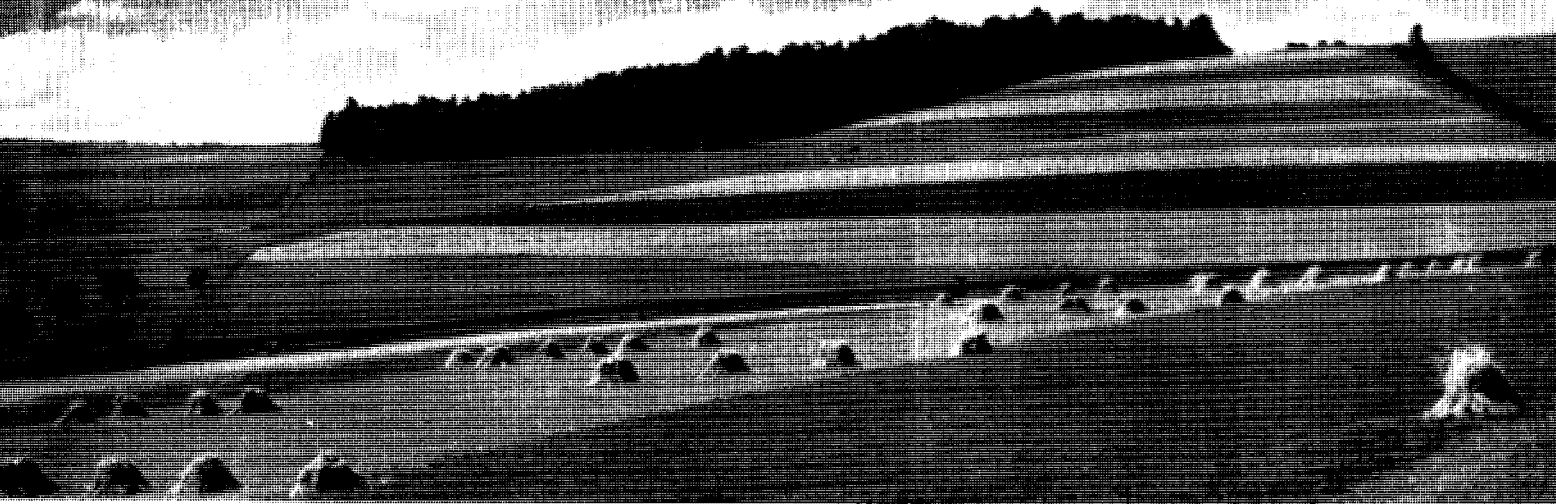


Perspective



Changing Dimensions of Our Responsibility

C. H. BAILEY, *Institute of Agriculture, University of Minnesota*

AT FIRST GLANCE there may appear to be a vast accumulation of details of our expanding knowledge. To an extent that is true; at any rate, we are making more definite applications to our knowledge at many points. But I further suggest—nay, emphasize—that our increased understanding of the fundamentals is really simplifying our approaches to their application.

For example, as we advance through the biological sequence of events from seeding to the consumption of food, we encounter instance after instance where the cooperation of the chemist and other scientists lead to singularly useful results. Actually the functioning of insecticides and of many fungicides really devolves upon biochemical reactions. The better these are understood and elucidated, the greater the progress that can be registered in not only the effective and economical use of such materials as are now available, but also in the synthesis of new biocides which are more useful than any that have been produced before. Sometimes a relatively simple chemical modification of one small radical or segment of one of these reagents will greatly increase its effectiveness. Trial and error sometimes succeeds in such instances, but a scientific and orderly attack upon the problem is often more effective in the long run.

How are we to acquire familiarity with, and apply the seemingly vast number of details of research results that are being reported in a steady stream at meetings of scientific societies and in the technical journals? I would stress, that, in many instances, these details can be fitted into a pattern which is relatively orderly, and can be reduced to certain principles or formulas. Periodically some genius appears upon the scene who assists mightily in that fundamental process. At other times we must undertake a part of the task for ourselves as we endeavor to extend these principles into an area where they have not previously found application.

If such a coterie of minds is not available in one's immediate environment, then arrangements must be ef-

fected that will bring them into touch with our problems. Sometimes the staff of a college or research institute may include an individual who can contribute mightily to the task. Apart from actual consultantship arrangements, a procedure that not infrequently leads to useful results is to invite such a specialist to participate in a program or symposium concerned with a new area of application of interest to us. Such symposia can be made extremely effective in acquainting those in attendance with the latest developments in a definite and restricted area of dynamic scientific interest.

Several forces are at work to facilitate the communication of new scientific and technical findings both fundamental and practical: broad scientific publications, such as *Science*, and *Nature* (England), the excellent technical and trade journals, and even new library facilities such as punch cards which render well-nigh automatic the sorting of specific citations. A Society of Technical Writers has been organized of men who have the job of conveying technical information to people who must use it directly. The very fact of its organization emphasizes growing recognition of the need for improved skills in the presentation of scientific findings before a reading audience of nonspecialists.

Eternal vigilance is still required on the part of members of the audience to whom these communications are directed. It's vastly easier to assimilate these new scientific developments gradually and stagewise as they unfold than to try to absorb them periodically in large doses. That is our job, else there may be dim, cloudy zones in the expanding area of our interests and responsibilities. Moreover, it is probably, nay, even certain, that both personal satisfaction, and material awards will accompany the effort.

(Based on excerpts from an address before the American Association of Cereal Chemists' annual meeting, Denver, May 24, 1954.)