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School in a Changing and Industrialized Society

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IT has by now become a commonplace to observe that the school in many countries all over the world is under the influence of a strongly changing society, in which all sectors are affected in greater or lesser degree: the economy, family life, leisure, the standard of living, and—not least—the social relations of people at all levels: locally, nationally, and internationally. All the authorities concerned with preparing members of the growing generation for their place in society have ample cause to reexamine the time-honored forms for their activities. Many of the arguments advanced in current educational debate have the character of quixotism, with the villains identified as the “spirit of the times,” “lack of standards,” and “demoralizing forces.” The users of such phrases think and act as if we still lived in the era preceding World War II, or World War I, for that matter. Others try to “liberalize” the old ideas and practices, which amounts to pouring

new wine into old bottles. The payment of such halfhearted considerations often leads to failures in both directions. Certain attempts by the churches to reorient themselves ethically strike me as an example under this head.

Today's industrial and commercial life in most of our countries shows all the signs of economic expansion. Apart from capital and natural resources this is partly based on education and partly on research and development work. Let me cite some articles and inventions which have vastly transformed our lives during this period. Homes of the mid-'forties did not have frozen foods, TV or transistor sets, and not very much in the way of synthetic textiles, such as nylon stockings. Plastic materials are another product of the same period. New drugs have provided a decisive means for combating physical or mental diseases which were formerly thought incurable. Direct dial telephoning over long distances has in effect

revolutionized communications between people. Someone has figured out that if all the dial calls now made in Stockholm were to be connected manually (as was done before the installation of automatic equipment) it is doubtful whether all the city's gainfully employed women would suffice to operate the switchboards. A particularly forceful impact on family life has been wrought by the automobile, widening as it has the range of common experiences and opening up new horizons with the increase in mobility. To an ever greater degree, the activities of housewives and other family members are conditioned by labor-saving devices. Indeed, most of the electrical home appliances at least in Sweden are products of the past 20 years.

Rationalization

The modern business world has as its shibboleth "rationalization," defined as the use of facilities and the organization of production in such a way as to achieve ever-increasing productivity with less and less personnel. Rationalization is a prerequisite not only for a higher material standard, but also for increased leisure and hence for self-selected cultural activities. A key role in what we call automation is played by electronics. It permits fully automatic production because recording sense organs can be built into the machines, and it also controls such production in accordance with programmed directives.

The introduction of electronic data processing has revolutionized office practice, in part by drastic reduction of the staff required for routine tasks, and in part by imposing greater demands on the retained personnel. Thus

rationalization in a certain field entails not only the replacement of people by technical aids to perform unskilled work; the aids themselves require admittedly fewer yet highly qualified people for their production and servicing. Another consequence of technical rationalization is the increase in personnel who do not directly work "on the line." Ratios between the white and blue collar workers are changing so fast that highly industrialized countries will soon have many more salaried employees than manual workers.

Industrial and structural rationalization tends to concentrate production in fewer and larger units, and the same is true of distribution. This in turn, together with the rationalization of agriculture, causes rural areas to be rapidly depopulated. By the middle of the 1970's Sweden, a sparsely settled country to begin with, seems likely to have an 80 percent urban population, i.e., people living in cities, towns, and similar agglomerations. This means that the urbanization process has not been checked, but is continuing apace.

In the wake of rationalization and structural transformation comes not only the relocation of manpower, but also its retraining on a big scale. Swedish labor market policy has been rightly praised for its active efforts along these lines to minimize the social consequences which rationalization may have: unemployment and poverty. Retraining for new occupations not only once, but perhaps several times, will probably become a normal part of adult life for the young people we now have in school.

Our established notions as to how educational paths and careers are chosen

will have to be revised. We still like to believe that young people make their definite vocational commitment either during the last year of school or the years immediately following, after which they stay true to their original choice for the rest of their lives, even though actual jobs may change. Research findings tell us that we can expect only a minority of the youngsters in school today to remain in the vocational sector they happen to come across as school leavers for the greater part of their gainfully employed lives. It follows from this that we must also revise our notions concerning the relation between liberal and vocational education.

The 1946 Parliamentary Educational Commission in Sweden, was of the opinion that the choice of subjects in grades 7 and 8, the choice of curriculum in grade 9 and prevocational training already would decisively help to "sluice" pupils into different channels of the job world, and not merely prepare them for working life in general. These were bold and radical ideas for that day, as were many of the Commission's other recommendations. But 20 years have elapsed since the Commission submitted its final report, and many of the social and economic conditions governing the school's activities are no longer what they were in 1948; the biggest difference between now and then has to do with the almost insatiable demands of the expanding industry upon the school.

As late as the end of the 1950's, many spokesmen of business and industry contended that the school ought to put prolonged compulsory school attendance to better account by providing marketable vocational training, espe-

cially the kind that could be useful in local economies. Today, however, the more progressive members of the business community warmly endorse a solid general education, with particular emphasis on the formation of good study and work habits, as being more essential than the inculcation of specific trade know-how. Underlying this change of attitude is the realization that we find it very difficult to foresee the kind of special knowledge which will be useful in tomorrow's job world and leisure pursuits. Technological advance moves at a breakneck pace, with the result that old vocations are disappearing and new ones are emerging. With the experiences of the past few decades as our guide, we can say with even greater assurance that much of what today's schoolgoers will have to grasp as adult workers and citizens simply did not exist as items of knowledge during their school days.

Objectives of Schooling

Here we touch upon something vital as regards the objectives of today's and tomorrow's school. Problems are created not only by the difficulties of foreseeing what young people—and indeed we adults, too—will need to know. Another complicating factor is the process that has been termed the "knowledge explosion." The volume of subject matter which today's pupils are expected to master, and this is especially true of the content subjects, far exceeds that demanded of them 40-50 years ago at equivalent levels and during the same number of academic years. This is proved by an analysis of textbooks, which then as now define the courses in the eyes of both teachers and pupils.

Another aspect of the changing society is that new subject matter is continually being added to courses of study, in part through research and in part through the innovations and other know-how which technology as such brings in its train. Much of what was formerly taught in the home (whose efforts were then quite adequate) has to be provided nowadays by the school or other public institutions.

Given the incessant change and knowledge explosion of our time, we inevitably have to ask ourselves this question: What is essential and what is not as regards objectives and course content? An objection that might be offered to this line of reasoning is that the rating of subject matter in terms of priorities is a question of values, and as such cannot be based on any scientific analysis of need or follow as a rational consequence of social dynamics. This argument overlooks two things. First, a large part of what I have called quixotry in present-day educational debate may be ascribed to thinking of society as if it were the same as before World War I. A realistic analysis of the human condition in our day of political democracy, mass media, and automation must necessarily precede the formation of viable standards for human endeavor and coexistence. The era of nuclear war confronts us with problems somewhat different from those of the flintlock age. Further, an analysis of mankind's current problems must underpin a debate on the fundamental values.

In various contexts I have developed the thesis that curricular revisions in today's school must tend to put greater emphasis on the development of skills

and less on what is usually called formal knowledge, but which should more properly be subsumed under the term "encyclopedic learning." The matter could also be put in the following terms: *we must place much greater relative weight on the skill subjects and less on the content subjects.* This in no way upgrades the former or degrades the latter considered as disciplines; all I have done is to draw curricular conclusions from the fact that the spectrum of applications is much broader for the skills than for the subjects which stress knowledge of specific information.

No one will deny that the ability to communicate orally and in writing will acquire growing importance in an increasingly complicated society with its larger production units, the greater influence of mass media, the proliferation of organized activities, and a continually expanding service sector (which puts a higher premium on contacts with others). Neither need one doubt that grasp of the quantitative aspects of the world around us, of the skills learned in mathematics courses, will become more crucial in a technological society, and that these will remain relatively unaffected by social changes. In another 15 to 20 years every tenth gainfully employed person will have to be a qualified engineer, and one who knows enough mathematics to do a good job.

Similarly, we have no reason to question the growing value of proficiency in foreign languages in an internationalized society. Already here, however, we have a margin of uncertainty: in terms of the long view, which languages will merit such importance? In an earlier day the scholars used to communicate strictly in Latin. This language became

so firmly entrenched in the curriculum that it was not until the 1960's that Swedish radicals, both within and outside the National Board of Education, the governmental "Gymnasium Committee," made bold to suggest assigning fewer class hours to Latin in the gymnasium than to modern languages. The languages now classified as modern in Swedish schools are English, French, Spanish, Russian, and German. All activities in and communications with the developing countries presuppose a command of one or more of the first three. But perhaps it will not be long before Chinese and Hindi become tools of communication outside this part of the world as indispensable for Europeans as English, French, and Spanish are today.

Course content becomes even more uncertain when we look at the content subjects. Their range of application is considerably less than that of the skill subjects, because not only is the mastery of certain thought patterns involved (for instance, thinking in physical or geographic terms), but also possession of specific knowledge of how terms and principles are embodied in methods and applications. The latter are often highly ephemeral. The demographic data and export figures of geography comprise one of the more striking examples. Having regard to the constantly advancing frontiers of knowledge in these subjects, every attempt at final and definite orientation is futile. Much must inevitably be highly tentative, as in regard to what is taught about diseases and their cure in biology classes, or about our hero kings in history courses. Still at the beginning of the 1940's many science teachers con-

tended that nuclear physics had no place in the curriculum because it was much too esoteric: the mathematics involved was abstract mumbo jumbo which could scarcely acquire any "practical importance." After Hiroshima, nuclear physics and its practical uses literally became a matter of life and death.

Those of us who finished school before World War II have since found that much of the information the school then imparted is now more or less irrelevant, if not obsolete. When I went to school, the map of Africa was dominated by red and green, the former color representing British colonies, the latter French; I have since had to relearn the political geography of that continent from the ground up, and the end is not yet in sight. During my gymnasium period I docilely assimilated all there was to know about Swedish local government, despite the meager time allotted to this subject; today, much of it is no longer relevant. I had occasion to recall this about a year ago, when my daughter put a textbook from the beginning of the 1960's in my hand and asked me to check her as she rattled off the names of Stockholm's various government bodies, some 50 in all. She said she had to know them for a test in civics the next day.

Orientation Knowledge

Further examples need not be adduced to hammer home the point I consider self-evident: namely, that a great deal of the orientation knowledge we need to get along in the job world and outside of it must be acquired after we finish school, regardless of how long that lasts. This is a major task not only

for the mass media, above all newspapers, radio and TV, but also for adult education. In another context I have labeled the society we now live in as one long continuation school: more and more people in their adult years will have increasing cause to go on learning and enlarging their capacities. In many cases this will entail more regular instruction which aims at a specific vocational qualification, or at a broader base of general education on which such qualification can begin to build.

We are in constant need of orientation in a changing society. Our encyclopedic ideal of education, egged on by "quiz contests" and reinforced by certain achievement tests used in the schools and universities, is ready for drastic revision. As regards orientation and reorientation to the world around us, life is now a continuous process of education. Our basic school may be ever so effective and provide us with ever so many years of education, but it cannot give us the intellectual diet of orientation knowledge that will help us pass through the school of life.

Once we speak of learning a subject as a "discipline," it lies ready to hand to speak of study technique and formation of study habits. Study technique refers to the skills which serve pupils as tools in the assimilation of knowledge. The formation of study habits embraces a broader range of skills: in addition to study technique, it takes in the pupil's way of studying and his ability to perform assignments, both on his own and in cooperation with others.

There is scarcely particular need to emphasize that what we usually refer to as the educative function in a broad sense of the school is nothing more than

a by-product of its purely didactic function. The "upbringing" will ensue regardless of whether a conscious and systematic effort is made to bring up children in one direction or the other. The way a teacher deals with his pupils, the procedures which prevail in the classroom, and the behaviors which are either praised or disapproved will decide what this upbringing contains. This is also to say that upbringing forms an integral part of the school's work: it is in no way the prerogative of any one subject (religion, for example) or a kind of "showplace compartment" within the other subjects.

We must also in this context touch on the implications of increased leisure and enlarged consumption. It is realistic to assume that the youngsters now in school will be working considerably less than 40 hours a week as adults. This will give them more spare time to spend as they see fit. A similar freedom of choice as regards consumption results from higher economic standards. Accordingly, the overriding problem is: what can the school do to help make leisure more broadening?

One does not have to be a preacher of homilies to perceive that this mission is not being satisfactorily fulfilled at the present time. In the past few years there has been an intensive debate in Sweden with reference to Bengt Nerman's book, *The Cultural Problems of Democracy (Demokratiens kulturproblem)*. According to Nerman, Swedish educators are striking pompous moral attitudes when they say that people ought to prefer one thing to another. Whatever one thinks about "pop culture," as embodied in show business, glossy-magazine serials, or the records

of the Beatles, the fact remains that this culture is sustained by powerful commercial interests, while other forms of culture are fighting for their lives. This means that alternatives to pop culture are not always offered—in other words, true choice does not exist.

With all due regard for the curricular reforms we have witnessed during the past decade, they have scarcely enhanced the stature of those subjects which represent esthetic education. Subjects without strong pressure groups to back them up have been losing out in the fight over classroom hours. This development should be viewed against the background indicated above: the need to give young people esthetic and general cultural alternatives.

That matters are not what they should be is shown by the enthusiasm these subjects have aroused in the voluntary educational sector, the free adult education, especially when the opportunity is offered for self-expression. Take the music groups, for instance. They are important not only in permitting the

participants to express themselves, but also because they provide acquaintance with alternatives to commercialized culture. Indeed, the school will have to play a key role in this respect. All of us with children who have been captivated by their music or drawing teachers, in spite of the meager class time allotted and other unfavorable circumstances, know what this has meant for the broadening of their esthetic horizons. To all intents and purposes, the "creative" or "activity" subjects are officially devaluated, since completion credits under the present point system amount to virtually zero, whether the pupil transfers from one grade to another or enrolls in a limited-admission course. As long as such conditions are allowed to prevail, the advocates of esthetic education in the school will be waging a near-hopeless underdog struggle. The inferior status of esthetic subjects is connected with overrating of the receptive, docile, and conventional, which often prejudices the creative, independent, and nonconforming. ☛

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