

Memo from  
JOSHUA LEDERBERG

To: Dr. Nancy L. Maull  
Dept Philosophy  
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FEB 23 1978

... reductionism

Thank you for the reprint.

Your argument resonates with my own increasing conviction (perhaps shared with Popper) that the questions asked in a science are more important than the explanations.

In any event, I am also delighted that a philosopher is looking at the actual history of scientific development, and especially when this is in my own field. I hope we might have some occasions for more extensive discussions of these issues, and especially (from my perspective) how they can help in the management of research.

Your first footnote prompted me to dig out a couple of items:

1) An important attack on the over-idealization of 'the gene' by Haldane.

2) Evidence that unprofitable doubts still persist, though by now confined to an older generation. (Brom Pais tells me this is a backwash of the shattering effects of Heisenberg on the world-structure of classical physicists).

My own Nobel lecture (1958-9) was intentionally calculated to certify the first sentence of your article. (Only Lindegren complained directly about it; Barry Commoner was the die-hard, before he turned to his equally foolish ecological thermo dynamics).

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p. 149 transformation and transduction are further examples of appropriated terms: they have ended up both being horrendous-- transformation a/c vagueness; transduction a/c confusion of subject and indirect object.

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To:

Further, I had intended transduction to be a generic term for the transfer of genetic fragments from one cell to another. But almost immediately, the context of the experimental work, transduction by bacteriophage, led my colleagues to disregard the generic usage; and in practice now transduction means BOTH: the transfer of a genetic fragment by a virus, or the genetic transformation of a genotype as a consequence of that transfer.

There is surely a lesson to be learned from the invariable carelessness of my colleagues about grammatical niceties; and their tendency to grasp terms as cliches.

I was more fortunate with 'plasmid' -- a term which was designed and coined quite self-consciously with the aim of founding a field.

p.152 I still have trouble with my graduate student who will use 'leucine' as the name of a gene in the set of those which influence the biosynthesis of leucine. There is an effort to sustain distinctions by italicizing labels like *leu* for that name. You may have surmized that I tend to be fussy about such matters: it is perhaps not a coincidence where you found your example. (And I could find too many counterexamples in my own writing.)

(Stud. Hrs Phil Sci 8:143 1977)

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