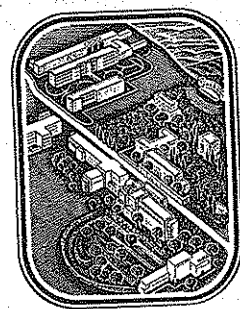


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A PLEA FOR UNIVERSALITY IN EDUCATION

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The following article is of particular interest in view of the decision taken at the last meeting of the Board of Governors of the Hebrew University to introduce courses leading to the B.A. degree at the University—a decision which will give students greater opportunities than hitherto of acquiring a broad background of general and Jewish culture. (Editor).

THE PRESIDENTIAL address at the recent meeting of the British Association for the Advancement of Science raised the old issue between science 'pure' and 'applied', and an article on a kindred topic in the Atlantic Monthly for September gives material for reflection from the United States. In essence the point is simple. One cannot 'apply' what does not exist already in an 'unapplied' or 'pure' state. Knowledge must be acquired before it can be used; and as it is impossible to foresee to what special use it may some time be put, it must be allowed to develop in complete freedom and independence, following its own course without external interference. This does not mean that it is to be beyond human interest, only that it should not be subordinated to the particular interest we may personally happen to be occupied with at the moment.

This conception, when translated into terms of educational organization entails the progressive deferment of specialisation. The more training given, the longer it should be kept general. Only those who leave school or university early should be specialised. The specialist is the secondary worker who does what he is told. He carries out orders, and to that end needs special skill and technical qualification. But the techniques which he carries out have first to be invented. We have then to train for inventiveness too.

It would follow that even on the technical plane there are two types of workers, the one the creator, the other the follower, of techniques. But these are both 'appliers' of knowledge to specific ends which have been en-

visaged and determined by others. The effort in every country is sufficient testimony to the civic necessity of the training of skilled hands.

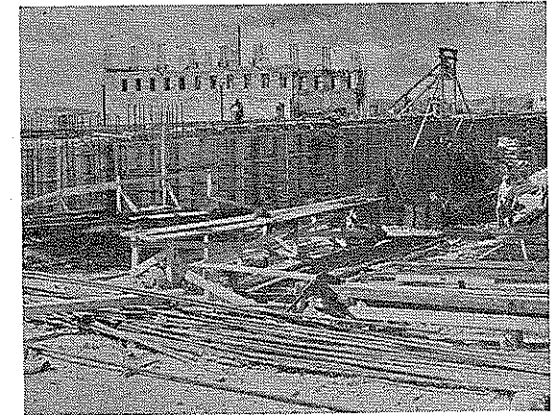
But above and beyond the skilled hand the artificer, whether creative or operative we need intelligence, the free play of the disinterested interest which is curious and which underlies what is called 'basic research'. The paradox of intelligence is that it ceases to be free it ceases to be intelligent and the harnessing of the scientific mind to practical ends is apt to blunt its very usefulness for practice. Intellectual energy tied for all to the wiles of commerce or the exigencies of war becomes exhausted, unproductive, stale. Even from the point of view of research the free play of intelligence is ultimately the most rewarding. Of course research can be planned, but it does not need a Hayek to remind us that planning stifles initiative.



The writer of the article

DESPITE DIFFICULTIES....

AS this photograph reveals, in spite of difficulties work has proceeded on the construction of the new buildings started on Mount Scopus last year. The photograph shows the progress that has been made with the Biology building, which will serve the students of science, medicine and agriculture.



plan, we should leave room for planlessness, and from the planlessness there may some day arise plans which would otherwise never have come into being. Progress depends on novelty, but we cannot plan for novelty. Novelty emerges. The very day-dreams of the scientific intelligence left to itself are the matrix of ideas with countless applications which are now unforeseen and unforeseeable.

An old Greek story relates that the fleet-footed Atalanta lost her liberty because she stopped to pick up the golden apples dropped in her path by her rival in the race. The golden apples aptly symbolise the quick returns promised to universities if they devote themselves to applied science. But experience seems to be proving that devotion to the 'applied' dries up the sources of intellectual vision which is fostered only by the ideal of the 'pure'. Where there is only applied science the race will be lost.

This is not new doctrine though it demands renewed emphasis now more than ever. It was commonplace to the prophet of modern science, Francis Bacon. Bacon, for all his insistence that 'human knowledge and human power meet in one' and that the aim of science is 'the binding of nature to the service of man, not realised as none other than the highest utility was best served by avoiding utilitarian

considerations. His first great book, that bearing the significant title "Of the Advancement of Learning" is one sustained plea for the wider outlook. 'Men have abandoned universality', he notes, 'which cannot but stop all progression, for no perfect discovery can be made upon a flat or a level: neither is it possible to discover the more remote and deeper parts of any science if you stand but upon the level of the same science and ascend not to a higher science'. Is not this a plea for the general as against the special, the wider as against the narrower, consideration, the idea voiced by Pascal later on in the century when he condemned the 'mathematician who is **only** a mathematician, the physicist who is **only** a physicist'.

We must thus take our stand not only on 'pure' and 'basic' as opposed to 'applied' and 'special' science (and that if only for the sake of applied science itself). We must ask that 'pure' science too should ascend higher and rise to wider and more profound generalisations. If we may turn to Bacon again: 'The distributions and partitions of knowledge are not like several lines that meet in one angle and so touch but in a point; but are like branches of a tree which hath a dimension and quantity of entireness and continuance before it comes to discontinue and break itself into arms and boughs'.