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7 APR 1956

Bill
Mr. William Benton
Publisher and Chairman
Encyclopaedia Britannica
342 Madison Avenue
Suite 702
New York 17, New York

Dear Bill:

Many thanks for sending me a copy of the address you made at Chicago earlier this month. I think you did an excellent job of presenting the tremendous challenge of the Soviet educational program. My experts in the field regard your treatment as both comprehensive and accurate.

I, too, am deeply concerned as to what we in America can do to match the pace set by the Soviets, particularly in the hard disciplines and esoteric foreign languages. I can assure you that the appropriate senior officials of the Government share this concern and are energetically examining remedial measures. As for those of us in intelligence, I can assure you that we will in the future, as we have in the past, make every effort to see that the pertinent facts on the Soviet program are made promptly and fully known not only to responsible officials but also, through appropriate media, to the people at large. Beyond that I do not see how I personally can fittingly engage in the cause.

With best regards.

Faithfully,

SIGNED

Allen W. Dulles
Director

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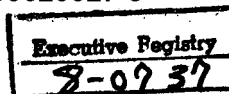
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ENCYCLOPAEDIA BRITANNICA
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NEW YORK 17, N.Y.

WILLIAM BENTON
PUBLISHER & CHAIRMAN

March 23, 1956
(Dictated in Phoenix)

Dear Allen:

I seized a phrase from your recent letter and quoted it in the attached speech, which was warmly received. I hope you can find time to read this speech.

If our own American educational system is a new arena of "competitive co-existence", where are we going to find the leadership to move boldly ahead and do what is required? Walter Lippmann at dinner here the other evening said we need "a massive attack" on the problems of our educational system, comparable to that we were once required to launch in the development of an air force.

Did you yourself realize that we only produced 125 teachers in physics last year--for 28,000 high schools?

I shall do what I can to hammer away at what seems to me one of the critical questions before the American people. But, as you know, a private citizen does not have too much power for leadership. I hope you like the lead article in LIFE this week. I like to think I may have had something to do with it.

If you yourself will take the leadership, I shall help you in such ways as I can.

Very sincerely yours,

William Benton

Mr. Allen Dulles
Central Intelligence Agency
Washington, D.C.

WB/mh

ADDRESS BY THE HON. WILLIAM BENTON BEFORE THE ASSOCIATION FOR HIGHER
EDUCATION, CONGRESS HOTEL, CHICAGO, ILL. MARCH 6, 1956

SOVIET EDUCATION: RENEWED CHALLENGE TO THE AMERICAN PEOPLE

William Benton
Publisher
Encyclopaedia Britannica

My friends and fellow politicians:

When, as the war ended, Secretary Byrnes asked me to be Assistant Secretary of State, he told me that he thought my early years in advertising should prove good training for politics. I assured him that my eight years as a part-time university vice president were far more valuable to him--and to me. I told him I already had won my political Ph.D. in campus politics.

I shall talk to you tonight about a critical political problem affecting education and a critical educational problem affecting politics. Indeed, this problem gravely affects the survival of our country and our civilization, and it can only be met by a merger of politicians and educators.

We are met here at a moment when whole galaxies of educational neglect are in head-on collision. The facts and figures have been in the newspapers--and on the front pages. They have been featured in the magazines. They have even been discussed on the air. Some of you may have heard that conferences in Washington have been devoted to them. But they have not broken through the crust of public consciousness.

Where is the present prospect of national action adequate to match the crisis? I fear I cannot even assure you that a Democratic victory next November would secure the action so urgently needed. My fears and forebodings caused me to accept this invitation when it was tendered to me, so that I might share them with you. If I am to be a Cassandra, at least I want companions from among you.

You here tonight must accept partial responsibility for the country's unhappy predicament. Education is the field which you have homesteaded as your very own. All too often you have acted as public relations men and have not lived up to the noble calling of educator or politician. The solutions you have proposed have not been drastic enough, bold enough, imaginative enough. You have been too deeply mired in your own folklore. All too often your proposals have been geared to somebody's guess as to what the Congress, or the State Legislature, or the latest Commission or Committee, or your own Board of Trustees, would stand for.

I commend to you the example of Commissioner Murray of the Atomic Energy Commission. At a Congressional hearing a week or so ago, he was asking for a mere additional five billion dollars. Congressman Cole remarked, "I doubt that the taxpayers are ready to gamble such large stakes." Mr. Murray replied, "If they knew the whole story, they would." The task of you educators is dramatically to expound the whole story.

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More important than any failure of leadership on your part is that all America now appears to be sleep-walking on the brink, if you will excuse the plagiarism. The American people do not as yet identify the growing educational crisis with their national security.

You have invited me to report on what I learned about education in the Soviet Union, and to suggest what this may mean for America and the free world. Leon Bloy, the French philosopher, once referred to what he called "the good news of damnation." His theory was that none of us might behave as Christians if we were not afraid of perpetual hell-fire. When I finish tonight, I hope you will ask yourselves whether it might not be that the Soviet educational system can prove to be the good news of damnation for American education--the spur which may rouse us and propel us toward salvation.

I shall begin my report by summarizing it in a sentence. I have returned convinced that education has become a main theater of the cold war; Russia's classrooms and libraries, her laboratories and teaching methods may threaten us more than her hydrogen bombs or her guided missiles to deliver them.

For decades, the Soviet Union has had a long range plan for ideological and economic world-conquest--a plan so potent as to make her current military and political maneuvering seem by comparison tactical and even diversionary. At the heart of this project is the schooling for export of scores of thousands of indoctrinated and capable engineers, scientists, school-masters, and technicians of all kinds. These are being trained to help develop the resources of countries outside the present Soviet orbit, and to help convert the world to Communism. And please do not doubt the high quality of their training. Only last week came a story from Moscow which amused me, a kind of man bites dog story. A Texas corporation, no less, was granted the right to manufacture a turbodrill, no less. This drill was developed by the Soviet petroleum industry for digging wells through hard rock. The New York Times said it was "ten times as fast as our conventional rotary drill." Detroit engineers report automation matching our best. Each day and week there is a new story of Soviet technological advances. Senator Symington is continually complaining that the Soviet air corps is superior to our own. Can we not agree that a nation that can produce the hydrogen bomb must have mastered the intricacies of modern science and its technological application?

These forthcoming battalions of Soviet experts and technicians, ready and eager for export, are now assembling in the staging phase of the offensive. They are a symptom of what is developing in the new world of "competitive co-existence." Khrushchev and Bulganin converted them into a symbol of the future when, on leaving Burma, they gave to the Burmese people as a gift from the Russian people a technological institute to be built in Rangoon and staffed by Soviet experts.

Even more formidable is the spectacular example of mass-training for the Soviet Union's own domestic industrial needs. Without the present outpouring of trained experts, within the U.S.S.R., the sixth five year plan, only recently announced, could not promise by 1960 a 60 percent increase in the national product of the U.S.S.R. and a 70 percent step-up in heavy industry. Bulganin at the recent party Congress announced that the production of trained specialists and experts in the current five-year plan would be 4,000,000--equal to the last two five-year plans put together. This is at the rate of 800,000 annually from now until 1960.

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What is it that most impresses a foreign observer about the Soviet school system? In less than forty years, starting with a population at least 50 percent illiterate, the Soviets have built a seven-year primary school system rivaling our own in universality, with nearly 100 percent enrollment. Further, since World War II, the Soviet secondary school system has mushroomed amazingly. By 1960 the basic ten-year school is to be compulsory everywhere. Already 70% are enrolled through age 17, in contrast to our 80%. But by 1960, in spite of acute labor shortages, all children are to be kept in school from 7 to 17. Every Russian youngster is to be given an education, a communist education of course, comparable to high standards of study and learning in an English public school or a French lycee but without the same emphasis on the humanities. I shall return to this in a moment. The Soviet standard is far higher than that of even the best American high school. It is perhaps comparable to a couple of years at a top college.

Further, the U.S.S.R. has already surpassed us both in the number and percentage of students enrolled in institutions above the secondary level--with 4,300,000 in 1955. This is a 70 percent bulge over our 2,700,000.

The Communists from the earliest days gave up butter for guns; but they gave up meat for education.

The figures I am quoting were given me by top Soviet school officials. They may exaggerate. But perhaps they do not. I suggest we would be wise to accept the figures literally. Americans have for years scoffed at Soviet claims--only to find that they have out-stripped all nations but ourselves in industrial production. We are learning only now that they have the steel and the fuel and the electric energy which they told us they were going to have by this target date. We scoffed for years, only to discover that Lenin's and Stalin's "visions" have become today's industrial realities, with the achievement often surpassing the seemingly fantastic predictions.

Education is one area where we in America most surely have nothing to lose if we accept Russian claims. Intercontinental competition in education need be no challenge to an arms race or a war. If the Russians goad us to do a better educational job ourselves, then we shall only do what our own best tradition calls for--what we should be doing even if the Soviet Union were to sink suddenly into the sea. But if we are complacent about our educational efforts and system, if we allow ourselves to fall behind the Russians, we may find ourselves out-witted, out-maneuvered, out-thought and out-built throughout the world.

Russian youngsters go to school six days a week, ten months a year. Discipline is strict, study hours are long, and the curriculum is demanding. At all levels, the Soviet students like European students in general work much harder than do our American youngsters.

Wearing their military-looking uniforms, Soviet children for the first four years concentrate on reading, writing, arithmetic, and Russian. In the last six years, more than 40 percent of their time goes to science and mathematics. During these years, they must take algebra, geometry, and trigonometry. Also compulsory are four or five years of physics, four years of chemistry, two years of biology, a year of astronomy, and a year of psychology. Finally, each student is supposed to take six years of a foreign language. In the higher institutions, English, the new language of science, is the favorite, but in the satellites, the favorite at all levels is of course Russian.

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My understanding is that there are no electives. Indeed, I was told that the first time the student has any choice of subjects, once he has chosen his field after the ten-year school, is as a graduate student at a university.

The contrast with our secondary school curriculum is startling. Lewis Strauss, Chairman of the U. S. Atomic Energy Commission, recently told the Thomas Alva Edison Foundation: "I can learn of no public high school in our country where a student obtains so thorough a preparation in science and mathematics, even if he seeks it--even if he should be a potential Einstein, Edison, Fermi, or Bell." Indeed, last year for all the high schools of the United States, we produced only 125 new teachers of physics. Think of it! Only 125 for 28,000 high schools.

The U.S.S.R. in the last quarter century has applied the educational goals of the old elite--the high standards of the Czarist system--to the new masses. In this mass application, the Soviets are challenging us with their version of the American dream. They offer high-grade training to every boy and girl, and as much as his talents and abilities will absorb. They are seeking to steal the American dream and in broad daylight.

Pro-Rector Vovchenko of the University of Moscow told me that, above the ten-year schools, there are now more than 2,000 "tekhnikums." Life Magazine this week says there are some 3800. These tekhnikums have an enrollment of two and a half million students. We in the U.S. have no parallel for them. They are a kind of vocational college. They give two-and-a-half and four-year courses to 2.5 million students. They produce "middle grade" specialists in scores of fields. There are even tekhnikums in such areas as music, art, medicine and education. However, the great concentration is in the field of industry.

The industrial tekhnikums are operated by such ministries as electricity, railroads, communications and agriculture. The Ministry of Higher Education, however, helps maintain academic standards. From their tekhnikums, the various ministries draw their non-professional technicians who move ahead into key supervisory and operating jobs in industry.

Then there are the 800 institutions of higher Soviet education. Thirty-three of these are universities. The balance are the specialized institutes for doctors, engineers, lawyers, dentists, aeronautical experts, electrical specialists, agricultural experts, etc., etc.--all the specialized skills in such demand throughout the world. The universities do not have authority over such higher technical institutes, but concentrate largely on the training of scientists and scholars and of teachers for above the fourth-year level. All universities and higher institutes provide five-year programs, except the teacher-training institutes, which are four years. (The U.S.S.R. seems to think that after four or five years of physics in a ten-year school, another four years of physics in a pedagogical institute is enough to train a physics teacher for a high school!) The universities and higher institutes have an estimated enrollment of 1,825,000 students.

The University of Moscow, dominating the city with its gleaming new 33-story central tower dedicated to the sciences, enrolls 23,000 students. The recent investment of three billion rubles for this new building, completed in 1953, is astonishing by our standards. It is equivalent to at least 150 million dollars, figuring the ruble at 5 cents, the lowest estimate of its value given anywhere. Thus this building cost more than has been spent for the completed physical plant

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of all but a very few American universities. It contains 1,900 laboratory rooms. It symbolizes to all Russia what lies ahead in the fulfillment of Soviet ambitions for youth. Here work most of the 2,000 professors of the University of Moscow who teach students. Here too are the 500 scholars dedicated to research from whom no teaching is expected. All 2,500 must seek to make their own individual scientific contributions in the laboratories. Those who succeed receive the highly prized doctorate, a top or super degree for which we have no equivalent. It is even claimed that this Soviet degree makes most of our Ph.D.'s appear like diplomas from junior colleges.

As to teaching in the Soviet Union, the U.S.S.R. has many advantages. I realize that the very idea that the U.S.S.R. can have an educational advantage over us is one which many of us emotionally resist. But many among you have found that on some questions it is advantageous to an administrator to enjoy centralized control. We don't like such a push-button system in education and we don't want it. But it can have advantages. For example, the 10-year schools don't have to compete with General Electric for physics teachers; the state trains the teachers and funnels them to the schools.

The advantage of such central control which most interested me, because I am chairman of Encyclopaedia Britannica Films, was the extraordinary progress of the Russians in the use of classroom and educational motion pictures. Ralph Tyler, known to many of you as a man who doesn't exaggerate, once remarked that it takes half a century for half of our educators to adopt a good new idea. To any good new idea, our teachers, administrators and school board members across the entire U.S.A. must be won over almost one at a time. 42,000 separate school boards must be wooed and won. Thus after 26 years of pioneering effort, the classroom film producers in the U.S. haven't yet put a projector into more than one out of 50 classrooms. This great instrument can even improve the technique for teaching children how to read, the task which George Stoddard estimates costs about half of the nation's annual budget for public education. If the motion picture could even make a 5% contribution to a four billion dollar cost, there are some who think this adds up to two hundred million dollars. Yet in the U.S. this new teaching aid, this new weapon for the attack on illiteracy and ignorance, has gone largely unnoticed by school boards and educators.

By contrast, the U.S.S.R., once it began to use classroom films, has made rapid progress. The Russian films are like our "documentaries." They are not yet planned and produced for close integration with the curriculum. However, the Russians have pressed their pushbutton and they are now forging ahead of us rapidly in the use of film in the classroom, and in the production of such films in quantity. The Soviet 1954 catalog of films for educational purposes, brought out by the Ministry of Culture in Moscow, runs 206 pages and lists 937 titles. The University of Moscow boasts a Professor of the science of Motion Pictures (or some similar title). I visited the motion picture studio and projector room at the University of Kiev. The top universities are producing classroom and educational pictures and are exchanging them and listing them for wide distribution. The Soviet educators will soon learn, in my judgment, to produce a high quality of teaching film which is tied closely to the curriculum. This is the type we produce here but cannot distribute in any quantity.

The goal of a projector in every classroom has not yet been achieved in the U.S.S.R. But at present rates of progress the Soviets will achieve this a decade before the U.S. gets a projector into every school building.

The Soviet educational system has, of course, grave and indeed tragic weaknesses by our standards and goals. There is no academic freedom or tenure for teachers or professors. No criticism of the regime, or of official dogma, is permitted. Classroom discussion is not encouraged. Heavy emphasis is given to rote memorization of texts. Every advanced student must devote his full time to his specialty except for 10 percent to the study of dialectical materialism and Marxism-Leninism-Stalinism. The student can't change his mind about his profession in midstream; he can't shift. Every graduate of a tekhnikum, institute or University must work for three years on any assigned job in his specialty, under penalty of prosecution.

To us, this seems a system of training, rather than education--training for the service of the state and not for the happiness or fulfillment of the individual. But we must recognize that this is a doctrine which sharpens the tools for the new Five-Year Plan, and for the new look of the new Soviet competition throughout the world.

I fear the Communists may have found a formula for combining on the one hand high quality in scientific and technological training and research--including production of original and creative work in the natural sciences--and on the other hand an acceptance and obedience in political, economic, philosophical, and moral matters. Whether this formula will hold up over the decades may turn out to be the crucial question of our historical epoch. Allen Dulles expresses "cautious hope" that it won't.

This, then, is the spectacle of the growth of Soviet education. This is the story of its explosively expanding output.

By contrast, we in the U.S. have been talking about our own impending school crisis for years but doing little about it as your previous speakers have pointed out. What was predicted by President Truman's Commission on Higher Education has come to pass. Yet Secretary Folsom tells me President Eisenhower is about to appoint still another committee. Must it not again conclude that we dare not procrastinate and postpone any longer?

New school buildings--the main object of current educational legislation in Washington--are imperative. But in my view, they hold a third priority. I see two requirements even more urgent and a fourth that is equally so. In the balance of my talk tonight, I shall examine these four major requirements of our educational system.

1. Our first priority is scholarships and fellowships, awarded on a competitive basis. You have heard many times that our industries and our defense establishments require at least 45 to 50 thousand new engineers a year, and that Russia produced 53,000 engineering graduates last year in contrast to our 23,000.

The frantic competition for engineers now going on in the U.S. has been reported on the front pages of the New York Times. There is also a scramble for physicists, chemists, and mathematicians. These shortages have obscured the swelling demand for professional and technical experts in many other fields. At the rate we are growing, we can expect shortages of at least 22,000 physicians and 100,000 nurses by 1960. The need for dentists, architects, and psychologists has jumped, too, and we must not forget the liberal arts. The shortage of teachers may be the most acute of all.

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Eighty to ninety percent of all students at the Soviet higher institutions have been on state scholarships. Three weeks ago we learned from the Party Congress that beginning this autumn all education is to be free. Every Soviet student can now keep going upward in the Communist world at the state's expense so long as he can make the grades. Indeed, he is pushed, prodded, pressured and enticed to reach the limit of his capacity for training.

Weighed against our practices, these policies give the Kremlin obvious advantages for developing and exploiting its manpower potential. While the Russians try to harness 100 percent of theirs, we waste much of ours, and most flagrantly.

In the light of today's emergency, we must develop the imagination and courage to embark upon an adequate federal scholarship program.

The federal government should undertake immediately a national scholarship program beginning with as many as 20,000 scholarships a year, each covering four years of college. Further, this should be increased as rapidly as the administration of the program, and the absorption capacity of the colleges and universities permit to a level of 100,000 scholarships a year. To these should be added 20,000 or more graduate fellowships. Trained manpower is like money in the bank. It is our most important national resource. It is what Bulganin called Russia's gold reserve.

Our high schools abound with talent worthy of such scholarships. Secretary Folsom two weeks ago cited an estimate that "each year about 60,000 students of high ability drop out of high school before graduation...and half of the students in the upper one-fourth of their high school classes do not go on to college." Dael Wolfle tells us that 150,000 pupils from each age and class who could enter the important specialties fail to go to college. For many years most of us interested in education have freely admitted that for every student we have in an American college, there are two of equal aptitude and ability who never enter.

The Soviets have made the life of science and research, of engineering and of scholarship, among the best rewarded in the entire Union, in terms of salaries and prestige and of freedom from the harsher realities of life under the hammer and sickle. The epithet "egg head" would seem to be a compliment in the U.S.S.R. When a Soviet student is accepted for graduate work, his future is virtually assured. About 5 to 10 percent of those who complete the regular university and institute programs are accepted. More than 90 percent of those accepted roll on through the next 3 years and secure the advanced degree which leads to a life of scholarship, research and teaching. The average professor in the U.S.S.R. earns perhaps ten times what an ordinary Russian worker gets. Outstanding professors earn the equivalent of the annual salary of an American industrial corporation president.

For most of the USSR's 60,000,000 students enrolled in courses of study or educational institutions, graduation from a 10-year school or tekhnikum marks the end of formal education. But many students continue to struggle and strive for another chance and still another. This is why one sees the teenagers in bookstores buying books on nuclear physics. This is why in the Leningrad library I found every desk occupied in the great science reading room. The silence was absolute; the concentrated zeal of the students was breathtaking. I asked my librarian guide, "Are these university students?" He replied, "Oh, no, the university has its own library; these are workers from the night shifts of the factories; we keep the library open at night for the day-shift workers." Those who successfully pursue their studies can continue ever upwards and onwards in the academic and scientific hierarchy.

2. And this brings me to my second priority. Without delay, and on a bold scale, we must develop new incentives for teachers. Although my discussion tonight will deal largely with the problem in our public schools, we would do well to emulate the Russians in the financial opportunities offered to university professors and top scholars, to whom we have never offered either perquisites or the prestige enjoyed in Western Europe.

Beardsley Ruml has shown how teachers' real earnings have gone steadily downward since the early days of this century.

What puzzles me about the proposals for a blanket percentage increase in all teachers' salaries--in the public schools--the idea that every teacher's salary should go up 50 percent, let us say--is a theory of my mother's. She was a knowledgeable teacher and administrator. At 13, she was a teacher in a country school in Iowa and among her pupils were farm boys of 16 who only attended school for three months a year, in the winter. At 25 she was the first woman county superintendent of schools in the history of Minnesota. After my father died, she served for a while on the staff of Teachers College and later became one of the highest paid women in American education. Her theory was that many, if not most, teachers were overpaid. Many, she contended, were mediocre and couldn't earn as much doing anything else.

Perhaps the key question is in two parts: first, how can we offer greater incentives to the talented public school teacher, and to every teacher who successfully seeks self-improvement, and, second, what system of incentive will tempt and hold young prospective teachers of talent? I do not see why the taxpayers should succumb to bureaucracy, and now greatly step up the salaries of hundreds of thousands of teachers who are inferior. Indeed, one of our national tragedies is that our teachers colleges do not attract a better caliber of students. Are we not indeed using them as a refuge for the bottom one-fourth of the academic spectrum?

In the development of new and far bigger incentives for talented teachers, I fear we must again turn to the federal government for leadership. Some five or ten years hence, several billion dollars annually will have to be found to add to teachers' salaries. This program, to stimulate our present teachers and to attract new ones, should be launched at once and on a scale into the hundreds of millions, allocated through State Departments of Education to communities which undertake to attract and keep uncommonly promising teachers. The federal government must help establish a pattern of standards. This will cause a hue and cry about federal control. We must face up to it. This is the nub of the coming argument. There is nothing radical about the idea of federal aid; even Senator Taft favored it. The critical argument will center on the nature and degree of federal leadership in the establishment of standards.

The idea of adequate pay for university professors was John D. Rockefeller's back in 1891 and we have forgotten it. He sent Dr. William Rainey Harper from Yale to found his new University of Chicago. Dr. Harper reported back to him, "Mr. Rockefeller, I cannot persuade the top scholars of the East and of Europe to move to Chicago." Mr. Rockefeller asked, "What is the top salary in the world paid to a University Professor?" The answer: "\$3,500.00." Mr. Rockefeller issued the order that in a decade developed one of the greatest universities of the world, "Pay your top men \$7,000.00." This was the salary in 1891 of the President of the First National Bank of Chicago. Perhaps this order explains why, as Arthur Page once said to me, the University of Chicago advanced the cultural development of the West by a full generation.

Now if you think I am exaggerating money as an incentive for teachers and scholars, I can only reply that this is because of the environment which surrounds our schools and educational institutions. It's due to the American climate in which they live. This of course is a subject for quite another speech.

3. And this brings me to the third requirement, the dilemma of the physical plant. Here again, I refer principally to the public schools.

Delegates to the White House Conference on Education went on record by more than two to one approving federal money for school building construction. In late January this year Dr. Gallop found that 67 percent of all adults were in favor, with only 24 percent opposed. And this is said to represent a major break-through on the whole principle of federal aid to schools.

I've wondered what the White House conferees who opposed federal aid may have been thinking of. Perhaps one clue is that the delegates from Texas were almost unanimously opposed. But if they had understood that the issue of national survival is literally tied up to an adequate educational plant, the vote should have been 99 to one. The important question isn't who were the two-thirds, but how could there have been a one-third minority? The idea of federal aid to education is neither new nor revolutionary. Even Senator Taft was for it.

As soon as this year's legislation is passed and passed it must be, we must face up to the need for a new act designed to stimulate school building up to a rate of \$3.8 billion a year. This is the goal if we are to secure the 950,000 classrooms we must build in the next 10 years. Further, as Benjamin Fine reported on Monday in the New York Times, from your conference here in Chicago, college enrollment will double by 1970 and only six states have taken any steps to handle "this impending wave of students."

Because state and local community outlays for school construction are now at a two billion dollar level, leaving a gap of 1.8 billions, the \$250 millions offered by the present Administration or even the \$400 millions visualized in the Kelley bill are far too little. I don't like to keep stepping up the urgent need for massive federal funds, but there is no help for it. As Mr. Murray told Congressman Cole, if the public knew the facts, it would put up the money.

When Mr. Khrushchev looks across the Atlantic at us what he sees in education is 48 Balkanized units, each in turn Balkanized into scores of hundreds of local districts, with school boards worrying about their mill rates while Mr. Khrushchev tools up for political conquest. A fortnight ago Marion Folsom said, "Education is basic...to our collective strength in the cause of world peace." Is not this an issue on which the United States must unite? If I sound alarmist it is only because I am trying to do so.

George Stoddard wrote me last week that the only answer to the Soviet educational advance is "to push to the limit our own democratic ideal of developing the total resources of every person." This is in the spirit of Thomas Jefferson, who believed that democracy would succeed if education were placed within the reach of as many of our people as possible. We can't begin, in today's world, to live up to this great goal without teachers--and classrooms--and scholarships.

4. Finally and fourthly, let us re-examine our teaching methods and our institutional set-up.

Our goal of secondary school pupil-teacher ratio has been 25 to 1; in the university it has been 12 or 13 to 1. These goals now seem to be about to vanish. Soon we shall receive the tide of 42 million school children.

Some of our associates still cherish the dream of Mark Hopkins sitting on one end of the log teaching a single boy on the other. This dream breeds the ideal of the tiny class in which every student more than one is one too many.

We should no longer indulge ourselves in cultural lag. We must learn to close Ralph Tyler's 50 year gap. We must bring technology to the schools. For example, all plans for new buildings should make it easy for children in Maine and Kansas to learn history and science and arithmetic from the Californian or the Britisher who understands them best and can explain them best through films and educational television.

One good teacher, with a couple of aides, can learn how to take care of 200 or 300 pupils--and improve the instruction. This makes it profitable as well as easy greatly to raise salaries in order to attract and hold good teachers.

This raises the question of how can we now begin to cut down in many areas the enormous waste in our system and thus, as best we can, hold down its mounting cost? The American public school pattern is still based on the 8-4-4 plan. At least 2 years of the first 12 are clearly wasted. We should expect more of the teachers as we pay them better, so they won't have the time or the need to sell books in the summertime. Further, let's get rid of some of the many phony "certification procedures." These often require inferior courses at second rate colleges. They keep graduates from Yale or Princeton who are physics majors from teaching. As the superintendent of schools of Hartford said this week, such conditions for teaching positions are excluding capable teachers because "They don't meet the book even though they are doing a fine job." He added, "Perhaps it's time we re-oriented our thinking on what makes a good teacher."

While we raise teachers' salaries, can we not lengthen the school day, and the school week, and the school year? As the father of four, I attest to the fact that my children would profit from school six days a week, and longer school days, and ten months a year. This would not only compress the first twelve years to ten, but should give them something like fourteen years of schooling in ten, by present standards. Such a change would immediately reduce our present need for pre-college teachers by at least one-sixth. And salaries for the competent could be sharply raised even on present budgets.

And can we not learn how to compress some of the years en route to the doctoral degree, by cutting down wasted time, so that a self-supporting physician or scholar need not be nudging middle age before he can afford to get married?

Further, can't we agree with former President Conant of Harvard that we must have more and better junior colleges? In many ways, they offer our best hope for free mass public education beyond high school. Fifty percent of America's present junior colleges are in California. Now I ask this audience: from the standpoint of the interest of the people of the United States, what kind of situation is this?

Let us also study the creation of new kinds of institutions as they may be needed. A few weeks ago I suggested that our government create Technical Assistance

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Academies, equal in status to the United States Military, Naval, and Air Force Academies--to educate picked young men and women for service overseas as technical specialists. Someone called my suggested Academies "West Points of Point Four." I emphasized that such Academies--and I apply this to all technical or scientific education in our country--should have a curriculum with a strong infusion of the liberal arts, so that our young engineers and scientists can better serve their country overseas. Today how can we expect to persuade the young engineer to serve overseas? If he is well advised he'll go to Topeka or Fargo instead of to Rangoon. Why should we not offer talented young people, chosen by competitive examination, the chance to become physicists and engineers and experts in public health - instead of truck drivers and automobile salesmen -- and let them pay for their education by serving their country for a few years? This is the principal on which we have operated West Point and Annapolis for 150 years.

One vast reservoir of talent consists of our entire present labor force, those whose education stopped when they left school. Can we not launch a national revival for citizen participation in education at all ages? I think we can, and this is a great challenge to our universities, much as they may resist it.

I cite the foregoing merely as samples of ways in which we can seek to improve the structure of our educational system and of the institutions within it. Many of you here are better qualified than I to explore these problems and opportunities.

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As I conclude in hope that I shall not be misunderstood tonight, may I stress that our best over-all opportunity for doing a better educational job than the U.S.S.R. continues to lie in educating whole men? This must and will remain our goal rather than the Soviet prototype of the specialist, technician or functionary. Yes, we must make a far larger investment for training in science. But we must also recognize that for us the sharp distinctions between the sciences and the humanities are obsolete. Most United States engineering schools today at least pay lip service to the idea that specialists must also be broadly educated men and women.

When a friend of mine who is on your program of speakers learned that the theme of my remarks was to be Soviet education and what we might learn from it, he said my theme boils down to a single lesson. "We must abandon pragmatic-instrumentalism," he said, and "return to a deep faith in man, as the son of God, and in the values which accrue to that status."

A deep faith in man is the total opposite to the Soviet system which offers a vast technocratic new Sparta. By our standards, their system is more like animal training than the education of human beings. It is without human spirit or soul. It is the state-take-all and let the individual take the hindmost. It is the gospel according to Pavlov.

The peoples of the world are now entering an era when energy comes from rocks and sunlight; when materials for shelter and clothing derive from air, water, and chemicals. Barring war, the aspirations of underdeveloped peoples will soon force industrial and educational development into every cranny of human society. If we of the United States are to meet the new challenge of the world-wide revolt against

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hunger and disease and ignorance--you who are our leaders in the field of education must march forward in the front ranks. Believe me, however, I do appreciate my difficulty tonight. It is not easy to exhort the professional exhorters.

But before I close, I must get back for a moment to money. Money is a refrain which runs through part of this paper. Many of you, I know, may question whether the U.S. can afford the costly program I have advocated. Indeed, the cost is an even bigger hurdle than the haggard spectre of federal control.

Educators have almost always had to beg for money. Back in 1426, the fathers of Oxford approached the Duke of Gloucester for help, and put their case this way:

"What aim can be more noble than the advancement of learning, which raises man above the beasts and lifts him towards a higher life? It was a divine inspiration that suggested a foundation of lectures, and we hope the intention will be fully carried out. Let not poverty, that cursed stepmother of learning, disappoint us of our hopes."

I say today, in this boom year of which some are boasting, if you are reading the political news -- I say let not the plea of poverty, a still more despicable stepmother of learning, deprive our children of their future development in freedom, and our nation of its destiny.

Soviet Russia may be the first country to develop free and unlimited schooling for all with the talent who are willing to work hard. But we in the United States have tended a brighter fire during the last 180 years. This should be far more appealing to all mankind if we now begin to do a better job of living up to it. This is our dedication to the advancement and perfection of the individual. Here in this city, the University of Chicago is drawing upon our past heritage as it builds toward the future. The University Trustees say in their recent brochure: "Education would make children better than their fathers, and that was part of the strange American idea of how things ought to be." The brochure continues, "Education was what it was virtuous to spend money on. Education was the banner of equality. Education would make democracy work. The Educated Man as we understood him is the best weapon we have."

You leaders in the field of education have the knowledge and the insight and I trust that such great meetings as this today in Chicago will help you to cultivate the wisdom and the courage. If you will, you can persuade us. Tell all America that we ignore at our peril any mute unkempt Einstein, be he listless and unmotivated in a Chicago suburb or cut off from opportunity in a Mississippi shack. Tell us the truth, I say, and see to it that your words become epidemic. If we, your alumni and constituents and taxpayers, are given courage and vision by you, you will find us ready to respond--to respond with generosity, with devotion and enthusiasm--and with renewed dedication to the fulfillment of the American Dream of which you are the leading inheritors and the spokesmen. The parents and the youth of our great free country are waiting for you and your words--today--this very night.