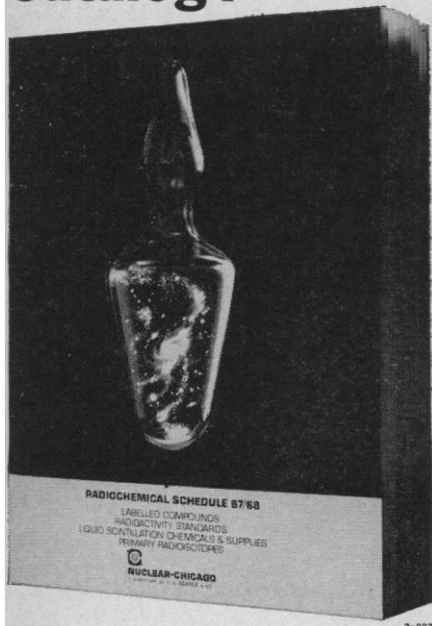


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scientific writing. I borrowed impressive but empty phrases from *The Review of Scientific Instruments*. Each sentence and each idea was made unnecessarily complicated, without being too obvious about it. The result began, "The principal difficulty encountered in the operation of an ordinary high-pressure hydrogen cloud chamber is inferior radiation resistance." I failed in my attempt, for now everyone thought it read fine, and it appeared in its complicated form in *The Review* (2).

My point is not that scientific writing cannot be parodied, but rather that scientific writing is the way it is because its readers actually prefer it that way. People's actions do not always correspond to their words. Everyone is against sin and bad writing, unless given a free choice.

ROBERT H. GOOD

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Reference

1. J. P. Woodruff, *Science* **156**, 743 (1967);
Letters, *ibid.* **157**, 6 (1967).
2. R. H. Good, *Rev. Sci. Instr.* **28**, 472 (1957).

Role of Intuition

In much recent writing about science and scientific discovery a strong distinction is purported to exist between intuition and ostensive logical argument. Some authors attribute to intuition a special quality giving its results a status almost as though *ex cathedra*. In their view, intuition is such that scientific advance is made only on intuitive process while the exercise of intelligence and logic are pedestrian activities of which the result is merely a confirmation of that which was in the first instance accessible only to intuition.

Wilder's article, "The role of intuition" (5 May, p. 605), establishes a more reasonable perspective. His argument that "mathematical intuition, like intelligence, is a psychological quality which stems possibly from a hereditarily derived faculty, but which is, at any given time, principally an accumulation of attitudes derived from one's mathematical experience," supports a view that intuition is logical process unobserved.

In brief, intuition is an act of the mind, in nonverbal apprehension of significant relation. The quality of such acts is a function of the quality of

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the mind in which they occur, and in this respect the quality of the mind is in part a function of the training it has had and of what is stored in it, for intuition involves a consultation of data and a use of the same logic that operates in any overt argument.

A claim to know something by intuition is only to assert that which is said to have been apprehended without being able to say how that is known; the claim secures for the assertion no exemption from trial. More advanced statements about knowing something intuitively may be (i) about the act and substance of apprehension itself; or (ii) a verbal formulation of what we understand our mind to have apprehended; or (iii) a logical argument in which we seek to represent the steps that must have been gone through by the mind in achieving apprehension; and, as Wilder shows, we may be in error in any or all of these. Yet, neither the frequent successes of intuition, nor the nature of our subsequent errors, makes of intuition anything other than an act of the mind that falls into those errors.

GEOFFREY L. KESTEVEN

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Protests Unexpected Editorial Changes

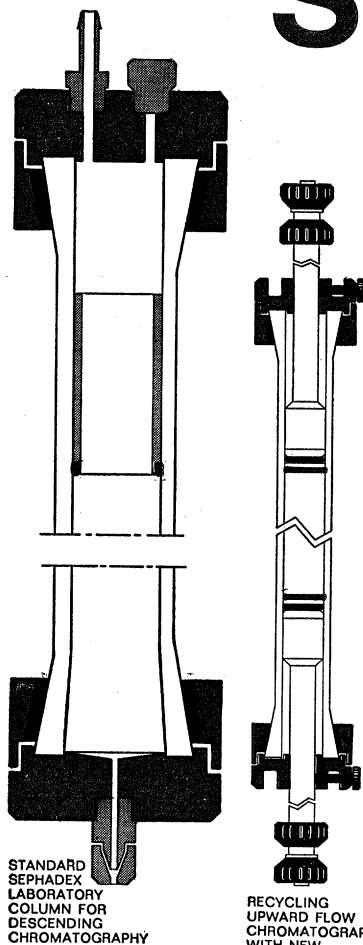
Science editors introduced five changes into my recent letter ("Basic research and public support," 14 July 1967), all without my knowledge: they altered the title and my address (although trivially), added the word "so" (creating the tautology "sufficiently so"), reworded the last sentence and deleted its final phrase, "as effectively as it can be done," and added(!) the question whether biochemists can decide if biological systematists are competent, and vice versa (I asked whether either of these kinds of investigators can decide that the other field is wholly a waste of time, and therefore everyone in it by definition incompetent; the answers to the two questions are not the same). It saps one's confidence to realize he cannot control what he says in print, even in a brief letter to a magazine called *Science*.

RICHARD D. ALEXANDER

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K 25/45	2.5x45	—	S	O
K 25/100 "Jacketed"	2.5x100	S	S	O
K 25/100	2.5x100	—	S	O
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