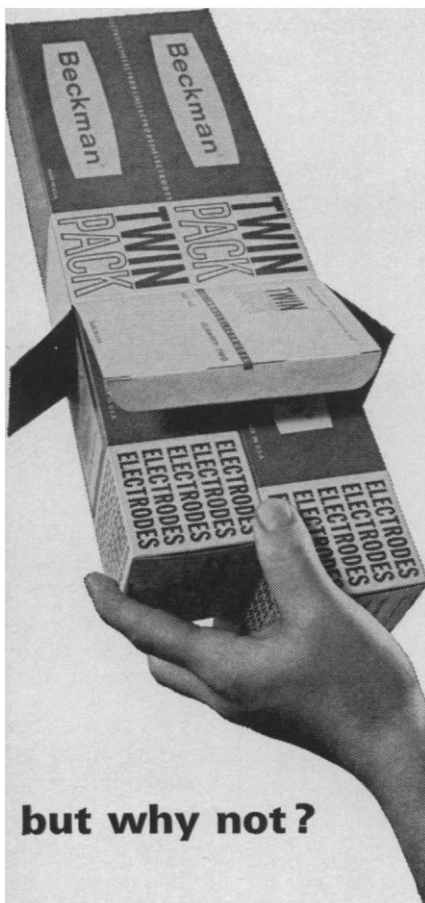


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... Secret things are revealed only to initiates. It is forbidden to reveal them to profane persons before they are initiated into the mysteries of knowledge. ...

In commenting on this passage, the classical scholar Werner Wilhelm Jaeger goes on to observe:

Here we have mankind divided, as if by a religious rite, into two classes, one of which is severely debarred from an arcane knowledge ... [*Paidea*, (Oxford Univ. Press, New York, 1944), vol. 3, p. 10].

No modern scientist consciously withholds knowledge as suggested in the passages quoted, yet we are all impelled, in one way or another, to retain the seventh veil around those matters that are closest to our professional lives.

I am far from proposing this as the root cause of scientists' notorious failure to communicate to a lay public. I only suggest that the reasons for this failure may lie deeper than mere indifference, a technical vocabulary, or lack of dramatic flair.

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Education and Support of Scientists

An article by Adolf Butenandt, president of the Max-Planck-Gesellschaft, in *Bulletin No. 111 of the West German Press and Information Office* (Bonn, 1965), deals with the sponsoring of research in the Federal Republic, but many points made in it are universally applicable and should be of interest to American scientists. Following are a few translated excerpts:

The building of immense institutes whose dimensions reach beyond the available intellectual capacity may quite conceivably be the reverse of meaningful research support. ...

Investment in research is economically as sound as any other logical investment. The meaning of research here is rather broad and without a borderline between basic and applied, for "research is a unit." ...

Basic research should and must be supported without planned partiality and to an extent determined by the number of available productive minds and facilities. ...

Careful evaluation of the literature gives the impression that publication of industrial research findings is much more restrained in Germany than in the United States or Switzerland. ...

I would like to comment as follows on

the natural sciences, especially the field of chemistry: I am definitely convinced through my experiences that a young scientist will reap the most profit in his later professional career if the fundamentals of his initial training are widely extended and if all early specialization is avoided. Of course, a dissertation will always be specific, but the nature of this detailed topic is of no importance at all. Its major purpose must be to supply the aspiring researcher with an opportunity for observation, critical thought, orderly experimentation, and an understanding of casual reasoning. These processes can be learned on any chemical problem and can be effectively applied in the solving of any problematical situation. ...

With regard to training and course work for our students, I consider as best promoting our research effort that education which is general in scope and which does not aim at a future professional specialty. ...

A professional education which is formally ended when the student is 30 years of age cannot be any good; it should be reduced by at least three or four years. ...

The 1963 Student Guide of the Technische Universität Berlin contains the following words of Professor Kniehahn: "A preferably brief university education is not to fill a vessel, but to kindle a fire. The world should not be supplied with super-saturated or conceited intellectuals, but with unfinished, yet hopeful, human beings still capable of generating enthusiasm." ...

A future researcher learning the basic facts of his discipline should not disregard this statement of the late psychiatrist Ernst Kretschmer; "Science is a matter of character, a matter of denial and firm compliance, it is a matter of integrity, of steadfastness, of honest conviction and of an infinite will to achieve."

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Erratum: A Matter of Local Pride

In the article on plankton by J. L. Brooks and S. I. Dodson (1 Oct., p. 28), there appears a photograph identified as an "aerial view of Cedar and Linsley ponds (Branford, Connecticut)." These ponds are located in the Town of North Branford, not Branford, North Branford having been legally set apart from Branford in 1831. As a lifelong resident of North Branford, I know that the residents take particular pride in the fact that these bodies of water, commonly known as Twin Lakes, are situated in their town.

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