

CALIFORNIA INSTITUTE OF TECHNOLOGY  
PASADENA

DIVISION OF BIOLOGY  
TRCKHOFF LABORATORIES OF BIOLOGY

September 15, 1952

Dr. Joshua Lederberg  
Genetics Department  
University of Wisconsin  
Madison 6, Wisconsin

Dear Josh,

In the Sept. 5, 1952 number of Science there is an article on the subject of hearing in porpoises which contains, among other interesting matters, the word "transducer". I was surprised to find this term in a context which is about as far removed from Salmonella Genetics as it easily could be, and so I looked it up in Webster's New International Dictionary. It is defined there as follows: "A device activated by power from one system and supplying power in the same or any other form to a second system. For example, a telephone receiver..." An electronics friend tells me that the word is in fairly common use among electronics engineers, and he pointed out that it properly could be -and probably has been--used in biology to refer to the sense organs. Obviously there are many other potential biological applications of the term.

This, however, did not conclude my hideous discoveries. My curiosity aroused, I thumbed through this 1936 dictionary looking for others of the new words of microbial genetics. I was astonished to find two more of them. One of them-- "syntrophic" is, happily, defined in a way which is consonant with its current usage in microbial genetics. Possibly you consulted the dictionary before suggesting the use of this term. However, this can hardly have been the case with "prototrophic" which Webster defines as follows: "Deriving nutriment, or the energy of anabolism, from uncombined elements, as the nitrogen fixing bacteria and sulfur bacteria". There is no sign that this usage is obsolete. In fact, I found the word in the first two bacteriology text books I picked up, (Tanner, Frobisher).

It seems only too evident that the old and the new definitions of the terms cannot coexist. So far as I can see, any reasonable solution requires that the new definitions be withdrawn.

This business naturally raises the question of how much philological research may be expected of an author who desires to launch a neologism. I'm not prepared to give a complete

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answer to this at the moment, but I imagine that everybody will agree that the consulting of an unabridged dictionary is a minimum requirement.

Beyond this is the more fundamental problem of deciding in any given instance whether or not the <sup>in</sup>coming of a neologism is justified. There has been a tendency, I think, to fabricate neologisms merely as a matter of convenience. In my opinion, convenience by itself is not a sufficient ground. There must also be a large element of need before a neologism is justified. Otherwise we will soon have a jargon which is intelligible only to a priestly class of initiates and which hinders rather than facilitates communication.

With best regards,

Sincerely yours,



N. H. Horowitz

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cc: Dr. Francis Ryan