

## What is Liberal Education? Mortimer Adler

Let us first be clear about the meaning of the liberal arts and liberal educations. The liberal arts are traditionally intended to develop the faculties of the human mind, those powers of intelligence and imagination without which no intellectual work can be accomplished. Liberal education is not tied to certain academic subjects, such as philosophy, history, literature, music, art, and other so-called "humanities." In the liberal-arts tradition, scientific disciplines, such as mathematics and physics, are considered equally liberal, that is, equally able to develop the powers of the mind.

The liberal-arts tradition goes back to the medieval curriculum. It consisted to two parts. The first part, trivium, comprised grammar, rhetoric, and logic. It taught the arts of reading and writing, of listening and speaking, and of sound thinking. The other part, the quadrivium, consisted of arithmetic, geometry, astronomy, and music (not audible music, but music conceived as a mathematical science). It taught the arts of observation, calculation, and measurement, how to apprehend the quantitative aspect of things. Nowadays, of course, we would add many more sciences, natural and social. This is just what has been done in the various modern attempts to renew liberal education.

Liberal education, including all the traditional arts as well as the newer sciences, is essential for the development of top-flight scientists. Without it, we can train only technicians, who cannot understand the basic principles behind the motions they perform. We can hardly expect such skilled automatons to make new discoveries of any importance. A crash program of merely technical training would probably end in a crashup for basic science.

The connection of liberal education with scientific creativity is not mere speculation. It is a matter of historical fact that the great German scientists of the nineteenth century had a solid background in the liberal arts. They all went through, a liberal education which embraced Greek, Latin, logic, philosophy, and history, in addition to mathematics, physics, and other sciences. Actually, this has been the educational preparation of European scientists down to the present time. Einstein, Bohr, Fermi, and other great modern scientists were developed not by technical schooling, but by liberal education.

Despite all of the ranting and hullabaloo since Sputnik I was propelled into the skies, this has been broadly true of Russian scientists, too. If you will just note the birth dates of the men who have done the basic work in Soviet science, it will be apparent to you that they could not have received their training under any new system of education. As for the present educational setup in the Soviet Union, which many alarmists are demanding that we emulate, it seems to contain something besides technical training and concentration on the natural sciences and mathematics.

The aim of liberal education, however, is not to produce scientists. It seeks to develop free human beings who know how to use their minds and are able to think for themselves. Its primary aim is not the development of professional competence,

although a liberal education is indispensable for any intellectual profession. It produces citizens who can exercise their political liberty responsibly. It develops cultivated persons who can use their leisure fruitfully. It is an education for all free men, whether they intend to be scientists or not.

Our educational problem is how to produce free men, not hordes of uncultivated, trained technicians. Only the best liberal schooling can accomplish this. It must include all the humanities as well as mathematics and the sciences. It must exclude all merely vocational and technical training.