Soviet Education: Newly Published Study Raises Some Disturbing Questions for the West

The President this week used the publication of a superb new study of Soviet education to disclose that he has initiated several reviews of measures that may be used to increase this nation's output of scientists, engineers, and technicians.

Kennedy's action, disclosed at his press conference on Monday, comes at a time when he finds broad popular and Congressional support for Cold War military measures, but relatively little receptiveness for his argument that schools are as important as missiles. That the Soviet leaders hold to this conviction is the principal message of the newly published study, *Education and Professional Employment in the U.S.S.R.* (856 pages), by Nicholas DeWitt, of the Russian Research Center, Harvard University. The study, published by the National Science Foundation, is available for $5.50 from the Government Printing Office.

Kennedy, in drawing attention to the study, based his concern on the fact that in recent years U.S. enrollment in science and engineering has declined as the nation's needs for these specialties has risen. DeWitt's study, culled from Soviet statistics, education journals, press reports, and interviews, demonstrated that a concerted effort has produced the opposite result in the Soviet Union.

From its well-documented pages there emerges a picture of a centrally directed educational system no less rigidly bent to the needs of the state than the Soviet aircraft industry. And there also emerges a question that up till now has received relatively little attention in the West: what sort of education has been given to the people who are rising to leadership in the Soviet Union? For those who believe that a liberal education provides the best background for guiding the affairs of nations, the answer is a particularly disturbing one; to a degree that is not generally realized in the West, the Soviet higher education system is occupied with the production of engineers and scientists; the training in these fields is almost exclusively job-oriented, and it is from the ranks of these specialists that the Soviet Union is increasingly drawing its leaders.

"All Soviet higher educational establishments," DeWitt writes, "are *professionally* oriented establishments; the Soviet Union does not have general education or liberal arts colleges or nonprofessionally oriented undergraduate programs of instruction such as are commonly found in American colleges and universities. . . . *No* higher educational establishment in the U.S.S.R.," he continues, "offers non-specialized professional instruction such as the general studies or liberal arts programs common in American colleges and universities, and only professional education in some particular specialty is available."

DeWitt points out that the Soviet concept of "specialization" is a particularly narrow one. "It entails," he explains, "training in an individual, narrowly defined field of professional knowledge, which will equip the student to perform a given occupational job." For purposes of accomplishing that job, DeWitt argues, the system has unquestionably produced impressive results; but the Soviet Union's recruitment of administrative leaders from this pool of narrowly trained specialists produces some serious questions about the kind of leadership that is being developed in the Soviet Union.

"Soviet specialists," DeWitt points out, "are employed not only in the occupations for which they were trained, but to a degree unknown in the West, in managerial and administrative positions in the economic, social and even political affairs of the state."

(In an interview, DeWitt estimated that engineers and scientists comprised 40 to 50 percent of the delegates to the recent Party Congress. The rise of these professionals to positions of broad authority contrasts sharply with the situation that prevails in the United States. Preparation in the law is the most common route for advancement in government in the U.S.—about 60 percent of the members of the 87th Congress are lawyers, while fewer than 3 percent are physicians or engineers. The consumer orientation of American industry is making sales experience an increasingly important factor in the selection of executives.)

"While the utility of a technical specialist to society is undeniable," DeWitt continues, "the preparation of the Soviet specialist, with his lack of humanistic education and disregard for the cultural, ethical and social values cherished by the West, limits him in participating in the solution of the important social and political problems which divide the Soviet Union and the democratic world today.

"In Soviet higher education," he goes on, "the development of professional competence and technical rationality is divorced, perhaps quite deliberately, from the acquisition of broad humanistic values, a fact which makes the Soviet professional a tool, witting or unwitting, in serving the aims of the communist regime. Soviet higher education succeeds in developing the human mind to the point of high competence in many areas, but deprives it of its potential to exercise independent and creative thought in the sphere of social values."

The transformation of students into specialists, DeWitt makes clear, is a process wholly governed by planning based on national needs. "As a general rule," he emphasizes, "no Soviet citizen is assigned, 'drafted' or directly compelled to enter any specific field of study in Soviet higher education." The government, on the basis of the planners' decisions, provides a certain number of slots in educational institutions, and those who are interested are eligible to compete for admission. While compulsion is absent, inducement is not, and the government's desire to steer the majority of students into science and engineering is reflected in a number of advantages attached to these fields of study. Most prominent among these, it appears, is the waiver of the requirement that candidates for higher education must spend some time in productive labor after they complete secondary school. The requirement, however, is maintained in other fields, DeWitt notes. "Beginning in 1959, the admission of new students to university divisions of jurisprudence, journalism, philosophy and political economy was restricted exclusively to applicants who had had prior gainful employment for two or more years. In philology, history and applied economics, admission priority was given to those with prior employment records."

The tight control which the Soviet Union wields over the use of its educational resources is reflected, DeWitt points out, in the numerical lead which the U.S.S.R. has achieved over the United States in certain specialties, notably engineering. In 1959, for example, the graduating classes for bachelor's and first professional degrees totaled 338,000 in the U.S.S.R., compared with 366,000 in the United States the previous year. But fifty-seven percent

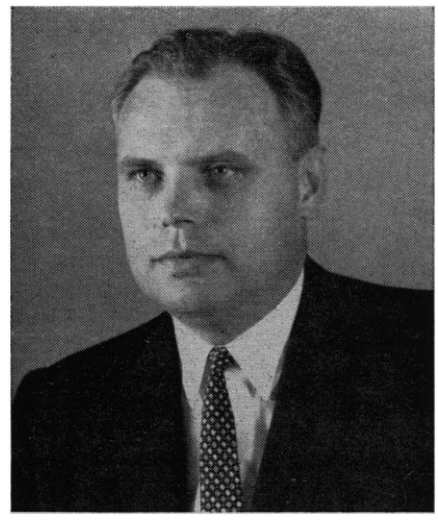
of the Soviet class was composed of majors in engineering, natural and physical science, and applied science. The comparable group in the 1958 U.S. graduating class totaled about 24 percent. DeWitt notes that if the 40,000 science majors in Soviet teacher training institutions are added, the disparity is even larger.

The Soviet "engineering" category, he points out, includes about 10 percent that would be otherwise classified in the U.S.; nevertheless, engineering graduates in the U.S. totaled only about 10 percent of the class, while they totaled about 32 percent in the Soviet Union.

Between 1928 and 1959, the Soviet Union produced 1.1 million engineers, compared with 620,000 for a similar period in the U.S.; the Soviets produced 420,000 physicians, compared with 181,700 here; in all other fields—and these, of course, include those which the Soviets have deemphasized, such as the humanities, social sciences, law, and business training—the U.S. produced 5.1 million, compared with 1.7 million in the Soviet Union.

"Soviet leaders," DeWitt states, "firmly believe that the competition between capitalist democracies and the communist world will be decided in the field of science and technology. This provides the rationale for their own emphasis on engineering and the sciences in their professional training programs . . . There must be no misunderstanding or underestimation of the Soviet scientific and technical manpower buildup. It has become the principal source of communist strength, in spite of the denial to the Soviet people of educational opportunity in other fields of human knowledge—the humanities, the social sciences and other areas of general and liberal higher education."

One of the most striking differences between U.S. and Soviet society emerges in DeWitt's description and analysis of the education and employment of women in the U.S.S.R. Traditionally, he notes, Soviet women have pursued professional careers to a greater degree than women in the West. Soviet planners, to a large extent seeking to make up for wartime losses, have relied on this tradition to encourage women to follow professions of little interest to women in the West. In 1955, for example, 203,000 Soviet engineering students (or 36 percent of the total) were women, compared with only 0.7



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percent, or 1200 in the United States the previous year; women comprise more than 75 percent of the physicians in the Soviet Union, 32 percent of the jurists, and nearly 40 percent of the agricultural specialists.

Bearing closely on the effectiveness of this reservoir of specialists is the quality of its training and the manner in which it is employed. DeWitt writes that the quality varies from field to field "but it may be said without hesitation that the time inputs required in Soviet education are invariably greater than in the United States."

"In many scientific and engineering fields, as far as basic courses are concerned, it is apparent that Soviet higher education transmits about the same amount of, and at times more, knowledge as U.S. or West European institutions of higher learning."

DeWitt asserts, however, that the uses to which these specialists are put has the effect of reducing the lead that the Soviet Union has in trained manpower resources. One-third of the Soviet Union's specialists are engaged in administrative tasks which are performed in the U.S. by liberal arts and business graduates. The Soviet planners, however, believe "that professional engineers and scientists can perform managerial, administrative, economic and business coordinated jobs 'better' than non-technically trained professionals, business and liberal arts majors."

DeWitt explains that despite the claims that the Soviet Union makes for providing universal education for its people, the molding of the educational system to the demands of the national planners has in many respects actually *reduced* educational opportunities.

The broad educational reforms undertaken in 1958 had the effect of enlarging the labor force by reducing full-time general schooling and emphasizing vocational training and on-the-job training. The planners' motivations, DeWitt infers, were to make up for the manpower losses of World War II and to improve the quality of Soviet labor. As a result of the 1958 reforms, "the majority of Soviet youths will be impressed into the productive labor force after a substantially shortened period of regular schooling, and only a minority—composed of the more gifted and, perhaps, the more privileged—will be able to continue formal, full-time education."

Through the 1950's, and even more so under the 1958 reform, the Soviet educational system was far more selective than that of the United States. Far fewer students in respective age groups gain access to secondary and higher education in the Soviet Union, he states, and, increasingly, under the reforms, more are being channeled into the productive force at younger ages. For purposes of comparison between the two countries, DeWitt offers the data shown in Table 1.

DeWitt ends his study with the observation: "If the aim of education is to develop a creative intellect critical of society and its values, then Soviet higher education is an obvious failure. If its aim is to develop applied professional skills enabling the individual to perform specialized, functional tasks, then Soviet higher education is unquestionably a success, posing not only a temporary challenge, but a major threat in the long-run struggle between democracy and totalitarianism."—D.S.G.

Table 1. Students going on to higher educational levels in the U.S. and the U.S.S.R. The hypothetical base refers to 6- or 7-year olds in the late 1940's—about 2.9 million in the U.S., about 4.3 million in the U.S.S.R.

Level	U.S.	U.S.S.R.
Base	100	100
Complete elementary schooling	99	98
Enter high or upper secondary schools	85	55
Graduate from (complete) general secondary schools	57	30
Enter institutions of higher education	23	10
Graduate from institutions of higher education	12	7