to determine the duration of the period.

The "cause" for the error in our current world view or the cause of the incompatibility of quantum theory and general relativity has thus been found and is logically comprehensible even for the "layman". Quantum theory is based on the assumption of an absolute time, i.e. one that also exists without space and without a clock, while the general theory of relativity is based on a time that is to be measured between two points of space, i.e. depends on space.

So we lack a "correct" (rational and consistent) nominal definition of the physical quantities of space and time as objects of the objective real world in order to formulate the "world formula" that can perpetuate all our knowledge of the universe for future generations.

5 Steps to the World Formula - Definition of Space and Time

5.1 Past, Future and Causality: Two Concepts of Time

An essential aspect of the construction of space and time as physical objects or properties of reality is the concept of causality, our idea in everyday life that every effect must have a cause. An event in the future cannot be the cause of an event in the past we "believe" if "time travel" were not possible.

Future and past, as well as cause and effect, are concepts of everyday life that we generally (really defined) associate with the concept of time, which is still to be defined nominally here. The "general" understanding of the future and the past appears as a historically grown idea of the world, which at least goes back to philosophers such as Heraclitus, Democritus and Aristotle.

The "Laplace's demon", for example, is considered an illustration of the view that the world is constructed equal to the idea of determinism according to a clockwork, so that an omniscient observer could calculate or predict the future from the knowledge of all natural laws and states in the past.

This statement by Pierre-Simon Laplace comes from the preface of the *Essai philosophique sur les probabilités* of 1814:

> *"So we have to look at the present state of the universe as a consequence of a previous state and as the cause of the state that comes after. An intelligence that knows at a given moment all the forces with which the world is gifted, and the present situation of the structures that assemble them, and which, moreover, would be comprehensive enough to subject this knowledge to analysis, would understand in the same formula the movements of the largest celestial bodies and those of the lightest atom. Nothing would be uncertain for them, the future and past would be clearly before their eyes.*

But if science is carried out on the assumption or under the premise that natural laws exist that make all events appear as a consequence of a previous state, then at the same time the past would be the cause of the future, as well as the future, the cause of the past. For if the world were constructed in this way, an omniscient observer could calculate from a state of the world in the future, the state of the world at any time in the past- And thus a state of the universe in the future or present would be "cause", for all states of the universe in the past.

A simple thought experiment is the observation of the seasons or the (apparent) rotation of the earth around the sun. Is the place, speed and mass of the Earth "cause" that the Earth does not "fly away" from the Sun, but is forced onto an elliptical orbit, so that a summer is followed by a winter and then another summer? At the same time, it can be said that the whereabouts of the earth and its orbital speed in the future is "cause" for the whereabouts of the earth in the past just as the whereabouts and the orbital speed of the earth in the past are the cause of its whereabouts in the future.

Newton's concept of uniform unaccelerated motion from 1687 (the principle of inertia)[9]thus suggests or implies, following a conclusive logic, that the past is not the "cause" of the future. Action and reaction, i.e. cause and effect in the form of "forces", therefore take place "simultaneously" in Newton's work. And this is also logical, conclusive and rational, because if the past were "cause" for the future, then according to the principle of inertia, the "future" would be the cause of the past. From a state of the present and the future, knowing all conceivable information about the world, one could then calculate exactly every state in the past.

However, this idea that the future would be both the cause of the past and the effect of the past is fundamentally irrational when we call "rational" what is based on the concept of cause and effect (as "logic") as a basic prerequisite.

[9] Philosophiae naturalis principia mathematica., London, 1726 p. 13 (GDZ) "Corpus omne perseverare in statu suo quiescendi vel movendi uniformiter in directum, nisi quatenus a viribus impressis cogitur statum illum mutare."

With a view to a nominal definition of time for the pursuit of objective science, the terms "past" and "future" are to be separated into two completely different things according to the considerations made.

On the one hand, we use the terms past and future to describe what we expect from the future and what we know about the past. Only in this context can we calculate predictions for the future from the past and thus in this context the past can be the cause of the future. However, both these concepts (past and future) take place simultaneously in the present in our brain, insofar as the past represents our state of knowledge about the current state of the universe in the "now" and the future our expectations in the present of a causally following state. In this context, the past (our current knowledge or our current state of information about the universe) can be the cause of the future (our current expectations) as well as the future can be the cause of the past, since both interact simultaneously in the present.
However, the concepts of the past and future with which we want to describe what we cannot calculate in advance, i.e. what actually happens and eludes the calculable "laws of nature", since it concerns "free will", must be distinguished from this. Whether a person will get out of bed tomorrow and go to work depends on whether that person will do the same tomorrow and is fundamentally unpredictable or predictable. Scientifically, this cannot be predicted and the past cannot be the cause of this event (decision of free will). So whether the sun will actually rise again tomorrow depends on the will or whims of nature or God's will. However, in objective reality, it is not the past that causes what happens to the sun tomorrow.

Science and the project to obtain, exchange and pass on objective knowledge about reality must therefore only deal with the aspect of the term "time", in which cause and effect occur simultaneously. The object of objective science, which can be proven by experiments and measurements, can therefore only be the "future" and "past" that is simultaneously described in the present. If today we write a wave function for the solar system or equations of motion and trajectories, then these equations already contain the past and future and the future is the cause of the past as well as the past is the cause of the future.

To be distinguished from this is the time that arises from our decisions and from the decisions of nature or a "living" (decision-capable) universe. This "time" can only be the subject of a subjective experience and perception and concerns our feelings, intuition and also our dialogue with nature or.dem living universe (God) himself.

However, "physical time", the one we are allowed to use to formulate objective knowledge, in which the future and past are always included in the "now", is a property of the geometry of space or our appointment and our nominal definition of space and time.

This "physical time" represents our attribution of cause and effect. Cause and effect always describe a current balance of forces that describe causes and effects.

5.2 Construction of space, "nothingness" and "something"

If, on the basis of the previous discussions, it has been decided that the measurement regulations to be constructed, i.e. nominal definitions, should bindingly define the properties of space and time, the next step must be to clarify which "measuring instruments" are available to us at all. Essentially, our measuring instrument for the perception of space and time is our body and thus not only the sensory organs such as eyes and ears but also our brain and our ability to think and communicate. In order to create an objective truth, however, we need a measuring instrument that is constructed exactly the same for each individual and has identical properties. So it is not our body or a material object such as an atom, or an iron rod, but only a mental construct that can exist independently of space and time and matter and about which we can agree and agree that it should be valid for everyone (Einstein's idea that "identical" clocks are needed as measuring instruments should provide orientation here). It is therefore necessary to determine assumptions about the process of observing and perceiving our environment, which all individuals must agree to for reasonable reasons in order to be considered "reasonable".

We can easily arrange space as a purely mental, "mathematical construct" with certain properties. We can use the everyday experience and assume that space should have three dimensions and consist of "nothing", i.e. has no properties except our idea that we can designate places, lengths, surfaces and volumes in space, so that we intersubjectively create a truth when we designate a place point or an object with a certain form and spatial expansion or a "volume of space". For practical reasons, we define the physical quantity of the length in such a way that it can be measured by comparison with three perpendicular spatial axes with identical length scale (Cartesian coordinate system). However, with the space defined in this way, which has no physical properties other than the ability to house bodies or objects, i.e. which neither consists of a material substance nor contains or represents a form of energy, we cannot yet define a physical unit for the physical quantity of the length. Since the space consists of "nothing", we cannot carry out a "comparison", i.e. we cannot define a measurement rule as to how a "unit" of "length", for example a "meter" is to be determined intersubjectively, i.e. measured. So we think of a Cartesian coordinate system, but we cannot enter any units along the spatial axes and cannot issue any regulations on how, for example, one meter in length should be measured in this coordinate system. At this point in the deliberations, there is nothing that we can compare with each other.

So we go one step further and strive for the everyday experience after which we want to know and assume the existence of objects or bodies in space. This experience results directly from observing the environment with the naked eye. But even blindfolded, we can feel the existence of bodies in

space. If we abstract this concept from the existence of physical bodies as far as possible, we can agree that a body in space must basically have the property of filling or "occupying" a volume of space that is greater than zero (i.e. something or a certain amount of "nothing" and not "nothing at all") and is smaller than infinitely large, thus does not fill the entire "possible" space or "everything" (nothing), which according to our definition (Cartesian coordinate system) must be infinitely large, since it consists of nothing except our definition for determining the physical property of the length of space or a volume of "bodies" in space, which, contrary to empty space, "nothing", represent the existence of "something" except "nothing". In our space, a "point" in space or a place point with three coordinates cannot yet be a "body" and cannot represent "something" other than "nothing". Nevertheless, we can ascribe a geometric "center" to each volume-like body (analogous to a center of mass), so that regardless of the exact shape, a body for certain purposes can first be described in simplified terms by a spatial coordinate and a volume (length$^{3)}$. A body defined in this way differs in its physical properties from empty space (which consists of place points without volume) only in that it has a volume of space and a shape as measurable physical properties.

However, since no definition or measurement specification for the unit of the room length (meters) seems possible on the basis of the previous premises, we still lack the possibility to measure a volume (meter^3) and the shape of bodies.

5.3 Movement of "something" (body)

Let us therefore go one step further and deduce from everyday experience that all physical bodies that exist in space "move". This claim could probably be denied by arguing that it is conceivable that two bodies could exist in space that are at each other's rest. However, everyday experience teaches us that whether we "perceive" with our eyes or the sense of touch, something or any body is always in motion, be it our eye or our hand that we stretch out to feel something in space. In order to "measure" the space, we or the measuring instrument have to move.

However, a simple concept of relativity now says that by moving one body, relatively all other bodies move. Suppose, for example, that there are 10 bodies in empty space, all of which are at rest against each other. However, as soon as one of these bodies moves, one could also say that it remains at rest and the remaining nine bodies move relative to this one.

In general, the concept of motion is described in such a way that a physical object (volume, mass, charge, etc.) is assigned a "velocity" or a velocity vector (direction of movement and velocity amount) as a property.

So as soon as one wants to allow objects or bodies to exist in a space beyond the concept of empty space, we need the physical quantity "time", just to be able to describe the movement of the

observer, who has to move (to observe or to "measure"). So in order to be able to "measure" (compare) space, we need the concept of "movement" and consequently the concept of "time". Only by introducing the physical quantity "time" could we measure space at all.

The "connection" of space and time, that space without time would not be measurable at all and therefore cannot exist without time, is not carried out here by Einstein's postulate of the constant speed of light in empty space compared to all moving bodies, but by the physical concept of (relative) "movement" in general.

For further simplification and abstraction, let's assume that only two bodies should be in empty space, namely an observer and a body observed by the observer. Since we humans are part of the world and want to carry out experiments or measurements, we cannot think away or try to describe the world as an outsider (i.e. a god or an intelligence or a life outside the universe) would describe the universe.

So let's assume that the observer (we) as well as the observed body are initially only referred to here with a form, a spatial volume and a place in space (where the geometric center of the respective body volume is located) and these two bodies are in motion relative to each other. Irrelevant with regard to physical laws should be which body we consider to be the one at rest. Conveniently, we choose the observer as the reference system for our empty (dormant) space and explain the center of the observer as the origin of the coordinate system with which the world or the universe is to be described. According to the relativity of movements, it is irrelevant whether, for example, we choose the earth or the sun or another body as an observer and declare it the resting center of the universe. If we look at the earth as a resting center, then the sun orbits around the earth, if we look at the sun as the center, then the earth orbits around the sun.

That a nominal definition of space and time presupposes an excellent center of the universe as a condition is an important aspect and a significant difference from the conception of Einstein and Galileo. Following Einstein's theories, there is no distinguished point in the universe as a "space" that could be the "center" of the universe. But in Einstein's theories there is the speed of light in empty space, which as a "natural constant" represents the "center" of the universe or the "center" of space-time.

According to our definitions, however, contrary to Einstein's premises, a center in space must exist, because according to our definitions, space itself does not arise as a consequence of the existence of matter, but as a precondition for the existence of "something" at all.

That this "center" can be "agreed" at any place in the universe is a consequence of the relativity of perspective, but the claim to the verifiability and falsifiability of claims requires that one "agrees" on a center, even if the location (the origin of the coordinate system) is arbitrary. However, the

prerequisite is that the coordinate origin or the center of the universe can only be distinguished by a (volumey) "body" and not by empty space

The underlying idea is that only a volumey body is "conceivable" as a "scale" and "clock". Only a volumey body can represent a uniform "movement" (e.B a body at "rest").

5.4 Einstein's Error of Thought

At this point, the presentation of Einstein for the definition of time should be considered again:

> "It might seem that all the difficulties concerning the definition of 'time' can be overcome by putting the 'position of the small hand of my watch' instead of 'time'. Such a definition is indeed sufficient when it comes to defining a time exclusively for the place where the clock is located."

The already discussed mistake of thought that Einstein commits here must be "fixed" on our way to the world formula. Einstein wants to be understood as "time", the "position of the small hand of his clock". Although this consideration basically leads in the right direction, Einstein overlooks the fact that every clock (regardless of construction method) must always represent a body in the same way as an observer, since a mere point in space (a place) cannot accommodate a body and accordingly a "time" can never be attributed to a "place", but only to a body, which in turn naturally has a location in space in the sense of the location of the volume center of the body. or the observer or the watch. But we immediately recognize the impossibility of the endeavor to place two clocks (solids) at two adjacent spatial points with infinitely small distances from each other, which themselves should have an (identical or "normalized") volume that is not infinitely none.

Einstein's error of thought becomes even clearer in his further explanation

> *"We arrive at a far more practical determination by the following consideration. If there is a clock in point A of the room, an observer in A may time the events in the immediate vicinity of A..".*

Not only Einstein's "clock" is supposed to be "disembodied", but also the "observer" in "point" A. Thus, Einstein "defines" a property of the observer that is equally impossible. An observer in point A of space cannot exist in our newly constructed universe, since the existence of an observer in this universe includes the existence of a volume-like body. Einstein's equal "observer" would thus be a "god" or observer outside the universe accessible or measurable to us.

Contrary to Einstein, we therefore assume that both clocks and observers always claim a spatial expansion in space and have a volume.

Now any body that we perceive as moving evenly (compared to the still empty space) can serve us as a "clock". If, for example, the body moves at a speed of one meter / second, then we can "read" the length of time that the body must have needed at the position of the body in space or by measuring the length of space traveled, and by measuring the duration of time we can determine the length of space that the body must have traveled in this period of time.

Although we now deal with space, volume, body and time, we still do not have a scale with which we can divide the space or the length in space into measurable units. The assumption, however, that there is a body that moves evenly through space and time "constructs" such a measuring instrument in the sense of a "comparative scale", with which we can measure the past duration of time on the basis of the distance traveled by this "clock" body through space and, conversely, the distance travelled on the basis of the past duration of time. This "excellent" and by definition or agreement in uniform motion "clock" body could therefore represent our measuring instrument with which we could measure the universe. Einstein did nothing else by defining that light (for all observers) moves through empty space at a constant speed and can therefore serve as a "clock" body. However, "light" does not yet occur in our universe, and time should not be made dependent on the phenomena of electromagnetism.

From this consideration, however, it follows that the physical quantities of the duration of time and the length in space must be proportional, because we want to determine that this "clock" body should be our measuring instrument and its speed is "constant". Similar to how Einstein formulated in relation to the speed of light, we can formulate for this "mental" body (which here replaces Einstein's postulate of the constant speed of light) (the body is to be called "clock body" here for the time being):

$$Geschwindigkeit\ Uhr - Körper\ := konstant := c\ = \frac{Ein\ Meter\ Länge\ im\ Raum}{Eine\ Sekunde\ Zeitdauer\ im\ Raum}$$

respectively

$$Länge\ [Meter] = c * Zeitdauer\ [Sekunde]$$

Where c is the constant speed of the "clock body" in space.

Fundamentally, our way to define space and time differs from Einstein's path in that we use neither masses (gravity) nor electromagnetism (photons) to define space and time, but build a definition building after gravity and electromagnetism build on the definitions of space and time, and not vice versa, because this "distortion" of cause and effect leads to the irrational world view, which we are currently "suffering" from.

In order to develop an idea of which body could be suitable as such a "clock body" in which way, the historical and current definition of time will once again be placed in the context of the considerations on space and time discussed so far.

Originally, i.e. until 1956, the second as the unit of time was defined as 1/86400 of the duration of the mean solar day. If one assumes the Earth's rotation as a process accelerated by gravitational force but periodically recurring or a "vibration", the Earth's rotation can also be understood in the sense of a frequency with a constant period duration.

A frequency "f" in the sense understood here should be the reciprocal value of the period duration "T" of a uniformly / regularly repeating process.

$$f = \frac{1}{T}$$

The period duration T should be given in the unit second [s] and the frequency in the unit [1/s] or Hertz [Hz].

So we could write the historical definition of time here in the form

$$T_{\,Sekunde} = 1\,Sekunde = \frac{1}{f_{\,mittlerer\ Sonnentag}} = \frac{1}{86400} \cdot T_{\,mittlerer\ Sonnentag}$$

if we assume that time should pass evenly, and one second of time is also a regular process. It should be noted here that the period duration of a mean solar day does not correspond to the period duration of the Earth's rotation around its own axis, since we assume that the earth rotates simultaneously on its own axis, as well as on the axis of the sun. Thus, in the period duration of the mean solar day, two movements of two different bodies in space are included, namely the movement of the sun or the movement of the earth around the sun and the movement of the earth around its own axis,

Let us now compare the historical definition of time with the current definition of time,

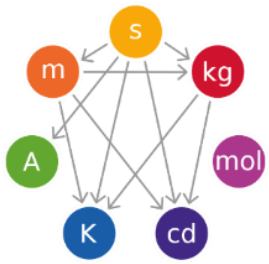
> *"One second is 9,192,631,770 times the period duration of the radiation, which corresponds to the transition between the two hyperfine structure levels of the ground state of atoms of nuclide 133Cs,"*

we could write in a similar way:

$$T_{\,Sekunde} = \quad 1\,Sekunde = 1\frac{1}{f_{133Cs}} = 9192631770 \cdot T_{133Cs}$$

Both definitions are based exclusively on a real definition in the sense of our previous discussions, which are based on the assertion that earth and sun or the caesium 133 atom behave "regularly", i.e. have uniform oscillation durations. This claim can be true or untrue. The problem is, this thesis or claim is neither experimentally reproducible, nor is it falsifiable. In the sense of a nominal definition, it is only defined that the duration of one second is x times the duration of a fraction of 1/x seconds. It is therefore a "circular definition" (Idem per Idem) according to the standards to be applied to a nominal definition. The philosopher Karl Christian Friedrich Kraus formulated in 1836 as a "basic law of definition":

> "The first demand is: what is to be defined must not appear again in the definition (terminus definitus non debet ingredi definitionem), because if it does, one does not know what is to be defined, it would be explained by the same." [50]



If we also take a look at the pictogram of BIPM for understanding the relationships of the elementary seven SI units in physics (second, meter, kilogram, ampere, mole, Kelvin and candela), it is striking that the definitions of the time unit second and those of the substance unit mole are based only on themselves, i.e. in the sense of Kraus violate the basic laws for a (nominal) definition.

However, the definition of space and time is quite different when we define the duration of time nominally on the basis of the uniformly moving "clock body" on the basis of the length of space and the length of space on the basis of the uniformly moving "clock body" on the basis of the duration of time (as already on page 27):

$$Geschwindigkeit_{Uhr-Körper} = konstant = \frac{Ein\ Meter\ Raumlänge}{Eine\ Sekunde\ Zeitdauer}$$

Accordingly, the provisional definitions for the physical units of the quantities length and duration are

$$Ein\ Meter\ Länge = Geschwindigkeit_{Uhr-Körper} \cdot Eine\ Sekunde\ Zeit$$

And

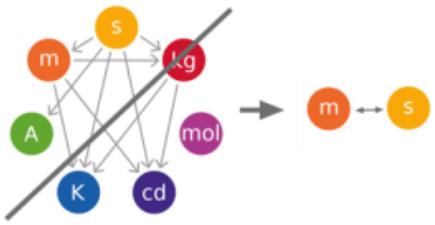
$$Eine\ Sekunde\ Zeit = \frac{Ein\ Meter\ Länge}{Geschwindigkeit_{Uhr-Körper}}$$

This definition reflects Einstein's definition of simultaneity, which results from his postulate of the constant speed of light in a vacuum. Instead of our "clock body", only a light quantum or a photon would have to be set.

It becomes apparent that, in contrast to today's understanding of space and time, the world formula presupposes a completely different understanding of space and time, since the length in space is defined on the basis of the duration of time, but also the duration of time on the basis of length in space.

After all, only the elementary physical quantities and units length and duration of time remain as elementary physical quantities, whereby no physical quantity is thrown back only on itself or what is to be defined would occur in the definition itself, as is currently the case. Put simply, with the world formula or the understanding of space and time contained therein, our consideration is consolidated to only these two spiritual concepts and thus deprives a materialistic or atomistic world view of its basis of existence.

According to these definitions, the "world" arises exclusively in our minds or in our thoughts and exists detached from matter and energy only on the basis of information.



5.5 Time, Space and Movement : Trinity of Measurement.

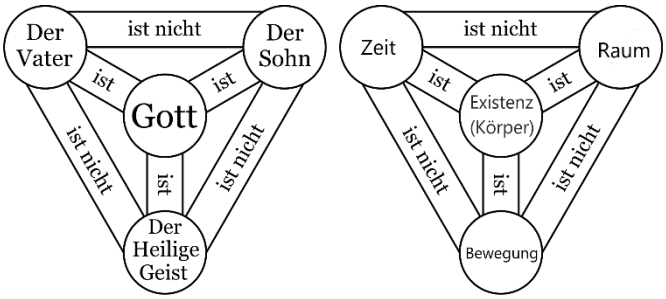
All previous discussions suggest that we must therefore replace the cornerstone of our previous (irrational) world view, the inadmissible (because potentially untrue but not falsifiable real definition and) circular definition, according to which time should only be defined by the concept of time - i.e. by nothing but itself - by three nominal definitions that form a kind of definition "circle":

> **Time** is nominally defined by the definition of the movement of bodies and by the definition of space

> **Space** is nominally defined by the definition of the movement of bodies and by the definition of time.
>
> **The movement of bodies** is nominally defined by the definition of space and by the definition of time.

In contrast to Einstein's considerations, we do not link time and space by observing the properties of electromagnetic interaction and the postulate of a non-falsifiable assertion (constant speed of light in a vacuum), but solely by mentally analyzing the abilities of our perception and agreeing on nominal definitions or measurement regulations.

In contrast to the (irrational) SI system of units of BIPM, however, our physical quantities are the sole object of our world of thought, i.e. purely "mental" constructs that do not require a connection to a material world, since time exists independently of a caesium atom and should be measurable and the length should exist and be measurable independent of photons or electromagnetic waves. One could therefore discuss the terminology of these purely spiritual concepts as a kind of Trinity.



The philosopher Rene Descartes wrote in 1644 in his work*"Principles of Philosophy"*, which today is often summarized as "egocogito, ergo sum" :(In German translation):

> *"By rejecting everything that is doubtful and considering it wrong, we can easily assume that there is no God, no heaven, no body; that we ourselves have neither hands nor feet, no body at all; but we cannot assume that we who think such are nothing; because it is a contradiction that what thinks does not exist at the time when it thinks. That is why the realization: "I think, therefore I am, " (Latin: ego cogito, ergo sum*) is the first and most certain of*all, which emerges in a proper philosophizing."*[10]

Much like Descartes describes it, it can be argued that with our activity of observing - we can also call "measuring" or "comparing" as a process that goes hand in hand with "thinking"; We can

[10] Die Prinzipien der Philosophie, Elzevier Verlag Amsterdam 1644, chap. 1. On the Principles of Human Knowledge, paragraph 7

therefore also understand "thinking" as a synonym for the process of observation or perception – i.e. at the time when we see or feel and perceive (imagine) time, space and movement and prove or recognize our own existence and the existence of God. For just as we want to call ourselves a "living body" or a living being, we must conclude from this knowledge that the world or the universe outside our body - i.e. the totality of all bodies in the universe - must also be "alive", because it arises in us or in our thoughts quite independently of "dead" matter as a "spiritual" and thus "living" concept and can therefore be understood as a "mirror image" of our mental activity. become. The question of the existence of God would therefore be clarified very directly with the Trinity of the definition of time, space and movement, because insofar as we symbolically "open our eyes" and see the world by seeing and imagining "movement" through "space" and "time", this proves the existence of the living (because moving) God, whose "body" we thus see as the totality of all conceivable bodies or thus as "the universe" or "the world" itself. can understand.

What is remarkable about this "new" definition of space and time about the concept of motion in general is that, unlike Einstein's theory of relativity, the speed of information transmission in space is not limited by a natural constant such as the speed of light.

5.6 Holy Grail : The Clock Body

Furthermore, according to the basic definition of the physical quantities "length" and "time", we lack the definition of units and measurement regulations. How can a central "clock body" be nominally defined, to which we could all assign a uniform immutable speed.

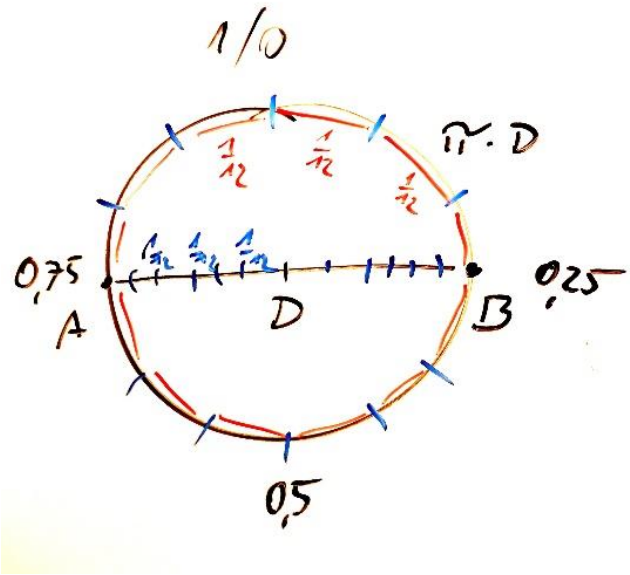
If, like Einstein, we assume an observer in the sense of a space point, we can place this point of the observer in the coordinate origin of the space from which we want to measure distances and we can also attribute to this point the property of the resting "point", but we cannot understand this "point" as a "body" at rest, because a body, in contrast to a space point, has axes of rotation around which it can rotate itself. This property, which is absolutely necessary for a "clock body", is missing from the observer conceived by Einstein in a space point, so that here the "key" to the Holy Grail in the sense of a clock body or a clock identically constructed at every place in the universe is hidden.

Since we as observers and "clock bodies" now define a solid in space that rests absolutely and thus by definition is considered the excellent center of the universe, accordingly does not rotate around any axis of rotation but rests, the speed of the clock body compared to the center of the universe in all directions and axes of rotation would be 0 meters per second.

However, according to the principle of relativity, a uniform unaccelerated movement is equivalent to the rotation of the watch body or observer around its own axis of rotation. For example, we could read Einstein's imaginary time of the observer from the small hand of the clock, if we

understood the small hand as the axis of space that is perpendicular to the axis of rotation of the dial.

It follows from our nominal definitions of space, time and bodies that a uniformly moving body or center of a body, which thus moves at a constant speed along a straight line between point A in space and point B in space, crosses out per meter of room length x seconds of time duration, as it crosses out 1/x meter of room length per second.



We are free to determine how fast the watch body rotates around its axis of rotation. The only decisive factor is that we define the size of the watch body and its uniform rotational speed in nominal terms.

The dial of the watch, an ideal circle, can be constructed from the length between point A and point B. If we consider the length along the straight line AB (diameter D) as the measure of one meter in length and the circle circumference that the pointer with the length D/2 describes as one second duration of time, one could assume that the circumference of the circle ($\pi \cdot D$) could be the "room length" that crosses the tip of the pointer within one second, the pointer tip thus travels a "speed" of 1 second / π meters or in other words a speed of π meters / 1 second.

Now, however, we have defined space in such a way that room lengths are to be measured by comparison with the three perpendicular spatial axes or the length in space is to be measured as the distance along a straight line in space between point A and point B, just as time time is to be measured as the duration of time between point A and point B. However, the straight distance between point A and point B (one meter) cannot be compared with the circular arc, which, strictly speaking, seems to consist of infinitely small straight distances between an infinite number of spatial points (with infinitely no volume). So if we want to nominally determine the proportionality between space length and duration of time, we have to divide the one meter (The length of the straight distance between point A and point B) into any to infinitely many arbitrary or infinitely small sections, just as we have to divide the second into arbitrarily to infinitely small sections and must write

$$1\ \left[\frac{s}{m}\right] = \frac{U}{D}\ \left[\frac{s}{m}\right] = \frac{\infty\ \frac{\pi\ \cdot D}{\infty}}{\infty\ \frac{D}{\infty}}\ \left[\frac{s}{m}\right] = \pi\ \left[\frac{s}{m}\right]$$

5.7 The "world formula" in a simple equation: The clock body "π"

The suggestive realization that it is not a constant speed of light in a vacuum, as Einstein and Planck wanted us to believe, but the concept of the number of circles π space and time, that gives rise to questioning the fundamentals of mathematics as we know it today in its essential premises.

Basically, the concept or use of a number only makes sense if it is associated with a physical size and unit. Thus, the term "1" (i.e. the number 1) is used meaninglessly if it is not indicated at the same time as its use which countable (i.e. "measurable" quantity is meant by it. So "1" apple is something different from "1" banana or "1" euro. Only by mentioning the physical quantity and a definition of the unit of measurement of this quantity do numbers make sense and can an assessment be made as to whether the respective sentence or a statement in which a number is used is rational or irrational.

The usual view that strings such as 1+1=2 or 10/5 = 2, or 8-4=4 make any sense or even contradict "rational thinking" or logic must be clearly rejected. They are fictitious agreements on the use of signs that cannot be logical, conclusive, complete or incomplete, since these signs have no relation to "observations" or "measurements" and are chosen arbitrarily.

For example, the expression 1 banana + 1 banana = 2 bananas makes rational sense.
Likewise, the expression 1 banana + 1 apple = 1 part fruit salad and
2 bananas + 2 apples = 2 parts fruit salad.

However, the term "2+2 =2" (as it is rational in relation to the fruit salad) will hardly be understood by any person today as a rational thought if the reference to it is not indicated. In the same way, however, the expression 2+2=4 is completely meaningless or irrational, since in general the use of "numbers" without reference to a numerically measurable quantity and a nominal definition or definition. Measurement rule for uniform measurement is irrational or completely "meaningless" and, apart from the "art" of counting, does not express any rational thought in relation to an objective reality. The claim that the statement "2+2=4" would make any sense or reflect a rational thought is false. It is only an agreement as well as the statement "2+2=27". No more, but no less. Whether the claim "2+2=4" makes more or less sense than the statement "2+2=27" cannot be

determined or judged "objectively", because ultimately neither of the two statements establishes a reference to an objective reality.

We must therefore state that the mathematics commonly used today is irrational with regard to its use for objective physics, because in order to formulate objectively verifiable (measurable) statements, numbers must be given in such a way that they are always assigned a physical unit and quantity, which in turn defines nominally (in the sense of a uniform measurement rule).

Reference should be made here to the three optional assumptions shown on page 4 regarding the existence of a world formula. The third option (assumption C) was adopted:

> A world formula exists and it will – if it is found – show that our previous knowledge or theories are wrong and that our world view against the background of the final world formula is not only erroneous or incomplete, but "inadmissible" and requires a "rethink".

Almost every "scientific" calculator today uses the irrational assumption that the "circle number" π can be "calculated" into an "irrational" number in the sense of a sequence of numbers in the form "3.1415926535.....". However, this world view is now fundamentally wrong and such a "calculation" or "approximation" (limited to a limited number of decimal places) is not "incomplete", but "inadmissible".

A circle is a mental construct and not a physical body. As a mental construct, the circle is defined by two points or a distance a, which in turn is defined by two points (A and B). This means that

$$\pi \;:=\; \frac{1\,[Länge\ Kreisbogenstrecke\ AB]}{1\,[Länge\ GeradeStrecke\ AB]} := 1$$

The idea that you can simply roll out a circle circumference to a straight path and specify or calculate a length "comparable" to the diameter of the circle includes the concept of "infinity". Because while a distance AB is defined by two points in space, it must be assumed that the circular arc consists of an infinite number of points, i.e. the "circle" mentally embodies a uniform polygon or n-corner in which n = ∞. Physically, however, a circle cannot exist materially, since every material "wheel" or every material circle cannot exist as "infinitely many" and "infinitely small" elements. Not least because "infinite" is not a quantity that is "measurable" at all.

Materially or "measurably" a circle can therefore not exist. The project to calculate the "circle number" π, by hand, with a computer (even if it is a quantum computer) is therefore an irrational undertaking because it corresponds to the project to count to "infinity" or to calculate all uniform n-corners in sequence to n = ∞.

The irrationality of today's definition of the circle number π than the ratio of circumference to diameter

$$\pi = \frac{Umfang\ Kreis}{Durchmesser\ Kreis} \text{ bzw. } \pi = 3.1415926\ldots.$$

is therefore comparable to the idea of determining a ratio of apples to bananas, because mathematically the quotient of apple and banana makes no sense. The expression

$$\frac{Apfel}{Banane} = Zahl$$

is irrational as a thought.
Regardless of what "number" this ratio should represent, the idea that a certain amount of apples should be equivalent to a banana is not a question of "predictability", but a question of definition or agreement. One could agree or define nominally that three bananas should be the same in "value" as an apple. However, in addition to the measures "piece of apple" and "piece of banana", this requires the introduction of another measure. E.B. :

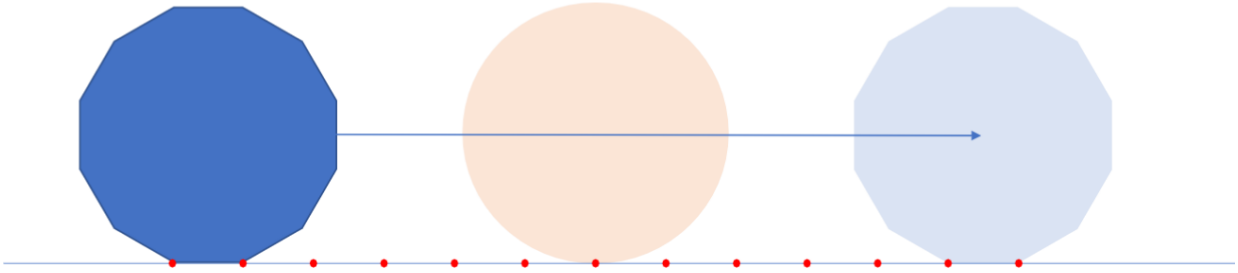
$$1\ EUR = 3\ Bananen = 1\ Apfel \text{ und somit das Verhältnis } \quad 1 = \frac{3\ Bananen}{1\ Apfel}$$

This creates a dimensionless number "one" as a "ratio", according to which 3 bananas are equivalent to an apple. This example illustrates that numbers without a connection to a physical quantity only have to represent a "ratio" of two comparable physical quantities.

This is the case with the circle with the "length" of the diameter and the "length" of the circumference. The length of the diameter is given as a straight line between two points. If we explain this length as a "scale" of the physical quantity of the "length", we cannot use it to measure the length of the circle circumference, since we would have to divide this scale into an infinite number of infinitely small parts in order to be able to "create" it, so that similar quantities, namely straight lines, can be compared with each other. So in order to measure the circumference based on the diameter of the circle – that is, to compare with each other – we have to divide the circumference is a certain number of straight sections. By dividing the diameter into the identical number of sections, a "meaningful" ratio of "circumference" of an n-corner to the diameter of its rotation "body" is created.

A "material wheel" as a "circle", i.e. a (circular) body that would have to consist of an infinite number of infinitely small parts, cannot be thought of rationally. However, it can be rationally thought that every body or shape in space describes a circular surface if this (not circular) body is rotated around an axis, i.e. executes or describes a "movement" in space.

The definition of the "circle number" or the "concept" "circle" presented here (as a "world formula") as a complete rotation of a body around an axis of rotation corresponds to the descriptive physical "measurement process" or the reproducible experiment, in which by "rolling" (i.e. moving) a body to a flat distance its circumference is measured and can be made objectively comparable with this "measurement rule".



Sketched here is the "unwinding" of a uniform 12-corner, in which a circle with a diameter (d) and a circumference (U) is created as a rotational body, which corresponds to "rolled out" 12 times the edge length of the 12 corner.

In Chapter 5.4 (Equation 1) it has already been mentally worked out that time duration and length in space must be "proportional" to each other. However, in contrast to Einstein, we do not set the speed of light in empty space as a "proportionality constant" between space and time.

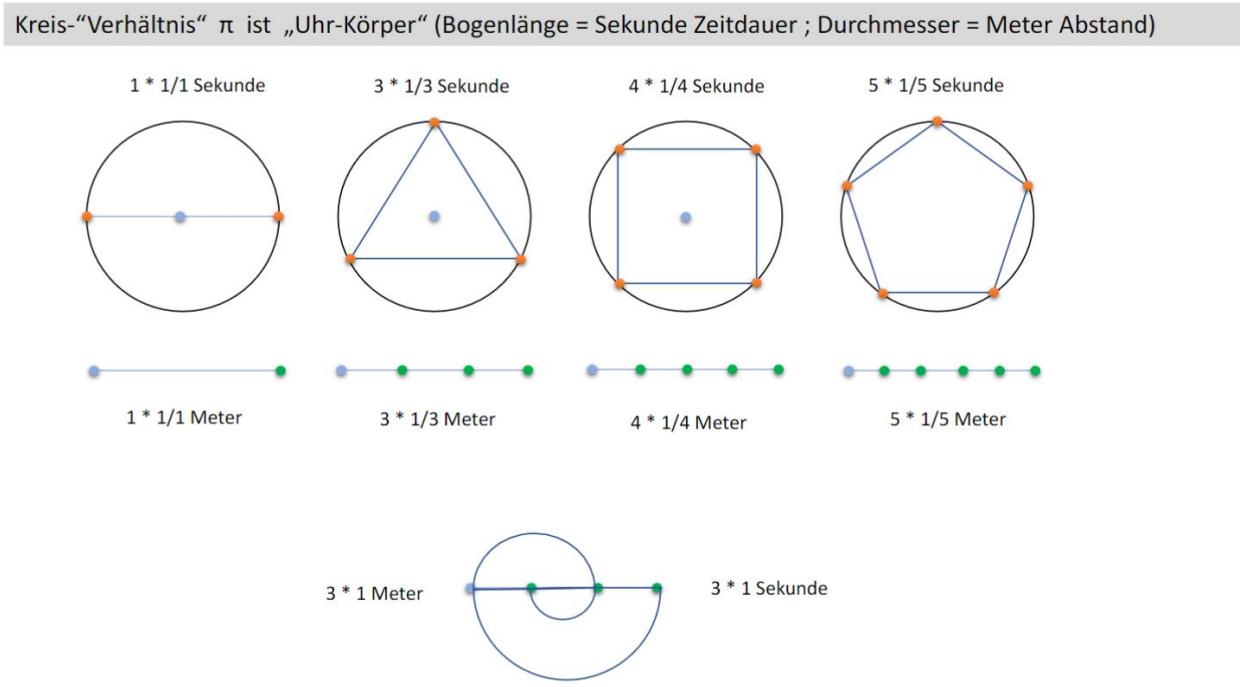
$$1/c[Lichtgeschwindigkeit] := \frac{(1)\ Sekunde\ der\ \ Zeit\ \ (T)}{(2997924581)\ Meter\ der\ \ Länge\ (L)} := \frac{1}{2997924581}\ [\frac{s}{m}]$$

but link space and time nominally with a nominal definition of "motion" regardless of electromagnetism and matter

$$\pi\ [Uhr - Körper] := \frac{Eine\ (1)\ Einheit\ (Sekunde) der\ Größe\ Zeit\ \ (T)}{Eine\ (1) Einheit\ (Meter) der\ Größe\ Länge\ (L)} := \frac{1}{1}\ [\frac{s}{m}]$$

thus, the entire "physics" in the sense of natural laws is thrown back to a single natural constant, namely the mental construct of a circle as a definition of the universal measuring instrument for time and space. The concept of "infinity" then no longer occurs in this world formula, because neither an infinitely small unit of time can exist like an infinitely large unit of time or an infinitely small distance or infinitely large distance can exist in space, since a "measurement" of time duration takes place via the measurement of a length in space and a length in space is to be

measured on the basis of a period of time. Thus, the smallest measurable length of time determines the smallest measurable room length and the smallest measurable room length determines the smallest measurable time duration.



If, against this background, we consider the two pillars of theoretical physics, namely the general theory of relativity and quantum field theory, as well as the cornerstone of mathematics, Euler's identity, it must be stated that all three pillars are based on the concept of the circle number π, understood as the ratio of space length (circumference) to space length (diameter) and thus all of which are based on a completely irrational premise, namely, a thought that contains the concept of infinity, which is inadmissible for rational reasons as shown, if objective science, i.e. verifiable "measurements" are to take place and the theories are thus to be falsifiable.

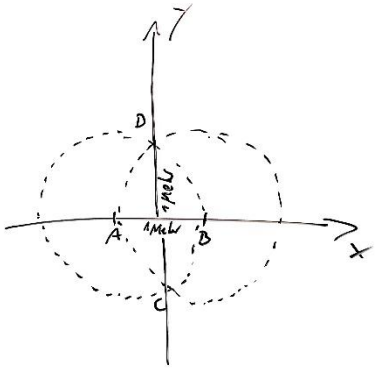
However, objective science is only possible with mathematics and physics, which defines π as the ratio of a period of time (radians) to a room length (diameter) and presupposes it as a premise for the pursuit of objective science.

Einstein and his theory cannot "explain" to us why light and no other body should be able to move faster than the speed of light in empty space - a "natural constant". Rather, this restriction makes no sense at all that could be rationally understood.

It is understandable, however, that of course no object in the still i.e. stationary universe can move relatively faster or slower than the relatively moving observer or the measuring instrument, is obvious and is trivial and easy to understand.

5.8 Construction of the 5-dimensional space-time

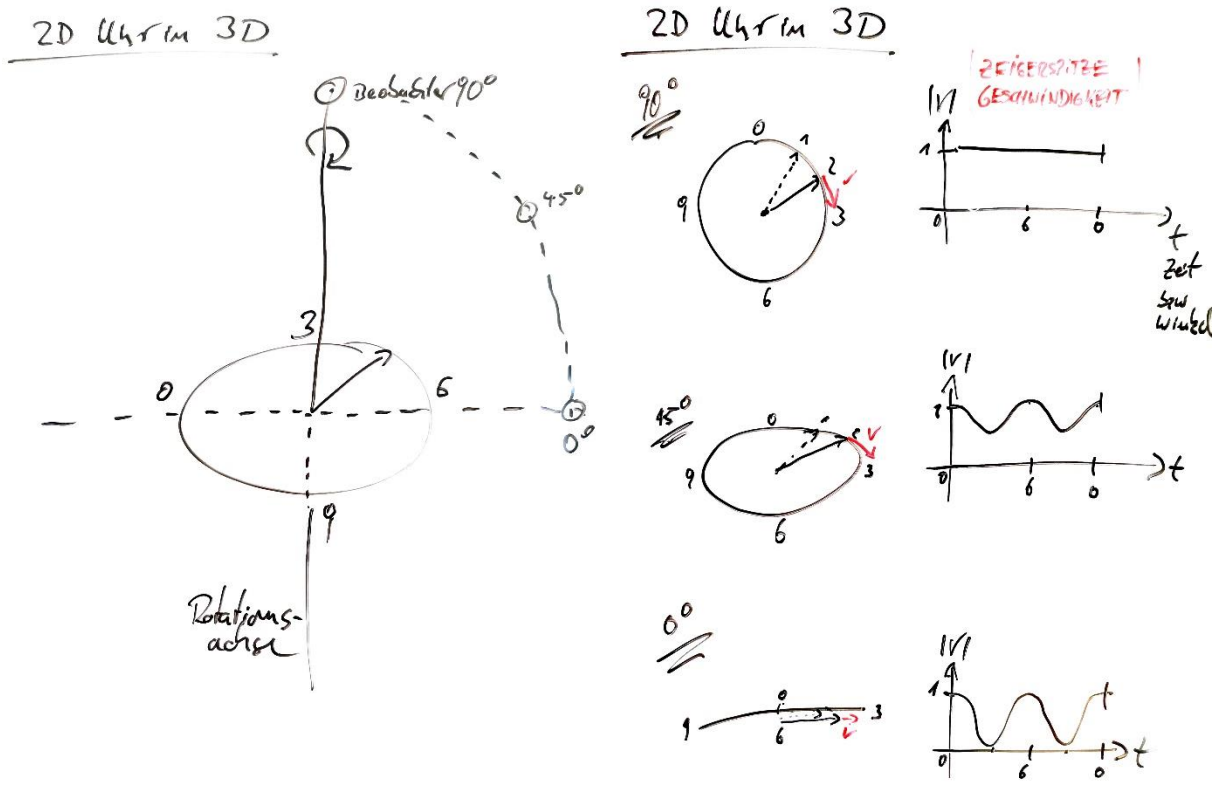
So if we understand the concept of "circle" as (rotational) "movement" (of the observer) and not as a material object, it becomes clear that the measurement rule or the task is a unit of length of one spatial axis to an identical unit of length of a spatial axis perpendicular to it by means of construction by means of two identical circles, whose intersections result in the vertical spatial axis as well as the unit of length on this.



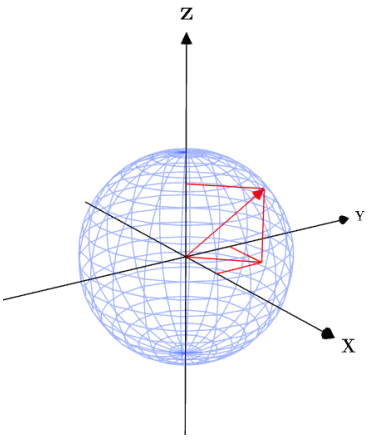
A complete circle (a "unit of time") is just as clearly determined by its diameter, i.e. by two points in empty space, as a straight line or "unit of length" is clearly determined by two points in space. Only by the physical quantity of time can a room length in two-dimensional space be compared with another room length by geometric operations. Here this is sketched for the two-dimensional space.

With this insight, however, we cannot accept Einstein's "time", i.e. the "position of the small hand", as a "clock body". Einstein's "clock" could be imagined as a 3-dimensional pocket clock made of matter, but abstractly, Einstein's clock is not a solid in three-dimensional space, but a body in a two-dimensional space. If Einstein's clock consists of a small hand (the clock body) that rotates at a uniform speed around an axis of rotation, the hand crosses out a circle, i.e. a two-dimensional surface, during a complete rotation.

If we now consider the hand of this two-dimensional clock as an evenly moving object, only those observers in the three-dimensional space who are on the axis of rotation of the two-dimensional clock can agree with the "uniform" movement. Because only from the perspective of an observer on the axis of rotation does the clock appear like a perfect circle and the tip of the small hand crosses out the same room lengths at the same time intervals as the hand crosses out the same areas of space as a whole. However, if the observer tilts down to the plane of the pointer on the axis of rotation, the speed of the pointer appears to fluctuate evenly between a maximum and a minimum of "zero" (in the reversal points"). Viewed from the plane surface of the surface-like clock, the hand no longer crosses out any space surfaces ($m^{2)}$and the movement of the tip of the hand corresponds to a uniformly accelerated pendulum movement. In which the direction of acceleration is reversed at regular intervals.



It is now clear that in order to measure the three-dimensional space as we want to define it according to everyday experience, we need a three-dimensional clock body, i.e. a "clock hand", which not only rotates around one axis, but rotates uniformly around two axes of rotation in space and thus does not describe a circle or circle circumference, but a sphere or a spherical surface.



In order to describe a static universe, i.e. only to determine the locations of all bodies and their distances to each other, a spatial length (distance to the coordinate origin) and two angles are necessary in the spherical coordinate system, one of them in the range 0 to 2 π (360°) and one in the range 0 to π (180°). However, since we have to understand "angles" in our definition circle for space and time not only as location information but as "combined" location and time information, we need a length indication (distance to the coordinate origin of the universe / observer) and two ! Speed information.

While in the general theory of relativity the universe is described with three spatial coordinates and a time coordinate (4 dimensions), in the world formula two velocities and a distance are necessary for description, i.e. 5 dimensions, of which three dimensions are of a spatial nature (L^3) and two dimensions of a temporal nature (T^2).

We can understand the two speeds as relative velocities to the (as a mental measuring instrument) normalized rotational speeds of the observer or the clock body.

5.9 Summary: Squaring the Circle

We have realized that according to Einstein, the definition of time and space contains an inadmissible circular definition for time and that is why we have so far directed an "irrational" view of the universe. We look at the universe from a perspective outside the universe with our previous "theories". From the point of view of a God who still stands above our universe and would be omnipotent in relation to it.

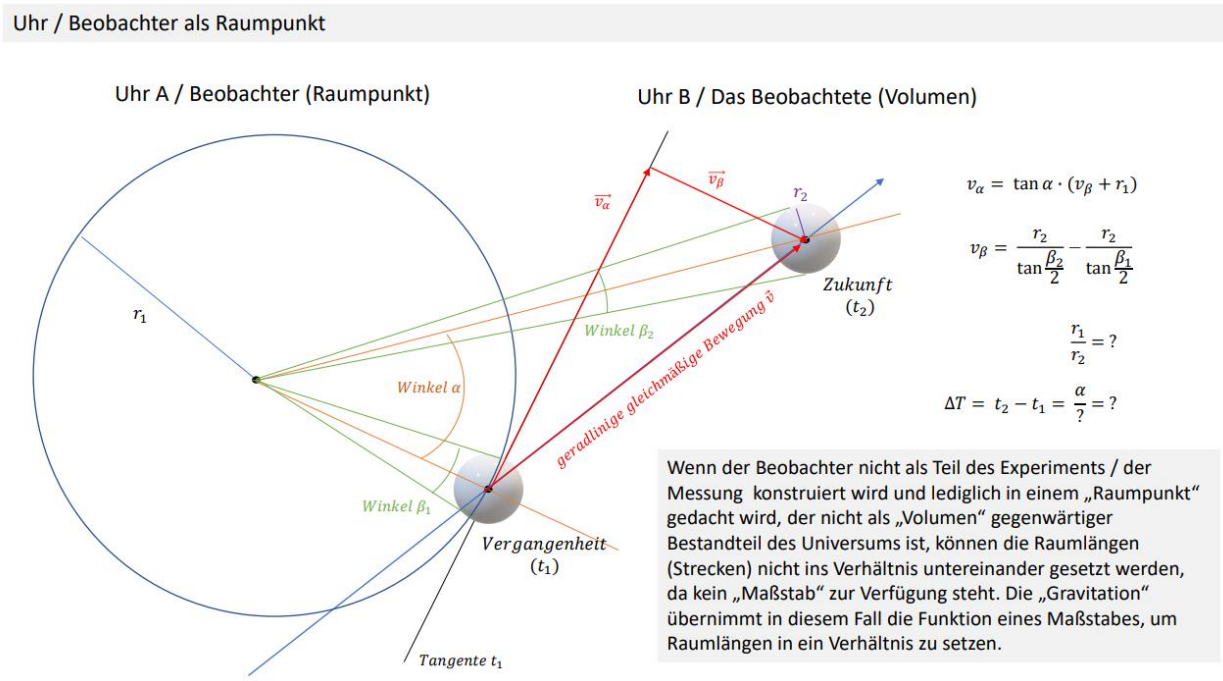
This inadmissible premise is corrected by a rational mutual definition of the three concepts "space", "time" and "movement" in the sense that a "circle" does not represent a surface, but the rotation of a body in space around an axis of rotation. The "circle" thus becomes the concept of "movement" and nominally defines the relationship between space and time in the form

$$\pi\,[Drehgeschwindigkeit] := \frac{Eine\ (1)\ Einheit\ (Sekunde) der\ Größe\ Zeit\ \ (T)}{Eine\ (1) Einheit\ (Meter) der\ Größe\ Länge\ (L)} := \frac{1}{1}\,[\frac{s}{m}]$$

Thus, "time" can be understood as "activity" (mental movement) with which we construct the desired Cartesian space, because without a circle, i.e. without movement, we cannot "construct" an orthogonal coordinate system in which we could calculate a "space" volume as the primary physical property of bodies as L^3 $[m^{3]}$.

Furthermore, we have recognized that only a standardized and nominally defined (volume) observer can be our basic objective measuring instrument.

For illustration, the observation of a celestial body from Earth should be mentioned as an example. First, we discuss the case of a point-shaped observer, as Einstein used it in his definition of simultaneity.

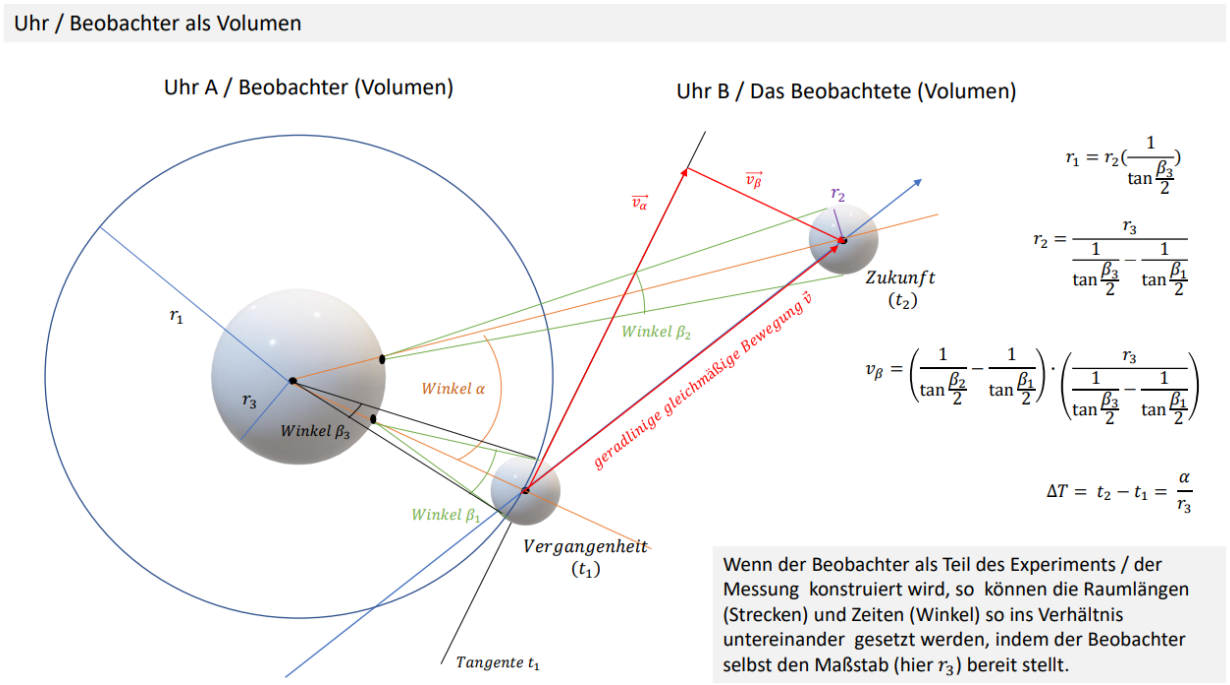


If we look at the Sun from a point on the surface of the Earth, we could conclude from a reduction in the diameter of the Sun (reduction of the angle) that the Sun moves away from us at the speed v_α (assuming that the Sun does not change its diameter). However, since we do not know the distance of the sun to us or its diameter, we cannot put the "angular velocity" α in relation to a "scale" for the "length".

From the observation that the sun seems to orbit the earth, we could also project its orbit onto a perfect circular path with the help of observing the diameter of the sun or the "angle" that the solar body lines and assume that the tangential velocity V_β on it with reference to V_α movement projected on a circular path is a constant (unaccelerated) uniform movement. Even if we have defined such a uniform motion and can put the two angular velocities α and β in a ratio in the sense of an angular change per unit of time, we could not put these two angular velocities in a standardized ratio to the length of space.
However, if we assume that planet Earth itself is supposed to be the observer and that this represents the shape of a sphere absolutely resting in space, we can define an earthly scale (the diameter of the earth) as a "unit of space length".

For this purpose, the starting point of the observation is the earth's surface, which stands absolutely still in space. At the same time, however, the observer brings a benchmark here by referring to the center of the earth, so that the angular velocities can be set in relation to the earth's diameter, the "earthly" scale.

This also applies to the tangential velocity. If either the diameter of the sun in relation to the diameter of the earth were known, one could calculate the distance of the sun from the earth as well as its orbital speeds and exact orbit. Likewise, one could calculate its diameter, velocities and orbit from the distance of the Sun. By extending the observer to a solid or by the new definition of space and time, a 5-dimensional space-time results, in which the two rotational speeds of the observer are opposed to the three orbital velocities of the observed object.

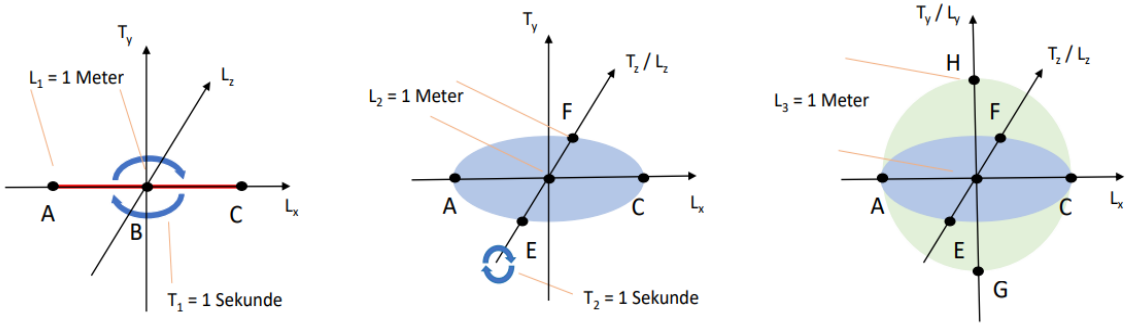


It should be noted here that the one rotational speed of the observer refers to the ratio of a distance in space to a surface in space, and the other rotational speed refers to the ratio of a surface in space to a volume in space.

Konstruktion des 5 dimensionalen „Uhr-Körpers“ bzw. „Beobachters“ $(0{,}5\ [\frac{s}{m}], 0{,}5[\frac{s}{m}], 1\ [\frac{m}{s}], 1\ [\frac{m}{s}], 1\ [\frac{m}{s}])$

1. Strecke $\overline{AC}$ bildet die 1. Raumdimension der Länge $2 \cdot \overline{BC} = 2 \cdot L_1$ [2 Meter] . Eine Rotation der Zeitdauer T_1 [1 Sekunde] mit der Winkelgeschwindigkeit $\omega_1 = \frac{1}{T_1}$ in der 1. Zeitdimension (Zeitachse T_y) um den Mittelpunkt B erstellt die 2. Raumdimension der Strecke L_2 $(\overline{BF})$, die orthogonal auf $\overline{BC}$ steht und ebenfalls einen Meter Länge aufweist. In der zweidimensionalen Kreisfläche stellen $\overline{BC}\ \overline{BF}$ die Einheitsvektoren der x- und z-Achse des kartesischen Koordinatensystems dar. Der entstehende (2-dimensionale) „Uhr-Körper“ bzw. Beobachter sei also definiert durch die physikalische Größe der Drehgeschwindigkeit $\pi_1 = \frac{1}{\omega_1 \cdot 2 \cdot L_1} = \frac{T_1}{2 \cdot L_1} = \frac{1}{2}\ [\frac{Sekunde}{Meter}]$. Die Fläche des flächenartigen Beobachters (bzw. „Uhr-Körpers) beträgt dann : Kreisfläche $= \pi_1 L_1 L_2 = \frac{T_1 L_2}{2} = \frac{1}{2}[Sekunde \cdot Meter]$. Der „Uhr-Körper“ baut also auf der „Naturkonstanten“ $\frac{1}{\pi} = c\ [\frac{m}{s}]$ als „Lichtgeschwindigkeit“ im Vakuum auf.

2. Durch Rotation der 2-dimensionalen Kreisfläche in der 2. Zeitdimension (Zeitachse T_z) mit der Winkelgeschwindigkeit $\omega_2 = \frac{1}{T_2}$ in der Zeitdauer T_2 [1 Sekunde] entsteht ein dreidimensionales Kugelvolumen : Den dreidimensionalen „Uhr-Körper“ bzw. Beobachter. Die Strecke $\overline{BH}$ stellt den Einheitsvektor der y- Achse dar, der senkrecht auf den beiden andern Einheitsvektoren steht und dessen Länge L_3 ebenfalls einen Meter beträgt. Der entstandene volumenartige Beobachter sei also definiert durch Drehgeschwindigkeit π_1 und durch Drehgeschwindigkeit $\pi_2 = \frac{1}{\omega_2 \cdot 2 \cdot L_2} = \frac{T_2}{2 \cdot L_2} = \frac{1}{2}\ [\frac{Sekunde}{Meter}]$. Das Volumen des „Uhr-Körpers“ beträgt mit $\pi_{Uhr} = \pi_1 \cdot \pi_2 = \frac{1}{4}[\frac{s^2}{m^2}]$ dann $V_{Uhr} = \frac{4}{3}\pi_{Uhr} L_1 L_2 L_3 = \frac{1}{3}\ [Sekunde^2 \cdot Meter]$
Und die Kugeloberfläche $O_{Uhr} = 4\ \pi_{Uhr} L_1 L_2 = 1[Sekunde^2]$

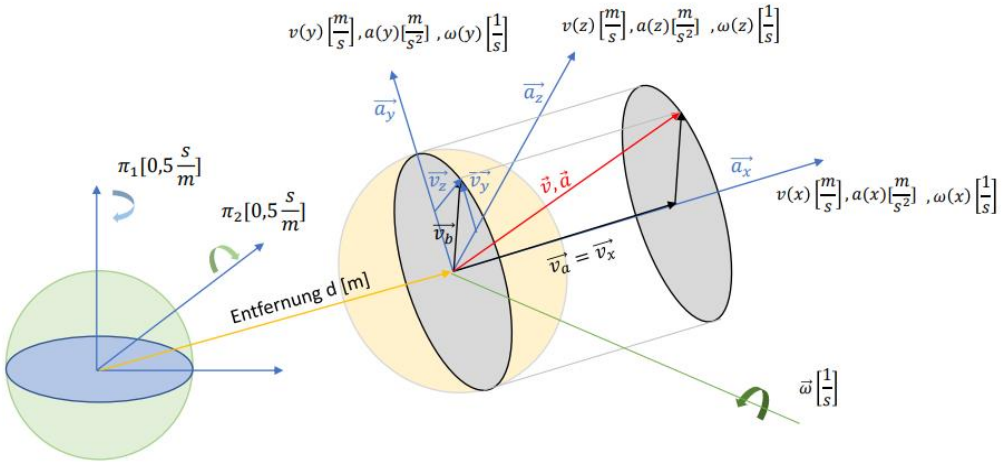


„Naturkonstanten“ sind demnach die Drehgeschwindigkeit der Uhr $\frac{1}{\pi_{Uhr}} = 4c\ [\frac{m^2}{s^2}]$ (c für Lichtgeschwindigkeit im Leeren Raume) sowie das Raumvolumen der Uhr $\frac{1}{V_{Uhr}} = 3\ [\frac{m}{s^2}]$

5-Dimensionale Raumzeit $(0{,}5\ [\frac{s}{m}], 0{,}5[\frac{s}{m}], 1\ [\frac{m}{s}], 1\ [\frac{m}{s}], 1\ [\frac{m}{s}])$

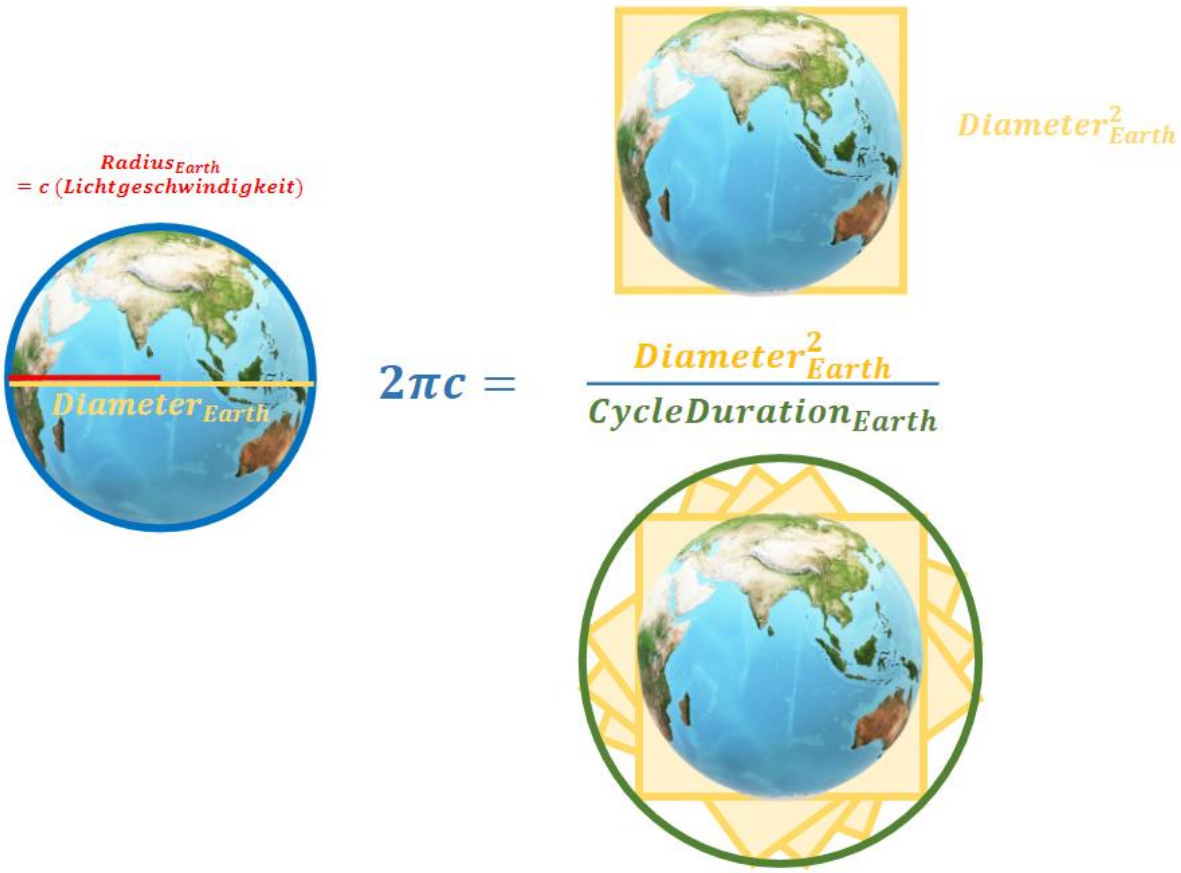
Der Beobachter :
Raum – Volumen (3D)
$(Drehgeschwindigkeiten\ \pi_1\ und\ \pi_2)$
$(Bahngeschwindigkeit\ \vec{v} = 0\ )$
$(Beschleunigung\ \vec{a}\ = 0\ )$

Das Beobachtete :
Raum – Fläche (2D)
$(Bahngeschwindigkeit\ \vec{v}\ \ (\overrightarrow{v_x}.\overrightarrow{v_y}\ und\ \overrightarrow{v_z})$
$(Beschleunigung\ \vec{a}\ \ (\overrightarrow{a_x}.\overrightarrow{a_y}\ und\ \overrightarrow{a_z})$
$(Drehfrequenz\ \overrightarrow{\omega}\ \ (\overrightarrow{\omega_x}.\overrightarrow{\omega_y}\ und\ \overrightarrow{\omega_z})$



5.10 Experimentelle Nachweise: Die Lichtgeschwindigkeit im Vakuum

The fact that the definition of space and time used today is wrong can be tested experimentally in a variety of ways. To illustrate the geometric properties of space-time shown, it can be shown, for example, that the speed of light in a vacuum, which we "measure" and interpret according to today's physics as a "natural constant", in reality represents nothing else than the circle number π and accordingly differs from the originally "arbitrarily" determined sizes of the meter. (1 meter = 1/40000000 of the Earth's circumference) and the second (1 second = 1 / [24 hours * 60 minutes * 60 seconds] of an Earth's revolution).



$$Speed\ of\ Ligth\ c = \frac{Diameter^2_{Earth}}{2\ \cdot \pi \cdot Cycle\ Duration_{Earth}}$$

$$Speed\ of\ ligth\ c = \frac{(12756270\ Meter)^2}{2 \cdot\ \pi\ \cdot 24 \cdot 60 \cdot 60\ Seconds}$$

$$Speed\ of\ Ligth\ c = 299746275\ \frac{m}{s}$$

The deviation of the speed of light c given from the defined period duration to the ratio of the equator diameter is 0.0154% to the value of the speed of light at an altitude of 299792458 m/s as defined by CODATA (Comitee on Data for Science and Technology).

6 Summary: What is "time" really?

Finally, it can be stated that "time" in the physically "measurable" sense is first of all a property of space-time or our perception of the construction of space in our brain in such a way that uniform time durations (angles) are required for the objective measurement of uniform spatial lengths (distances) and uniform room lengths (distances) for the objective measurement of uniform durations of time (angles). To measure space and time, for example, a distance between the space points A and B (diameter of a circle) is divided into a finite number of equally long distances and the corresponding arc (circumference of the circle) is divided into as many equal time periods (angles), so that room lengths and time durations can be measured "proportionally" as soon as a "movement" can be observed.

This understanding of "time" also results from our everyday experience, according to which, for example, we "measure" time in revolutions of the earth around itself (days) or revolutions of the earth around the sun (years). In this way, an angle can be assigned to each time date.

For example, an event 2000 years, 20 days, 4 hours and 3 minutes ago is 2000 years * 365 days + 20 days + 4 hours / 24 hours + 3 minutes / 1440 minutes = 730020.1688 degrees Earth rotations around its own axis back (-) if a rotation represents 360 degrees.

The definition of time in physics as we use it today is therefore incorrect and inadmissible, since this definition does not describe a relationship between space and time, but a ratio of time to time, namely the ratio of the period duration of one Earth's rotation (the original reference for the measure of one second) to the period duration of the radiation, which corresponds to the transition between the two hyperfine structure levels of the ground state of atoms of the nuclide 133Cs.

This "error" in our basic assumptions about space and time "prevents" the formulation of the "world formula". This "current" definition of time is therefore – to put it simply – wrong for the reason that it elevates the premise that the universe is inanimate and determined, i.e. following the idea of the Laplace demon, on the basis of basic assumptions about the past and future, only "principles of action" have to be found and formulated, so that in the end the universe could be

calculated equal to a clockwork and "life" is at most a measurement inaccuracy or a kind of kind of "Random principle".

The erroneous circular definition of time used in physics today does not define physical time, which – as Einstein rightly stated – is connected to space, but merely reflects our irrational "claim" to reality, according to which this reality should be constructed mechanistically and deterministically in causal order.

However, it seems imperative that these two concepts of time
1. The "time" that determines the length of space
2. The "time" that connects cause and effect

to differentiate from each other.

7 Interpretation of quantum theory

Based on the erroneous definition of time, we describe four interactions (or "forces") in physics today that are supposed to describe cause and effect "together" with the premise of a causal order in the form of a time detached from space:

1. Strong interaction
2. Weak interaction
3. Electromagnetism
4. Gravitation

All these interactions are described on the basis of the parameter "time" in the sense that these "forces" link cause and effect in such a way that the forces do not represent "cause" for an "effect" as in Newton's case, but strictly speaking "time" must be understood as the cause. According to Einstein's postulate, any interaction can only propagate at the speed of light. The cause of the action of a causal force (cause) existing or emerging in point A of space in point B of space is therefore not the force itself, but the existence and progression of a "time", which, however, is defined as nothing else than an abstract causal order in and of itself. Accordingly, the "elimination" of the "speed of light", which represents nothing other than the causal order of events, must also allow a description of the universe "without" this illusion of "time" to be established and thus prove that the definition of "time" in physics that is common today is wrong.

This is exactly what physicists John Archibald Wheeler and Bryce DeWitt achieved with the so-called Wheeler-DeWitt equation. This combines quantum theory and general relativity (gravity) into a fundamental equation for quantum gravity that does not require the parameter "time". From a "bird's eye view" (from outside the universe), according to this interpretation of quantum gravity, there is actually no "time" in the sense that it is "defined" in the physical system of units.

The "world formula" thus ultimately brings together the above-mentioned four basic forces, in each of which an interaction or "force" is "cause" for an "effect" to a single interaction or force, which remains as the "cause". This unified force is the "time" itself, or the "time" which is not "angle" for measuring space but is supposed to represent "causality principle". On the basis of this world formula without time parameters, there is then no "coincidence" as it was assumed in the original Copenhagen interpretation of quantum theory. The "time" (in the sense of the causality principle detached from space) determines the events. All that remains is to clarify what this time detached from space is or how it is to be defined.

8 Science and God: The Scientific "Proof of God"

Even if physics does not need the term time to describe the "actual state" of the universe, we have to admit that there is indeed a real "time", i.e. a future and a past that arises from conscious decisions of life and that is not calculable or objectifiable.

The "natural law" "life" simply does not occur in today's theoretical physics and is ignored. Accordingly, "today's" physics cannot explain the existence of life, nor the meaning of life, its cause or its purpose.

At the same time, however, the "proof" or the knowledge gained from research that "time" – as science still uses or defines it today – does not exist at all can be understood as "proof of God" if the question has to be answered as to what the "time" (as a causality principle) that we really observe and perceive should represent, apart from a mere geometric property of space and "movement" as primary concepts of our discussion about Perception. Because what should be "cause" if the "time", the past or the "atomic time", "objectively" does not exist for logically conclusive reasons.

The Indian philosopher Jiddu Krishnamurti, in his discussions with physicist David Bohm, has often pointed out that "the observer" is the "observed". This fundamental insight is also equivalent to the idea of radical constructivism, according to which reality is ultimately (subjectively) constructed in the mind of the observer. Based on this basic assumption of man's ability to cognition and observation, the universe is just as "alive" or a self-"conscious" living being as man wants to understand himself as a conscious living being.

So if time is not understood as an illusion or random principle but as a causality principle itself, then "life" in the universe does not exist as a concept that could be separated from dead matter, but as a concept that precedes and underlies matter. Matter exists because life exists, not the other way around.

"Time" (as a causality principle), which we all consciously experience without being able to "measure" it, objectively represents only the concept of causality and must be defined accordingly separately from the "space-time", which is to be measured with a "clock". If, for example, the universe itself is understood as a living being, i.e. the cause of the existence of the universe is located in the concept of "life", then the previous world view is

"Life arose by chance on the basis of dead matter and the laws of nature"

or

"Life was created by the action of a 'Creator God' within a dead universe"

to be replaced by a world view after

"Life created the universe as a living being".

"Time" in the sense of the causality principle could be understood as a "cause" (or primordial force) or as a concept of "life" in general. Thus, the equation time = cause = God could serve as proof of God, insofar as this "proof" of a higher instance of life can be experienced trivially and intersubjectively verifiable: The universe moves, so it is "alive".

In the past, with the help of a deceptive definition of "time" in history, "science" has thus elevated itself to a religion that denies the existence of "God" and the existence of free will and elevates itself in God's place and – figuratively speaking – hides "God" in a caesium atom from people and from himself.

9 Further Research

After it was shown that the "speed of light" as a "natural constant" describes the geometry and movement of the Earth's body in the solar system and can only be derived from the circle number PI, it must also be shown that the body orbits in the solar system are not based on the principle of mass attraction (gravity), but on the principle of shapes of the bodies (diameters), their orbits and orbital velocities.

Furthermore, it must be shown that within the framework of the "world formula" all natural constants result exclusively from the circle number PI (as a ratio of space and time).