

200th Anniversary of Special Relativity

Özgen Ersan (zgnsn@gmail.com)

Abstract: The special theory of relativity has been honored with high interpretations about human mental performance for more than a century and it played a role in increasing interest in science. With the improvement of methodology and its becoming more competent, the flaws of the theory and its superficial analyzing became transparent, and in its 200th anniversary it became the case for the error file in the history of science. Through this widely known example, this study summarizes the reasons why humanity is deceived oneself while searching for reality.

Keywords: Philosophy of Science; Methodology; Atomically precise; Relational integrity.

Introduction

The Special Theory of Relativity (SR) was improved by Lorentz and Poincaré by inspiring the prophecy of Fitzgerald contraction, and it was published as an article by Einstein. The theory did not catch any significant interest for a period of time; however SR became the idol of humanity thanks to the media's efforts on theory's interesting inferences; It had been the subject of tens of thousands of publications, had become a part of the general culture, was celebrated on its first century anniversary, and its reputation reached its peak. These celebrations brought along antitheses and caused to be reconsidered by some scientists that they have advanced scientific paradigm. These discussions were reflected in scientific articles and the process of making clear the arguments about the theory's flaws began. The defenders of the theory even took chauvinistic attitudes, but one by one withdrew from the arena in the face of alternative and more sophisticated definitions. This table has increased the importance of philosophy of science and methodology. The fame of the theory has caused to interest of more competent thinkers. The protecting of the theory by its admirers also motivated the opponents.

Mental analysis by atomically precise

The organism called human is structured in a necessary and sufficient order in the axis of survival. Some of the natural phenomena and events can be so complex that this formation cannot cope (e.g. Galileo phenomenon: Sun-earth rotation relation). Efforts to define the natural realities and events begin with coarse / shallow approaches (usually accompanied by one or two factors), new intuitions emerge with the signals presented by the anvil of life (new factors are considered), and a "revised definition" develops throughout the process, and it approaches to the natural truth. The extreme point of this process can be called "atomically precise analysis". In other words, it is obvious that a more accurate definition will be realized when the thinness of the main and intermediate definitions can no longer divisible. This can be called "seeing the whole picture" or "considering the relational integrity". Bertrand Russell described himself as "mental atomist": "Analysis lasts until they are based on things that can no longer be resolved, which are "mental atoms." [1].

The special theory of relativity was exempted from being deeply scrutinized (by mental atomic level analysis) due to chauvinistic positive discrimination and remained undeveloped in its original form.

According to the advanced and competent methodology, the issues that prevent the internalization of the SR and cause its defects to be hidden are as follows:

- 1- The coding of "light" was used as the test subject in most explanations of the SR theory; and the mean of continuity of light caused confusion and misunderstanding or aborting of understanding. Advanced and competent methodology has emphasized the need for a "defined single photon" as the test subject.
- 2- Similarly, it was neglected to state that the light / photon was directed by a perforated plate filter in the narratives, and the question of which photon paths in 41253 spherical degrees (and fractions) to be preferred was left idle for the mind. This ambiguity made it easier for the narrator to manipulate the analysis process according to his own goal. SR only performed the analysis in the + x direction (both the source and the photon traveled in the + x direction); other directions were neglected, no discussion of other directions (e.g. while the source is going in the - x direction) was brought to the agenda for 150 years. It can be perceived that technical analysis / internalization of SR was not performed except few people. Analysis was neglected in other aspects, although the principle of their methodology required this option. Since photons traveling in different directions from the source will have a diverging speed from their source by the value ' c ' in line with the definition of "exact relative", the different rate of time tempo and length contraction would be required for each direction, this is impossible when all of them are considered simultaneously; it is against causality.
- 3- In SR theory, the measured speed of light had been labeled and used as the increasing speed of the distance between the photon and its source (that is, "exact relative") . It was presumed that the light velocity measurement experiment (organized by a round trip double-track and continuous photon current) can measure the velocity in this definition (The speed of moving away from its source). This was a habit or shallow first approach from mechanical experience, and for the last fifty years it has been realized that this arrangement can measure the relative speed value of light according to only space (or according to the light itself by abstract thinking; -effectively- to Light Coordinate System: LCS) [2]. The presence of other hypotheses except initial intention (that are supported by the same experiment) had not yet been investigated; there was no such consciousness and protocol; the result of the experiment was interpreted in line with the initial intention. In the experiment of measuring the speed of light, this initial intention functioned as a sort of hidden postulate (as the "speed of moving away from the source").
- 4- In theory, the types of relativity had never been considered. The velocity of light ' c ' had been used directly by the meaning of "genuine relative" according to its source (without examining the essence of relationship between photon and source). If the example of the movement relationship between the player and the ball in the definition of "hypothetical relativity" could be internalized [3] (if it could be examined at the mental atomically level), this fallacy of science that lasted more than a 150 years would not have been experienced.
- 5- Although the "common reference frame" was used as the gold standard in the analyses during the period, theory SR preferred to analyze was made by isolating the "photon / light and its source" from the whole universe, and then the superposition process was not applied. Routine reduction method was used excessively in theory SR analysis; Even the hierarchical ranking of formations (reference frames) in the universe [micro systems, satellites, star systems, galaxies, galaxy clusters,... universe, multiverse, macro system (space/LCS)] had not considered. Consequently, the motion option of the photon velocity with the different relative velocities of the moving object relative to consecutive reference systems has also been neglected. At least if this could be done, probably it could be perceived that the photon

velocity is identical to the outermost frame possible (LCS: Light Coordinate System or outer space). In the current light kinematics principles, the c value of the speed of light and the value of the vectorial resultant velocity (V_U : the speed of local object on universal scale) of the light source according to outmost reference frame (space) including the entire universe can be processed together (Physical quantities - for analysis - must take values according to the same common frame: calibration of parameters)

- 6- Since there is no protocol for the accurate determination of the theory and analysis target, the theory / analysis presuppositions and process were chosen in accordance with the wrong purpose (for confirming the Fitzgerald contraction). Nowadays, the subject of the theory under the principles of competent methodology is "**light kinematics**". While the light kinematics should be analyzed with minimum ten main factors [2], the Special Theory of Relativity is built on only two postulates. Similarly, the "Phlogiston theory", which is the first description of the burning event, was unaware of the "oxygen and oxidation" factor, and sought ad-hoc defense with a fantasy prophecy such as "negative weight". Connective integrity should be ensured by analysis or superposition with the required and sufficient number of factors.
- 7- A considerable number of scientists and people -who are interested in light kinematics and who can perform the analysis personally- revealed some flaws of the theory in the 2000s. But they could not create a leavening effect. Most physics academicians - despite their competence - did not take the burden of analyzing more than two factors simultaneously, and they preferred to disdain those who objected by relying on the general acceptance of SR. It was only in the last fifty years that the weakness of the theory began to be perceived when methodology gained competence with its experience from energy-based technical researches. SR became a cherished myths or most favorite example of the title of errors in science in textbooks.
- 8- The essence of the theory SR had not been understood properly and sufficiently. However, it was idolized and exempted from being scrutinized due to its mystic/ fantastic inferences like "time travel". The theory has not function except astronomy and cosmology (that it has a prevention role for cosmological analyses because of non-simultaneity). While most people focus on fantastic inferences such as time travel, they have not been able to see the inference of the SR mentality requires that the way of the photon (that has not gone yet) will be shortened because of the speed of its source. Einstein concealed this absurd inference - in his book - by organizing the "gedanken/mental" experiment within the train; the train is shortening due to train's speed; those who ordinary read think -indirectly- that the light path is also shortened; when considering the outer space conditions, this inappropriateness can be seen in all its nakedness.
- 9- In the SR analyses, the "observer" was considered as an actor of the event. The observer cannot see natural phenomena simultaneously because of finite/limited speed of light and therefore limits each event to the speed " c ". The upper limit for the analyses without observer and hypothetically relativity is " $2c$ " (The diameter of the light sphere -whose radius increases with speed c -, inevitably increases with speed $2c$). This has taken its place in the history of science as a typical example of the anthropocentric stigma.
- 10- At the end of the past 200 years, supporters of the theory SR can still be encountered. These are probably the ones who usually can't give up their relish of mysteries. Of course, multifactorial analysis requires serious training and high paradigm for science; this is also a serious factor to overcome the SR.
- 11- The "essence" is unavoidably forcemajor. "Truth" is always above the benefit. Advertising cannot provide what is not in the emtia. Propaganda success did not save Hitler. The special

theory of relativity has also gone down in history as a "second Galilei event" despite being idolized by thousands of publications, chauvinist patronage and mystery lovers.

12- In 200th anniversary of SR, the off-side positions were registered for some scientists who declare idea without knowing the essence of SR. In the researching adventure of humanity, a side branch of physics has entered to a dead end and exited; this period of ~ 200 years was not lost and was useful for assimilating the precision in methodology. A person who maintains the belief that the Sun turns around the Earth in the 1900s would not be functional in the academic field. Similarly a person (who has not overcome the special relativity theory mentality) will not be a candidate to establish/improve the science in the 2100s, especially in the area of science philosophy.

Discussion

We cannot simultaneously see the objects/events because of finite/limited value of light's velocity. We see an amazing/illusion view of sky. Each one of celestial objects is perceived at its ancient position and age; but we see all of them in the same frame (wonder or illusion of nature). The reason of this illusion is finite/limited value of light's velocity; this factor is primary reason for light kinematics and cosmological analyses. A first elaborative cosmological analysis was realized by considering this and other some factors by LCS method (without the theory SR) [5]. This cosmological analysis distinguished and presented the flaws of SR (which are explained in this text) as a byproduct.

Conclusion

Humanity has achieved great success in the field of exploration of the universe and life, inventions that increase comfort, in short, in science. Since the Renaissance, science has been on the rise and the speed of scientific development has accelerated especially in the last hundred years. This rapid development has also raised the methodology and made it more competent. Humanity had the dogma that "the sun turns around the earth" accompanied by visual evidence until Copernicus and Galilei. Thanks to the holistic view, the insight of this dogma (the mistake of assigning the local body / medium as a reference frame) was comprehended. The special theory of relativity, which has become a similar stigma, could not resist this competent methodology - despite being treated as an idol with admiration. Humanity has spent two hundred years to comprehend the inappropriateness of trying to analyze the light kinematics with only two postulates; that while light kinematics requires at least ten factors. In the essence of the first Galilei incident, it was misleading to describe the motion of the reference system by looking from the relative position; the second Galilei event (the error of special relativity theory) also caused an illusion in the same context.

References

- [1] Interview with Bertrand Russell https://www.youtube.com/watch?v=Rv_Ci4dB3NY
- [2] One Way the Speed of Light <https://www.researchgate.net/publication/342438271>
- [3] Weakest Point of Special Relativity <https://www.researchgate.net/publication/339428643>
- [4] General Theory of Relativity contravenes SR <https://www.researchgate.net/publication/349338847>
- [5] Ersan Ö., Ersan I., Physics Essays, 2013, **26**, 1 (Doi:10.4006/0836-1398-26.1.49)