

full covariance requirement of general-relativity theory, even though it does incorporate the Hubble law.

On the other four points, such as my conclusion that the Lorentz contraction does not imply an actual physical contraction of a material rod (because the Lorentz transformations are not cause-effect relations)—yes, I do think these things. But I did show how these ideas follow logically from the view of space-time as a *subjective* language, whose purpose is to facilitate an expression of *objective* laws of nature. But merely to say that the author is no expert because—"He thinks that..."—and to issue warnings that "publishers should be more selective" and "the innocent reader should beware," *does not scientifically refute anything!* These warnings are indeed in the same class as dogmatic warnings that we (painfully) hear today, referring to the danger of "bourgeois" ideas, or the warnings (of 40 years ago) about the corrupting power of "non-Aryan physics," or (of 400 years ago) of "heretical natural philosophy." Along with the variety of adjectives in these different periods came the same warnings: "the innocent reader should beware." However, the fact is that we do live in a free world today, in the West, and the reader doesn't need Rindler to protect him from dangerous and corrupting ideas! He is indeed capable of thinking for himself and making up his own mind about the scientific validity of ideas. Therein lies my optimism for the future.

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Good news on death

In a recent letter John F. Davis (July 1975, page 11) suggested that physicists died at an early age compared to the US white male average. This conclusion was based on an analysis of 192 obituaries in *PHYSICS TODAY* from August 1969 to January 1975. He calculated the average age of death to be 64 which seems vaguely small compared to the white male life expectancy of about 69. It was pointed out to me by M. Bolsterli that the average age of death is a rather meaningless number. For example, suppose we have a group of people, all 40 years of age in a given year; if some died during the year, the average age of death of the people who died would be 40, but this number says nothing concerning life expectancy. Clearly the average age of death in a group of people, over a short time period, depends strongly on their age distribution.

I have performed the following calculation: Assuming that the age distribution of physicists in 1968 was roughly that of science PhD's and using the 1968 death rates for US white males

from the 1971 Reader's Digest Almanac, I calculate the *expected* average age of death to be 57. In the above calculation it was assumed that the distribution of physicists between 70 and 85 years of age was that of the US white male population. Since the average age of death calculated by Davis was 64, neglecting error bars, we may conclude that physicists live longer than the average white male.

Finally, we should note that immortality is not ruled out by the data. (One example of immortality would invalidate all previous theories of life expectancy.) Since this possibility would have enormous implications on retirement and tenure practices in universities and industry and I feel that large sums of money should be spent on further studies of the type presented in this note.

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Rhymes, for different times

As I told it to my children on a vacation in Florida in 1932: "The Sun is Good for you."

Sun and Sand

Little photons from the sky
Fall upon us or we die.
So we lie upon the beaches,
Where the quanta "h-nu" reaches
Energy sufficient to
Put D-vitamins in you.

As I now tell it to my grandchildren in 1975: "The Sun is Bad for you."

Ultraviolation

Freon rising with our prayers
Damages Earth's upper layers.
Strong quanta through the ozone
passes
Burning hides right off our asses.
Such photons falling through the sky
May make some of us sooner die.

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Why "B"?

If anyone should happen to know how the symbol *B* became adopted for the magnetic field, I would appreciate the pertinent references.

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Correction

January, page 26: In figure 1, the labels for the hydrogen- and helium-burning rates are interchanged; they are also identified incorrectly in the caption. The gray line represents the hydrogen-burning rate and the black line, the helium-burning rate. □

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