Unfortunate Special Relativity

By Y. Keilman

The amount of criticism that addressed to this theory is getting tremendous. The recent publication on the W. Babin site:

Special Initiative: *G. O. Mueller, K. Kneckenbrodt:*
95 Years of Criticism of the Special Theory of Relativity (1908-2003)
Summary of a research project presenting documentation of 3789 publications critical of
of the theory.

States:

   The critical reader comes to the conclusion that special relativity is an unreasonable theory propagated to the public in academic and high school teaching to be the greatest achievement, together with suppression of any criticism. At this stage of experience the persons behind our Research Project decided to start work. The criticism of all periods in all languages and from all countries has to be searched, documented and brought to the attention of the public. The message to the German public is: since 1922 the criticism is suppressed, the critics are calumniated, the public is told lies about the scientific value of the theory of special relativity. In 1922 the physics community as part of the greater science community has broken away from the tradition of search for the truth, a rupture of the tradition - as far as we know - never before committed by a whole branch of science and with the knowledge and support of the greater scientific community.
We are confronted with the great mystery of modern physics:
(1) Why has the rupture of the tradition been tolerated by the whole "scientific community"?
(2) Why has it not been detected by the public?
(3) How can the academic physicists hope to continue forever without one day being called to account for their acting?
(4) What are the motives of the academic physicists?

We have "the great mystery of modern physics" in front of us. But before we put down SR, let us go a little longer on "the tradition of search for the truth".

In the practice of contemporary theoretical physics SR boils down to the requirement that each physical theory has to satisfy the so-called "condition of relativistic invariance". That simply means that all physical values in a theory must be presented by the mathematical symbols that have a definite 4-dimensional meaning.

Is this "the greatest achievement" of the century? Actually it is (I am talking about SR but definitely not GR) because the previous practice of using 3-dimensional space with time as an independent parameter (3-d setup) is wrong from the mathematical point of view. Maxwell used 3-d setup and it was correct because of full correspondence of his equations to 4-d setup. Newton used 3-d setup in his mechanics and it was wrong because his equations needed to be changed in 4-d setup (relativistic mechanics).

I just said that using 3-d setup is a mathematical mistake. That means that SR does not need to reach for the experimental support (contrary to Einstein). It can be

proven true because any statement in mathematics can be proven true or falls.

Now I feel that I owe to reader the more detailed explanation.

1. Mathematics by itself has no contact with physical reality. It is entirely the production of human mind. It had started out as a study of numbers.
2. In theoretical physics we use mathematics. It is necessary to state correctly how do we use it.

The most important property of a number is its identity. Example: the number 64 in decimal is unique. Written in binary it will be 1000000. If we use this number in physics (for example to indicate a temperature of an object) we state that only the identity of this number reflects the temperature, does not matter in which math form the number is written. The digits 6 or 4 taken separately have no relevance to the temperature. It is math accessory.

N-dimensional numbers come in several categories: points, scalars, vectors, tensors of different ranks. Let us take point in 2 dimensions. It has two coordinates x^1 and x^2. Each point is unique. It has its unique identity (say: point A) and it is just one identity. How come the two real numbers x^1 and x^2 define just one identity? That means that the coordinates do not carry separate identities as the real numbers any more. They go to the accessory category. When, later on, we use a math point as a representative of some physical point, we state that only the identity of math point reflects the physical point and the coordinates of the point taken separately have no relevance to the physical situation – they are the math accessory as above. But what difference will it make?

For the theory of a stationary physical objects we can use 3-d numbers without time. The Euclidean metrics is the simplest one. In this situation we've learned how to do it right without referring to the concept of identity and without even touching the subject of metrics. Not so when the time gets involved. The first mistakes were made with the Galilean transformation. The vector and tensor algebra (which is based on the identity conservation principle) requires that the metric tensor should be handled properly along with the transformation. Physicists were taken by surprise: they were not used to handle the metrics. They did not know the vector and tensor algebra inspite of the fact that it was developed in mathematics long before the crisis in theoretical physics occure. Riemann had used it in his geometry in 1855 and, most likely, it was known even before that. Physists did use all kineds of curvilinear coordinates in Euclidean space (like spherical coordinates) but for that were developed the special procedures that replace tensor algebra only in the case with Euclidean metrics in original coordinates (x,y,z).

95 years has passed and the physicists learned nothing. Why? Because they are too naïve. They did not check by themselves the information that was presented to

them. Einstein did misrepresent SR (We can not claim that it was intensional, and even if a part of it was intensional he had a right to do so). He claimed that coordinates have the physical meaning because they can be "materialized" by physical objects (frame of reference). But the truth is different. Time coordinate t of a moving physical clock is one real number. If we try to materialize it by a resting clock then to describe the resting clock besides t=t we need olso specify that x=0. The fact that x is zero should not slip from our mined as if it does not exist at all. The same is with the resting meter.

The separate coordinates of a point (as well as the separate components af a vector or tensor) have no physical meaning at all