hopeful sign of the times that so many men in farming are prepared to undertake the onerous tasks of management which intensive production involves.

THE FRAGMENTATION OF SCIENCE

IN his presidential address to Section X (Assembly of Corresponding Societies), Mr. Ritchie Calder points out that, by the excess of specialization forced upon them by the rapid advance of research and the vast literature of their subjects, scientists are using only a part of their faculties and allowing the others to languish. They are becoming intellectual cripples. They are so busy synthesizing Nature that they have no time to synthesize their own science.

Present-day science, by its emphasis on experimental research, has forsaken natural philosophy, and in its hurried retreat from scholasticism is forgetting the scholarliness in which it made common-ground with the humanities. Over-specialization gives the scientist the excuse for saying "We have no time for other subjects", and their colleagues in the arts the excuse for saying "How can we understand ?". The fragmentation into more and more branches, each with its jargon, is dividing scientists from each other and from the wider public. This separation from the wider community is fraught with danger for our civilization and for science itself. Science, which exists to remove mystery and magic, is creating its own mysteries and magic. People regard science with a kind of superstitious awe, but count on it for the gadgets. In the absence of proper understanding of the methods and processes of science and of any social integration, the apparent haphazardness of discovery encourages a popular attitude towards science which is distrustful and unhealthy.

The educational system of Britain has become lopsided. Our schools and universities, by too early and continuing segregation, give too little science to one section of citizens and too much to another. This is as much a criticism of the humanities as it is of the science faculties.

The public has an uneasy awareness that the branches of science are out of step. On such an issue of life or death as the hydrogen bomb, it is realized that the physicists have outstripped the biologists—with the sombre risks which Lord Adrian forebode. Prof. A. V. Hill had also stressed the risks of medical science outstripping the means to feed the lives that are saved.

It is suggested that the proposal put forward in the British Association report on Post-War University Education (*Advancement of Science*, 3, No. 9) be re-examined—that there should be honours and pass schools of "Philosophy, Natural and Social" and that this should be reflected in the schools as general instruction on "scientific methods and social implications of science" ; that experts—doctors, engineers, agronomists, etc.—going into the widening fields of mutual aid should temper their expertize by some training in social anthropology, and that we would do well to revive, even at this late date, Comenius' idea of *Pansophicon* (1641), to bring scientists together to assess and explore all natural knowledge and propound it and make it widely known for the adoption by men for their benefit. Then, perhaps, we could get that synthesis of scientific knowledge by which science and humanity could progress together and science become wisdom.

NEWS and VIEWS

(*Continued from p.* 432)

plants, as would be expected because of their inherent metabolic differences and the variations in their physiological states induced by experimental conditions. Sucrose became radioactive in very different amounts in two major groups of plants, namely, those containing only photosynthetic tissue, and those containing non-photosynthetic tissue as well. The amount of radioactive sucrose in the former group was much lower than that in the latter. An unidentified compound became radioactive in appreciable amounts in two of the blue-green algæ, but was radioactive in very small amounts, or not visible at all, on the chromatograms of all other plants.

Changes in Lunar Topography

IN a second paper on changes observed on the surface of the moon, Dr. H. P. Wilkins deals with "Bubbles and Streaks" (*J. Brit. Interplanetary Soc.*, **14**, 3 ; May–June 1955). In collaboration with Patrick Moore, Wilkinson has recently investigated a number of rounded hills or 'domes' and has listed about a hundred, most of which have diameters of two to three miles and heights of a few hundred feet. A very remarkable thing about these domes is that they generally have a deep pit at the top, the pits being seated centrally, never at the side ; it is extremely improbable that they could have been caused by meteorites, which would strike the sides also, but there are no signs of this. As very few of these domes were found until recently, the conclusion is that the older observers were not as careful in their work as is generally supposed, or, alternatively, they have been recently formed. If the latter hypothesis is adopted, the most likely explanation is that some volcanic activity still remains on the moon, the slow welling out of the magma forming the dome, and the pit at the top representing the vent. One very remarkable piece of evidence tending to confirm this view is the fact that domes now stand on some of the sites where older observers announced depressions. It is suggested that local swellings of the surface may occur in places and that the resulting domes are cavernous. Dealing next with the streaks, Wilkins points out that these were almost entirely overlooked by the older observers ; and while admitting that they may be due to faulting or the formation of narrow cracks, he suggests that they may be due to some low form of life, such as lichens or fungus. This suggestion was actually made many years ago by W. H. Pickering, who thought patches in the crater Eratosthenes seemed to move about and to choose