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1989?

University Education for an Age of Technology

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Education is, as the economists say, both an individual and a social good. As we learn, we find the world a more interesting place, or at least we satisfy some of our curiosity about it. We come to be able to do more things, and perhaps even earn more money. But because we know more we are able to create wealth, and so the whole of society benefits, at least to the extent that it shares the wealth that we create. So education is both an investment by society in those of its members who can make wealth in the future, and a form of consumption by which we use up some of the wealth we have already created. To add to the future, learning is both work and play. It is work because it creates new knowledge, play because it is done for its own sake and its rewards are intrinsic. No wonder people are confused, and that political debate about education mirrors their confusion.

This confusion extends even to the title of this article, "University Education for an Age of Technology". There has never been an age that was not technological, in the sense of its economy and society being based on the technology available. On the other hand, there may never have been an age as worried about technology as this one, albeit that our feelings are ambivalent. We fear a technology that threatens the survival of the biosphere or the instant destruction of our civilization. We are suspicious of a technology that destroys social order and reduces people to

ciphers. Yet we also look to technology to solve our ecological problems and provide us with a constantly rising material standard of living. So we look for a system of education which will show us how to control technology at the same time as it produces the technologists who will increase our wealth. And because we think we haven't got enough wealth already, we refuse to give the system enough money to carry out either of these tasks.

We may find some way of dispelling the confusion if we look more carefuly at what we mean by the creation of wealth. In one sense, wealth can never be created. The universe is finite, and the best we can do is shift around some of its matter and energy so that they serve our purposes a little better. We don't create wealth, but we do add value to what is already there. But by adding value we also take it away. This may merely be the inevitable effect of entropy. It may be a consequence of the fact that things with one kind of value, such as dressed timber, are incompatible with others, such as untouched rain forests. Or it may be that the loss is actually produced by the process of adding value, as when the cultivation of crops leads directly to soil degradation. These losses are rarely allowed for in economic calculations, which consequently distort the whole argument about our economic future. Rather than recognising them as different aspects of the same equation, we oppose economics to ecology and see development as a matter of balancing their competing demands.

These consequences flow from an education which is largely a matter of increased specialisation and fragmentation of the individual. Rather than leading to wisdom, it confers expertise, and thus gives us the chance of turning public knowledge to private profit. In the name of relevance and vocational application, courses are

tailored to the immediate perceived needs of industry rather than to the integration of the individual. The constant increase in knowledge seems to make the process inevitable, and the differential rewards for particular skills, often unrelated to any concept of value, distort the kind of knowledge which is sought. While mediaeval moralists taught that the use of the philosophers stone to make money was a perversion of humanity, contemporary politicians see the production of such stones as the only valid use for learning.

Yet, as Mr Dawkins has found, it is easier to see the problem than to find the answers. These may come more easily if we go back to the issue of the individual pursuit of wisdom. Wisdom is unfashionable, because it has always been considered as the product of complete knowlege. The expansion of knowledge makes this an impossible ideal today, and the structuralists suggest that it has always been a partial concept, mere product of particular societies. But, for all that, knowledge is indivisible, as reality is indivisible. Although no individual can grasp more than a tiny part of it, we can only understand this part by recognizing its relationship to the larger whole. Such recognition may not only make us less arrogant about our particular specialisations, but may also encourage us to talk with people in other fields. This in turn will help us use knowledge to assist in the integration of our own personalities, and at the same time contribute to the production of a social wisdom which we can never obtain individually.

Such a return to an ideal of universality may seem remote from the needs of postgraduate students, condemned to the treadmill of the thesis which requires them to show they know everything about practically nothing. Yet Blake reminds us that wisdom is to see

heaven in a grain of sand. ~~and~~ while Patrick White's Stan Parker found God in a gobbet of spittle. We need not so much a change in content, or even in method, or university study, as in our attitude to it. The recent prize-winning history of Cambden showed how a small local history, just the kind of useful subject for a thesis, can illuminate both the process of colonisation and the whole issue of cultural change. The study of a chemical process should have meaning not only to other chemists, and to industrialists who hope to profit from it and workers who hope to use it to clean the environment. The researcher should also be able to communicate his results to non-scientists as an example of the unchanging laws of nature which underpin everything we do. The issue is not less specialisation, but more communication, which obliges us not only to inform others but, in the process, to understand ourselves more deeply.

Education which we conceive of only as a means to the end of wealth inevitably leads to personal and social fragmentation. If we understand wealth as value, however, we are forced to consider education as first a value in itself, and thus as one means by which we bring value to the world. This value may be in the form of material production, but it may also take the form of the better understanding of ourselves and the world ~~to which the arts and sciences contribute equally~~. Where we talk in terms of material production, we need to think not in terms of profit and loss, but of total value. As we learn to think of totalitites, so we will help to realize them.