

ABSTRACT

Some philosophy of science principles in the form of razors, analogous to Occam's, are enunciated leading to the conclusion that Einstein was right to utilize the concepts of relativity and space-time but wrong in attributing those concepts to physical reality.

ON THE PHILOSOPHY OF SCIENCE: SOME RAZORS

Occam's Razor: When you have two competing theories that make exactly the same predictions the one that is simpler is the better.

Occam's razor is often invoked to select Einstein over Lorentz on the basis that it was simpler to eliminate the postulation of an ether. Whatever a Razor means is not exactly clear (I couldn't find a definition in the dictionary). I have also been unable to find any other razors delineated since the fourteenth century. It may be presumptuous of me but herewith some new Razors.

Razor # 1: That theory is best which comports or correlates best to physical reality.

So, if an ether exists, special relativity comes in second. Moreover in accordance with:

Razor #2: The theory that yields the most accurate results is not necessarily the best theory.

When Newton and Leibnitz invented the calculus they demonstrated what has historically been recognized as an unprecedented intellectual accomplishment. Invoking the use of singularities to get precise answers to real problems does not mean that a singularity can be assigned to reality. For example, the value of π as derived from the use of the calculus resulted in an infinite series and a significant improvement in its value. However no circle has ever been made by the sum of an infinite series of triangles of infinitesimal area.

The concepts of relativity, space-time and the analogy with gravity resulted in impressive quantitative predictions and confirmations of both the special and general relativity theories. Despite the value of these concepts they are not in conformity with physical reality. This is not to depreciate the eloquence and practical value of Einstein's work; it is simply an expression of a desire for a better model. Thus it turns out that the extensive efforts of NPA folks to try and discredit Einstein might better acknowledge that he was both right and wrong and proceed to the development of the better theory.

Razor # 3: Nature abhors a singularity and there are no examples of singularities in the real physical world.

Around the year 2000 I presented a paper: "Discontinuous Ether Model"¹ wherein I proposed an ideal gas-type model for an ether whose particles (I termed them ethertrons) originated in the core of the star. At the time I was unaware of the work of Steven Rado² who had a much more elaborate and coherent theory of an ideal gas-type ether with explanations for numerous electromagnetic and gravitational properties. I thought my model, though lacking Rado's justifications, had the advantage of defining a source for the ideal gas-type particles and accounted for stellar aberration, something I thought was in conflict with Rado's model. Carel Vander Togt³ proposed two ethers: a local one about the star and a universal one. At this time, although I believe an ideal gas-type ether will eventually be proven to be in accord with physical reality, I don't believe Rado's, Van der Togt's or my model to be correct.

The point of this essay is to elaborate on the concept of these razors that were implicitly expressed in my prior paper but were not formalized as razors and how these razors impact the search for theories corresponding better to physical reality than relativity, special and general.

It is interesting that Einstein had a problem with quantum mechanics similar to the one I have with relativity. The problems I have with relativity are:

1. Acknowledgement of the constancy of the velocity of light being independent of the observer's motion does not explain why this is the case, Such an explanation is accomplished by presuming an

- ideal gas-type ether wherein that constancy is interpreted as a limiting (terminal) velocity in the ideal gas-type medium¹.
2. Assuming that gravitation is a property of the mass of matter rather than an interaction of material things with an ideal gas-type ether results in the concept of the black hole. This concept is in conflict with razor #3. Further discussion of razor 3 is in order:
 - a. Frederic Engels⁴ explains how change occurs in nature. He generalized Hegel's concept of qualitative change resulting from quantitative change to the world of economics as well as the physical world. This philosophical justification for "Marxism" may not have worked out but it is my opinion that this judgment as to how change occurs in the physical world is still valid.
 - b. An example of how change occurs is the answer to what came first the chicken or the egg. The answer is that the egg came first and that it was the result of a spontaneous genetic qualitative change, or so-called "Mutation" in the pre-chicken species that resulted in the more adaptable, chicken.. On the other hand, the qualitative mutation may be the result of quantitative genetic changes insufficient to reflect upon the changed adaptability status of the "pre-chicken"

Some comments on the Big Bang and Black holes.

The concept of the big bang rests exclusively on an expanding universe that, in turn, rests exclusively on interpreting all red shifts as "Doppler" red shifts. It is really hard to conceive of a Doppler shift without the concept of a medium (ether). Although I don't happen to agree with Halton Arp's⁴ (an NPA member) interpretation of red-shifts that are not Doppler, I think that cutting off his telescope time at Cal Tech⁵ because his observation were in conflict with conventional wisdom was an action comparable to those of the Inquisition. I think there are other than Doppler causes for red shifts (but not blue shifts)¹. I do want to predict that the big bang will be put to bed when a successor to the Hubble telescope reaches further back to detect electromagnetic sources that antedate the big bang.

Concerning the concept of the black hole that comes about as the result of the concept of gravity as a property of matter per se, it is clear that there is

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an organizing force at the center of galaxies. The conventional wisdom that this force comes from a black hole requires some explanation as to how the first galaxy whose star became a black hole came about. Rightly or wrongly I am not uncomfortable with the concept that the organizing force at the center of galaxies has an explanation other than a black hole.

Twin Paradox

I have a friend whose intellect I admire. He believes the twin who travels out into space for ten years at near the velocity of light comes back nearly ten years younger than the twin who stays home. He points me to examples of time dilation experiments of all kinds that have been performed and says that Einstein's predictions have always been confirmed within the margin of experimental error.

Herewith my answer, my take on the twin paradox:

It is not unreasonable to ask why the velocity of light is a terminal velocity for all other forms of matter. The answer I have postulated is that, analogous to the speed of sound in air, the speed of light is a terminal velocity in an ideal gas-type ether. Although the speed of sound can be exceeded by aerodynamical design of vehicles and protect its passengers, space ships would be transparent to the ether particles and its inhabitants would experience the same effect of the ether on them.

What happens to a person inside a space ship traveling near the velocity of light is the same as what happens to clocks. Everything slows down as the terminal velocity is approached. The heart muscle cannot pump without exceeding the terminal velocity. All metabolic activity involving motion will similarly be affected. In other words the twin in space would die.

The fact that experiments in cyclotrons predict changes that correlate with the slowing of clocks simply means that these changes are slowed accordingly.

I believe that if an anaerobic small life form were enclosed in a small charged enclosure and accelerated in a cyclotron near the speed of light for a short period, the life form would be dead on opening the enclosure.

References

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- (4) *Anti-Dhuring*, Frederick Engels, Progress Publishers, 1947
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