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the aims of education

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ALFRED NORTH WHITEHEAD

By Felix Frankfurter

From knowledge gained through the years of the personalities who in our day have affected American university life, I have for some time been convinced that no single figure has had such a pervasive influence as the late Professor Alfred North Whitehead. Certainly so far as this applies to the country's oldest university, my statement will hardly be disputed. I should like to try to describe the nature of the ferment imparted by a thinker whose philosophic speculations were mostly beyond the capacity of those whom he touched.

That our universities have grave shortcomings for the intellectual life of this nation is by now a commonplace. The chief source of their inadequacy is probably the curse of departmentalization. Among students, as well as among teachers, there has been a tendency to regard courses as something which exist in nature, instead of artificial simplifications for the mastery of what are complicated organisms, whether of nature or reason or society. Professor Whitehead exerted powerful influence to break down this separation in the various departments of the university.

From the time that he came to Harvard in 1924 he infused an understanding of interdependence among the various disciplines, to use the current jargon. For all who came within the range of his infectious personality, arid professionalism was quickened into exhilarating meaning and the universe expanded. Such was the quiet, almost shy magic of his qualities that his influence imperceptibly but quickly permeated the whole university.

The need for breaking down sterilizing departmentalization has been widely felt. Unfortunately, however, a too frequent way of doing it has been, wittily but not too unfairly, described as the cross-sterilization of the social

sciences. That is a tendency by which a difficult problem, say of the law, is solved by relying on the formulation of a dubious truth in some other field.

Professor Whitehead's insistence on understanding through realization of the interdependence of thought and ideas and institutions was quite otherwise.

He was fiercely on guard against the illusions of verbalization and did not confuse certainty with certitude. In short, he was tough-minded because he felt the universe as illimitable. He distrusted closed systems because they imprison the creative possibilities of insight and experience. He was relentlessly exacting of accurate responsible thinking, precisely because he knew that even the most rigorous thought cannot achieve fullness of comprehension.

It was not by courses or lectures that he ignited to deeper understanding and more beautiful visions the minds and feelings of hundreds of students, alike youngsters fresh from high schools and colleagues themselves eminent. He did this predominantly through informal and unpremeditated talk, mostly in his modest apartment, which gave even the most timid freshman the sense of participation in an exciting adventure. Everything of distinction contributed toward these unfailing memorable occasions. Not to mention Mrs. Whitehead would be to omit enveloping loveliness.

Professor Whitehead had a benign and beautiful presence, a voice and diction that made music of English speech, humor that lighted up dark places, humility that made the foolish wiser and evoked the wisdom of the taciturn. For twenty years Professor Whitehead exercised this great and radiating influence. He did so at Harvard because he was there. He did so beyond because he was what he was. People came to Harvard because he was there. People read his books who had no background for understanding them. This partly explains why he is said to be so hard to read. No one who is ready to read serious books can fail to find luminous charm in his non-technical writings, like his recently published *Essays* and his *Adventures of Ideas*.

To dwell, however inadequately, on the qualities of a teacher like Alfred North Whitehead is important if our

universities are important. They are important if the institutions specially charged with the accumulation of the intellectual capital of the world are important to a society. Who will deny that Professor Whitehead was right in his belief that the fate of the intellectual civilization of the world today is to no inconsiderable extent in the keeping of our universities? "The Aegean Coastline had its chance and made use of it; Italy had its chance and made use of it; France, England, Germany had their chance and made use of it. Today the Eastern American states have their chance. What use will they make of it? That question has two answers. Once Babylon had its chance, and produced the Tower of Babel. The University of Paris fashioned the intellect of the Middle Ages."

The awful question that confronts American universities is, What are they doing with their power and their duty?

Washington, January 7, 1948

The above appreciation appeared as a letter to the New York Times *on January 8, 1948, shortly after Professor Whitehead's death. It is reproduced as a special introduction to the Mentor edition of* The Aims of Education, *by permission of the* New York Times *and Mr. Justice Frankfurter.*

PREFACE

The general topic of this volume is education on its intellectual side. One main idea runs through the various chapters, and is illustrated in them from many points of view. It can be stated briefly thus: The students are alive, and the purpose of education is to stimulate and guide their self-development. It follows as a corollary from this premise, that the teachers also should be alive with living thoughts. The whole book is a protest against dead knowledge, that is to say, against inert ideas. The separate chapters have, with the exception of Chapter 9, been delivered as addresses at various conferences of educational bodies and of scientific societies. They are the outcome of practical experience, reflections on the practice of education and some criticisms on the meaning of the topics constituting its content.

The references to the educational system concern England. The failures and successes of the system in that country are somewhat different from those in America. But such references are merely illustrative: the general principles apply equally to both countries.

The earliest of the addresses was delivered in the year 1912 to the Educational Section of the International Congress of Mathematicians, meeting at Cambridge, England, and the latest in the year 1928 at the Business School of Harvard University, Cambridge, Massachusetts. Chapters 1, 4, 6, 8, 9, and 10 have been published in my book, *The Organisation of Thought* (Williams and Norgate, London, 1917). Chapter 2, *The Rhythm of Education*, has been published as a separate pamphlet (Christophers, London, 1922). In this republication there are omissions but no other alterations. In particular, the three final chapters of the present book, with some omissions, stand as published in 1917. They are not to be construed as commentaries on my writings since that date. The converse relation is the true one.

My thanks are due to the Editor of *The Hibbert Journal* for permission to republish Chapter 3, *The Rhythmic Claims of Freedom and Discipline*, and Chapter 5, *The Place of Classics in Education*, also to the Editor of *The Atlantic Monthly* for permission to republish Chapter 7, *Universities and Their Function*.

A. N. W.

Harvard University,
January, 1929.

1. The Aims of Education

CULTURE is activity of thought, and receptiveness to beauty and humane feeling. Scraps of information have nothing to do with it. A merely well-informed man is the most useless bore on God's earth. What we should aim at producing is men who possess both culture and expert knowledge in some special direction. Their expert knowledge will give them the ground to start from, and their culture will lead them as deep as philosophy and as high as art. We have to remember that the valuable intellectual development is self-development, and that it mostly takes place between the ages of sixteen and thirty. As to training, the most important part is given by mothers before the age of twelve. A saying due to Archbishop Temple illustrates my meaning. Surprise was expressed at the success in after-life of a man, who as a boy at Rugby had been somewhat undistinguished. He answered, "It is not what they are at eighteen, it is what they become afterwards that matters."

In training a child to activity of thought, above all things we must beware of what I will call "inert ideas" —that is to say, ideas that are merely received into the mind without being utilised, or tested, or thrown into fresh combinations.

In the history of education, the most striking phenomenon is that schools of learning, which at one epoch are alive with a ferment of genius, in a succeeding generation exhibit merely pedantry and routine. The reason is, that they are overladen with inert ideas. Education with inert ideas is not only useless: it is, above all things, harmful—*Corruptio optimi, pessima*. Except at rare intervals of intellectual ferment, education in the past has been radically infected with inert ideas. That is the reason why uneducated clever women, who have seen much of the world, are in middle life so much the most cultured part of the community. They have been saved from this horrible burden of inert ideas. Every intellectual revolution which has ever stirred humanity into greatness has been a passionate protest against inert ideas. Then, alas, with pathetic ignorance of human psychology, it has proceeded by some edu-

cational scheme to bind humanity afresh with inert ideas of its own fashioning.

Let us now ask how in our system of education we are to guard against this mental dryrot. We enunciate two educational commandments, "Do not teach too many subjects," and again, "What you teach, teach thoroughly."

The result of teaching small parts of a large number of subjects is the passive reception of disconnected ideas, not illumined with any spark of vitality. Let the main ideas which are introduced into a child's education be few and important, and let them be thrown into every combination possible. The child should make them his own, and should understand their application here and now in the circumstances of his actual life. From the very beginning of his education, the child should experience the joy of discovery. The discovery which he has to make, is that general ideas give an understanding of that stream of events which pours through his life, which is his life. By understanding I mean more than a mere logical analysis, though that is included. I mean "understanding" in the sense in which it is used in the French proverb, "To understand all, is to forgive all." Pedants sneer at an education which is useful. But if education is not useful, what is it? Is it a talent, to be hidden away in a napkin? Of course, education should be useful, whatever your aim in life. It was useful to Saint Augustine and it was useful to Napoleon. It is useful, because understanding is useful.

I pass lightly over that understanding which should be given by the literary side of education. Nor do I wish to be supposed to pronounce on the relative merits of a classical or a modern curriculum. I would only remark that the understanding which we want is an understanding of an insistent present. The only use of a knowledge of the past is to equip us for the present. No more deadly harm can be done to young minds than by depreciation of the present. The present contains all that there is. It is holy ground; for it is the past, and it is the future. At the same time it must be observed that an age is no less past if it existed two hundred years ago than if it existed two thousand years ago. Do not be deceived by the pedantry of dates. The ages of Shakespeare and of Molière are no less past than are the ages of Sophocles and of Virgil. The communion of saints is a great and inspiring assemblage,

but it has only one possible hall of meeting, and that is, the present; and the mere lapse of time through which any particular group of saints must travel to reach that meeting-place, makes very little difference.

Passing now to the scientific and logical side of education, we remember that here also ideas which are not utilised are positively harmful. By utilising an idea, I mean relating it to that stream, compounded of sense perceptions, feelings, hopes, desires, and of mental activities adjusting thought to thought, which forms our life. I can imagine a set of beings which might fortify their souls by passively reviewing disconnected ideas. Humanity is not built that way—except perhaps some editors of newspapers.

In scientific training, the first thing to do with an idea is to prove it. But allow me for one moment to extend the meaning of "prove"; I mean—to prove its worth. Now an idea is not worth much unless the propositions in which it is embodied are true. Accordingly an essential part of the proof of an idea is the proof, either by experiment or by logic, of the truth of the propositions. But it is not essential that this proof of the truth should constitute the first introduction to the idea. After all, its assertion by the authority of respectable teachers is sufficient evidence to begin with. In our first contact with a set of propositions, we commence by appreciating their importance. That is what we all do in after-life. We do not attempt, in the strict sense, to prove or to disprove anything, unless its importance makes it worthy of that honour. These two processes of proof, in the narrow sense, and of appreciation, do not require a rigid separation in time. Both can be proceeded with nearly concurrently. But in so far as either process must have the priority, it should be that of appreciation by use.

Furthermore, we should not endeavour to use propositions in isolation. Emphatically I do not mean, a neat little set of experiments to illustrate Proposition I and then the proof of Proposition I, a neat little set of experiments to illustrate Proposition II and then the proof of Proposition II, and so on to the end of the book. Nothing could be more boring. Interrelated truths are utilised *en bloc*, and the various propositions are employed in any order, and with any reiteration. Choose some important applications of your theoretical subject; and study them

concurrently with the systematic theoretical exposition. Keep the theoretical exposition short and simple, but let it be strict and rigid so far as it goes. It should not be too long for it to be easily known with thoroughness and accuracy. The consequences of a plethora of half-digested theoretical knowledge are deplorable. Also the theory should not be muddled up with the practice. The child should have no doubt when it is proving and when it is utilising. My point is that what is proved should be utilised, and that what is utilised should—so far as is practicable—be proved. I am far from asserting that proof and utilisation are the same thing.

At this point of my discourse, I can most directly carry forward my argument in the outward form of a digression. We are only just realising that the art and science of education require a genius and a study of their own; and that this genius and this science are more than a bare knowledge of some branch of science or of literature. This truth was partially perceived in the past generation; and headmasters, somewhat crudely, were apt to supersede learning in their colleagues by requiring left-hand bowling and a taste for football. But culture is more than cricket, and more than football, and more than extent of knowledge.

Education is the acquisition of the art of the utilisation of knowledge. This is an art very difficult to impart. Whenever a text-book is written of real educational worth, you may be quite certain that some reviewer will say that it will be difficult to teach from it. Of course it will be difficult to teach from it. If it were easy, the book ought to be burned; for it cannot be educational. In education, as elsewhere, the broad primrose path leads to a nasty place. This evil path is represented by a book or a set of lectures which will practically enable the student to learn by heart all the questions likely to be asked at the next external examination. And I may say in passing that no educational system is possible unless every question directly asked of a pupil at any examination is either framed or modified by the actual teacher of that pupil in that subject. The external assessor may report on the curriculum or on the performance of the pupils, but never should be allowed to ask the pupil a question which has not been strictly supervised by the actual teacher, or at least inspired by a long conference with him. There are a few exceptions to this