ENTOMOLOGY AND EDUCATION – POSTSCRIPT TO SYMPOSIUM

Unquestionably, this Symposium has achieved a number of the objectives for which it was organized: it has given us a number of practical suggestions for here and now action, the more important of which have been drawn together in the resolutions. It is our intention to act on these in the widest possible ways; directly, through contributors as intermediaries where appropriate, and more indirectly through wide distribution of these proceedings.

Some of us, I think organizers and contributors alike, had other problems in our minds which never really found explicit expression, but which must have been apparent, by implication, to most sensitive listeners. Collectively, these may perhaps be covered by the expression "Education Sickness," which would include the current wave of anti-education feeling, declining budgets for education, declining enrolments and mounting drop-outs at schools and universities. These problems are difficult to focus on and have so far proved impossible to solve; Hoar (1972) aired some of them in his address to the heads of departments of biological sciences in Canada at Montebello, Quebec in November, 1971.

To me, this sickness shows some of the symptoms of chronic indigestion: a constant sense of fullness – of the head with knowledge rather than the stomach with food –, a feeling of revulsion when confronted with further knowledge, and relief obtainable only by abstention and the passage of time – accelerated perhaps by exercise. Since wisdom may be described as digested knowledge, an approach to a solution to these problems at once suggests itself: a move towards balancing the knowledge we create by research with some wisdom digested from it, and towards teaching the wisdom along with the knowledge. This is really saying no more than that we should be putting more emphasis on education and less on training. Education – leading out – produces wisdom from knowledge, thus curing mental indigestion. Training facilitates and improves the use of knowledge, mainly by repetition, and is thus not far removed from rote learning. While some training is a necessary part of education, training without education is not only possible, but perhaps usual. No man is made wise merely by training his memory. That we talk of training Ph.D.'s is tragic if this is really what we mean, especially since training has as its only *raison d'être*, preparation for a specific job.

As measured by the printed pages recording it, scientific knowledge has been multiplied more than tenfold in the last century. It is said that ninety per cent of the scientists who have ever lived are alive today – busily producing more at an ever increasing rate. The capacity of human brains to absorb knowledge has not increased correspondingly; indeed one may question whether any selection pressure for this still exists. Attempts, in this situation, to continue to teach all that is known, even in a narrowing field, may make a reality of that cynics' specialist – the man who knows everything about nothing. Clearly there is a glut of scientific knowledge and it is no wonder its price in the market place has declined, and the public is disillusioned with its misapplications. Though entomology is a bit of a laggard it is no exception. The sins of technology are being visited upon the world of learning and both knowledge and wisdom are threatened. A man who has taken every course a single university department offers is less well educated than one who has taken the same number of introductory courses in different departments. Wisdom, though not wealth, is more readily distilled from breadth than from depth. Knowledge is already in disgrace but wisdom, synthesis, and the broad view must, in time, prevail over that self-destructive, narrow nationalism which in the present must favour insects over ourselves and in the future threaten them and us through our common environment.

The insect world reflects in miniature so many aspects of mankind that entomology cannot lag for long. In education the insects will illustrate more biological principles for a dollar

than any other class of animal; increasingly so as our pressure on the environment increases. And after education? While our population continues to grow, insects will increasingly threaten our food, fibre, and health; when it shrinks, as it soon must, we shall have them to learn from still.

Hoar, W. S. 1972. Educational patterns and manpower requirements in the biological sciences. Canadian Soc. of Zoologists Newsletter 3(4):1-9.

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