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THE TECHNE

LIFE WITHOUT LABOR IS A CRIME. LABOR WITHOUT ART AND THE AMENITIES OF LIFE IS BRUTALITY.—RUSKIN.

VOL. XVII NOVEMBER--DECEMBER, 1933 NO. 2

DARE THE SCHOOL BUILD A NEW SOCIAL ORDER?

"As the possibilities of our society begin to dawn upon us, we are all, I think, growing increasingly weary of the brutalities, the stupidities, the hypocracies, and the gross inanities of contempory life.

"We have a haunting feeling that we were born for better things and that the nation itself is falling far short of its powers. The fact that other groups refuse to deal boldly and realistically with the present situation does not justify the teachers of the country in their customary policy of hesitation and equivocation.

"The times are literally crying for a new vision of American destiny. The teaching profession, or at least its progressive elements, should eagerly grasp the opportunity which the fates have placed in their hands."

—George S. Counts

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THE TECHNE publishes, for the most part, papers on educational subjects, though articles on closely related fields are also used. Part of these papers set forth the results of research; others aim at interpretation of current developments. Though some of the discussions will interest the specialist, it is hoped that in every number there will be something useful for the average teacher.

THE TECHNE is sent free to the alumni, school officials, libraries, and, on request to any person interested in the progress of education.

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ASTRONOMY IN THE ELEMENTARY AND SECONDARY SCHOOLS

J. A. G. SHIRK
Head of Department of Mathematics

It is not the object of this paper to argue for a course in astronomy in the secondary school, but rather to point out the desirability of teachers of mathematics and science being prepared to bring in some of the interesting ideas in astronomy in connection with courses in these subjects. Astronomy was the science that developed simultaneously with mathematics. Many of the ancient mathematicians whose names are mentioned frequently in connection with the discovery of geometrical theorems or algebraic processes were also equally industrious in the development of astronomy. Modern texts in mathematics and science quite frequently mention the pioneers in these realms, and the teacher might mention their contributions to astronomy in connection with these presentations.

Many interesting things in astronomy could very properly be included in the programs of mathematical or scientific clubs. The writer has spoken several times to junior-high school clubs on such topics as: Our Solar System; How We Got Our Calendar; The Stars, What Are They?

Just recently one young boy remained after the Friday evening visitors' hour at the college observatory had come to an end. When the closing details had been attended to, we descended the five flights of stairs together and walked across the campus towards my home. Having previously noticed that this boy had been a frequent visitor at the observatory, and that he seemed to have considerable appreciation of the celestial objects being observed, I inquired concerning the source of his interest in astronomy, and found that it was due to the science talks of a sixth grade teacher about two years ago. She had taken an unusual interest in science while in college, and had completed at least introductory courses in every prominent phase of physical and biological science, including a course in astronomy. I remembered her as an enthusiastic member of a former class in astronomy.

On making further inquiry of the boy concerning these science talks, I found that while this teacher had devoted some of the regular school time to brief presentations of interesting scientific information, that most of such conferences were held at intermissions and even after school with a limited number of the children who had a common interest in some particular phase of science. The regular school time presentations covered a variety of topics from different sciences as a planned sequence, but the informal discussions were on items of particular interest.

The interesting thing to me was that the presentation of simple astronomical facts seemed to have awakened more interest in the chil-

dren than any other phase of science. At least that was the reaction of this particular boy. This was somewhat surprising to me, in view of the fact that his teacher's training in astronomy was confined to one brief course in descriptive astronomy, while her preparation in some other fields of science was much more extended. I feel that this is an evidence of the appeal of astronomy to the children of our public schools, and I hope that some time an introductory course in this science may be considered an important part of the training of the elementary teacher.

Another item of interest to me was that last year a group of about ten boys and girls from the elementary training school connected with this institution chose astronomy as their particular club activity. The young man who conducted this club was a member of my class during the time when this club was being held, and I know how he worked to be able to give this group of children correct ideas in a simple form adapted to their educational level. He told me quite frequently of his method of approach to various topics, which was in general just about the same as is necessary in a general culture course in descriptive astronomy where the class largely consists of students not specially trained in scientific lines of study. In addition to the common facts of elementary astronomy, he introduced a little mythology and some of the historical development of the subject, both of which seemed to be of considerable interest. He showed me several sets of examination papers that were very creditable in revealing a real appreciation of the nature of the objects of the solar system and its relation to the galaxy and other star systems.

There are several good books on the story of the stars in which the mythology connected with them is given in a style very pleasing to the child, and I may add, interesting also to the adult. However, there seems to be almost no books for children that embody the newer ideas in astronomy. This is probably due to the lack of appreciation of the contribution that astronomy makes to the enlarging of the child's mental horizon. There is no science that so easily develops an appreciation of law and order in nature as does astronomy, and the child who has received instruction in the beauties of this science from a teacher who is aware of its capacity for mental stimulation will always have a larger and broader view of life.

There is also some very close relations of astronomical ideas to the play of children. I shall give one very interesting example in the ease with which the child who spins tops can be brought to a good understanding of the wobbling of the Earth's axis. This wobbling causes the shifting of the celestial poles and the equinoxes, with the consequent shortening of our ordinary or solar year to about 20 minutes less than the time for one revolution of the earth about the sun.

Every child who spins tops is well aware of the fact that when a top spins rapidly that it remains in a vertical position, but that when its

speed is reduced and the top leans slightly from the vertical, that a slow wobbling of the top about a vertical line takes place, the speed of wobbling increasing with the slowing down of the rotational speed of the top and the attending increase in the inclination of the top from a vertical line.

The only point of which he is not aware it that this wobbling always takes place in the same direction as the direction of spin of the top. This is due to the fact that children almost universally spin their tops in the same direction. When the top is spun in the opposite direction, the direction of wobbling is also reversed, since it is always in the same direction as the direction of spin.

Several years ago as top spinning season arrived in the spring, I stopped near a group of small boys who were busily engaged in this interesting occupation. After carefully noticing the directions of spin and of wobbling of the tops, I found that they were all the same, that of the left handed boys being the same as the right handed. I explained to them that the cause of the wobbling was due to a force from the side that was the resultant of the force of gravity which was acting to increase the inclination of the top from the vertical and the force due to rotational inertia that tended to maintain the same position of the axis of rotation. Then I told them that if a top could be spun in the opposite direction, that the direction of wobbling would be also reversed. Immediately they wanted to test this out, and at once attempted to spin a top in the opposite direction. This was a much more difficult task than they had anticipated, and I had to leave in about ten minutes with no one as yet accomplishing the desired result.

However, they did not cease trying to perform this feat when I had gone. and the next day when I passed the same group of boys, several were eager to show me that they had sufficiently mastered the art of top spinning as to be able to occasionally obtain a good reverse spin.

In my astronomy classes, I use the metal tops set in motion by a spring device. When I purchase these tops I found that all were made for right handed or clockwise spinning when viewed from above, and it was necessary for me to rewind the spring of the spinning device in order to obtain a left handed or counter clockwise direction of spin.

Now we know that the earth's axis wobbles in the opposite direction to the direction of rotation on its axis. As we face the north, the direction of the rotation of the earth on its axis is right handed or clockwise, or as say from west to east. The wobbling of the axis is, however, in the opposite direction, the north celestial pole tracing out a circle of $23\frac{1}{2}^0$ radius. At present the celestial pole is approaching the north star, but within a century or two it will pass this star and move away from it, returning to its present position in about 26,000 years, which is the time of one wobble of the earth's axis.

The cause of the reverse direction of wobbling of the earth is easily seen in the fact that the attraction of the sun and moon for the earth's equatorial bulge tends to reduce the $23\frac{1}{2}^0$ inclination of its axis to its orbit, while the earth's gravity force tends to increaase the angle of inclination of a top. The disturbing force having an opposite effect on the inclination af the axis of the earth from what it does on a top, it is easily appreciated that the resultant force of this force and the force due to rotational inertia of the earth would cause the earth's axis to wobble in the reverse direction to that of its rotation about its axis.

This westward wobbling causes a moving of the equinoxes to the west. Consequently the time between the earth being at an equinox and returning to the same equinox is less than one revolution about the sun, as the earth meets the equinox again before it has completed a revolution. It is as if the hour hand of a clock moved backward instead of forward, and the minute hand would coincide with it again before a revolution had been completed. The 20 minutes before mentioned is about one twenty six thousandth of a year, since the time for one complete backward revolution of an equinox is about 26,000 years.

I have merely indicated some of the points of interest to the child that can be brought out by the elementary or secondary teacher who is interested in the value of astronomy in awakening the scientific spirit of children. Many other topics are of considerable interest to children. such as how we got our calendar, why we have seven days in the week, and why each particular day received its specific name.

To the enthusiastic teacher the opportunities for stimulating the minds of children through astronomical ideas are unlimited, and the influence of these ideas on the child's moral and social viewpoint is of permanent value.

THE KINDERGARTEN - CAN WE AFFORD TO ELIMINATE THEM?

Ethel M. Peck, Kindergarten Supervisor

"Kindergartens have been eliminated in 170 cities through the mistaken efforts of selfish interests to reduce taxes at the expense of the children."[1]

We, as kindergarteners do not feel that the closing of a single kindergarten in Kansas or elsewhere has been done because kindergartens have not proved their worth. In almost all the cases is has been financial with school boards making a desperate effort to balance the school budget and trying to economize in every way to maintain the elementary grades and high school, but we do believe in many cases, parents and school boards have lost sight of the importance of the kindergarten, so for that reason, I want to set forth the dangers and harm of such a practice to our youngest, and to convince my readers that educators the world over are alarmed and pleading for the kindergarten. We must curtail expenses. Yes, but let us not destroy the foundation of all our work.

"The easy way to meet any economy program is to eliminate departments but the test of leadership is the ability to meet emergencies and carry on," says John Everard Demeyer.

Our educational program has been one of slow growth. Educators have worked long and earnestly to introduce departments and subjects that enrich the curriculum; to deliberately relinquish any of the ground gained would be a sign of weakness.

The city of Wellesley, Massachussetts, has set a fine example. It would be well if others would take just the stand that the people of Wellesley took. Wellesley is one of the few towns in the United States still maintaining a Town Meeting form of government. The School Committee's Report was published in a Wellesley newspaper on February 10, 1933. This called for suspension of all kindergartens including seven teachers. The Parent Teacher Association got busy at once and requested an addition to the school committee's budget. They sent home questionnaires and made many individual contacts—From their report I quote the following:

"While appreciating fully the importance of reducing public expenditures at this time, we feel that the schools should be the last place, and certainly not the first, to make the savings. Also, we feel that the elimination of the kindergartens, and the curtailment of other school features is too high a price to pay for the relatively slight saving in the tax rate."

The annual Town Meeting was held Monday, March 13. There were

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[1]Joy Elmer Morgan, Editor, National Education Association.

1500 registered voters present. The result of the vote was overwhelming in favor of a larger amount which meant the retaining of the kindergartens.

"Fredrich Froebel, a man with a vision far in advance of his times, recognized that individualism and freedom of thought and action were quite as important to little people as to more mature citizens, and through his efforts and teaching the modern kindergarten had its beginnings. Recognizing the impossibllity of liberalizing existing educational systems except by a slow process of evolution, Froebel began his work with children below the accepted school age. He was bound by no tradition because he was pioneering in a new field. The results of his experiments and our subsequent taking over of what was best in his ideals; our application of them as a background for the growth of the kindergarten of today, is history too well known to need repetition.

"So successful has been this program for early education through the kindergarten that its influence has been felt in changed methods throughout all the grades of our schools. It is influencing the life of every child in America today regardless of whether he has had the privilege of attending a kindergarten or not. It is also being carried back to the nursery school or pre-kindergarten. Our primary grades come nearer the goal of individual liberty in thought development than any other level in the modern school system. In them we are working out an educational democracy which will at last permeate even our colleges if they are to continue to serve the purpose for which they were founded.

"The kindergarten has not finished its work. It has made a splendid beginning but the need for more kindergartens is one of our greatest community needs today. The ever-increasing complexity of our society, the breaking down of home life through economic and social changes in the home such as our forefathers never even visioned, place the burden of proper training of young children upon outside educational institutions.

"We need to view with alarm the tendency to discontinue kindergartens in a time of economic stress. The very fact that in so many instances home conditions are not as good as usual, makes the need for proper care and nurture of the little people more urgent than ever. I have before me an article in which a school committeeman of a city states: 'The discontinuance of the kindergarten might not be harmful at the moment but it would be a bad step, leading to serious consequences in the future.'

"We must protest as vigorously as possibly to the first part of his statement. Never in the history of education was the kindergarten more needed than today. Unfortunately we have no yardstick with which we can definitely measure the harm of discontinuing even one. If we could, the problem would be easy of solution.

"A layman discussing school problems recently with a friend said: 'Our town has just completed a beautiful and ornate three-million dollar high school, with elaborate landscaped grounds. The town has, the same year, closed its kindergartens for purposes of economy. I wonder why?'

"I think that the education leaders of that community would find this a difficult question to answer. Whatever we may be obliged to do to balance our budgets, we must not shift the burden from our shoulders to those of our children." [2]

Angelo Patri, noted educator of New York City, urges against crowded kindergartens but urges every community to avail themselves of the opportunity of this training for their children. He says, 'The education of the little children is of first importance. We need to have them when they are young in order to set right habits of work and study and play. There is no saying how much time, how much of power we save in every kindergarten class.

"Do you think that kindergarten is just play and that your children have enough play without going to school for it. Know that your children need sense training, need to know color from form, need to work with their hands, need to build with their companions, need to play in groups, need to sing and march and dance, need to learn how to live with other children and work intelligently some part of every day.

"Children ought to have a taste of kindergarten before entering the regular classrooms. If they can have a year's progressive work under good kindergarten teachers they will have an educational start that will lend strength and inspiration and fine quality to the work they do in school for the next eight years.

"Little children need to have their senses trained a bit. Need to have them sharpened and directed so that they become conscious of the fact that they have eyes with which to see and ears with which to hear. You know you can show a little one a bright paper pin wheel and he will smile and clutch at it and perhaps use it for a moment or two. That is all. If you dig into his mind on a private tour of investigation, don't let them catch you at it ever, you will find that he never saw it, never sensed it. He will not know what color it was, usually; he rarely knows that it had four points or five or that it was made so it had little checks or pockets to catch the air. He had senses but he did not know how to direct them. In the kindergarten he will learn to use those senses and to gather experiences through them. He will learn that if he wants to know something or wishes to do something, these eyes and ears and hands and nose and skin and speech and motion will get him what he wants. He becomes conscious of his powers and learns to use them to his advantage.

"No, he will not learn that in the grades just as well. Neither will

[2]John Everard Demeyer, American Childhood, April 1933.

he learn them from his mother at home. In the first place his mother has not the time to give him nor has she the training to know how to give it to him. She needs to be free of him for three hours a day and he needs the stimulus of a new environment. Home and the things that are there and the people that are there are going to take on a new meaning because the little one has had his senses sharpened and his experiences enriched. You see, the more he knows, the more he can learn.

"The association of other children is necessary to the child's mental growth. It brings to him what we call a social conscience. In plain English it teaches him to live with other people, to allow them to have their opinions and their privileges and to fit his own to them occasionally. It teaches him to watch his neighbor and to follow him in what is good and to help him drop anything that is not good. Children learn more from each other than they do from us. If you want to teach a child something rather difficult let an older child, not too much older, teach him. He will make a far better job at it than you will.

"The five-year-old child is at the stage where rhythm makes a strong appeal to him. The music of the kindergarten songs and marches relaxes the tension on the child's body and it allows his energy to flow freely so that he learns faster and easier. A tense child can not learn. It is this tension that holds back so many children in their first term. The school-room discipline is too severe for his unadjusted body and mind. Send him to kindergarten if there is one and if there is none, get one. The school laws generally provide for one if parents ask for it."

"Cutting of Kindergarten Funds is False Economy" is another interesting article appearing in the *Commerce and Industry Magazine* for April 1933.

"It is with no little concern that we watch the ruthless ax of the budget wielder descend on the school appropriations. More especially, it seems doubly regrettable that this same ax should fall upon kindergartens and similar institutions. From every section of the country reports are coming in that through the efforts of the Boards of Education, to balance their budgets, this is just what is happening.

"It is well known psychological fact that the pre-school period is one of the most important of an individual's life. Definite patterns, complexes, and impressions are formed. The kindergarten usually acts as a guiding hand, directing the child in the all important problems of work, play, eat, and sleep. For this reason, it appears as though the kindergarten would be the last place where the board heads would look to slash expenses, but contrary to all logical reasoning, it seems to be among the first.

"We can well appreciate the problem facing the various boards, but it appears to be false economy when such an important function as child training is affected. In Communistic Russia, child training comes

before anything else, while our supposedly enlightened Democracy looks to save money by turning the youngest children in our schools into the city streets.

"Because we feel that this issue is of utmost importance to every citizen, we wish to join hands with Miss Patty Smith Hill, Professor of Education at the Teachers College, Columbia University, in an appeal to the parents of the country. It is only by the application of pressure from this source that school boards will listen. It is only when the fathers and mothers protest that the authorities will hesitate. Here is a real challenge to parents of all classes and in all stations of life. It is very important to the future of the tiny individuals who are learning their first lessons of life."

Patty Smith Hill, noted educator and Professor of Education, Teachers College, Columbia University, N. Y., and a pioneer kindergartener wrote the following article for the Parents Magazine recently:

"Shall the Youngest Suffer Most?" [3]

"Any reasonable being can but realize the serious problem which boards of education and welfare organizations are facing in the distressing, but inevitable demand for cutting school budgets.

"While children should be the last to suffer the results of wars and financial crises, for which they certainly are in no way to blame—even under the wisest adjustments to such distressing conditions, the youngest members of the family and state seem to have to share the economic anxieties and serious privations of adult society. But one would think that even the most superficial thinkers would realize that 'the slings and arrows of outrageous fortune' should not strike first and most disistrously the youngest and most helpless members of a community.

"Yet that is just what is happening today all over this country through the efforts of boards of education to balance budgets.

"In so far as this cutting of budgets is done with intelligence, discrimination and justice, with undoubted evidences of having weighed and compared values in some of the eliminations which must necessarily be made in all educational programs of the future, school authorities deserve the confidence, sympathy and support of public spirited parents and teachers. But, when one whole age level—representing little chil dren from four to six years of age—is ruthlessly, and often wholly cut out of the benefits of its share of the school tax, while elementary and high school boys and girls are either wholly protected, or only partially sacrificed, one's sense of justice and fair play is both shocked and outraged.

"The pre-school period is one peculiarly susceptable to disease and the influences of emotional strain and criminal surroundings. More

[3]Patty Smith Hill, Childhood Education, June 1933.

care instead of less should be provided for little children from homes of unemployment neccessarily permeated with an atmosphere of emotional strain and a desiccating sense of insecurity.

"It is a sad commentary on the intelligence and humanity of educational authorities in this so-called enlightened country, that with all hte upheavals of revolutions in Russia, and the poverty and choas through which Austria has passed, they have provided more protection of infants and young children. The little ones have come first in their educational programs. Are communistic and socialistic governments the only ones stirred with compassion for the most helpless? Must a truly democratic country such as our own is supposed to be, save money for older girls and boys—age levels far more able to protect themselves—by turning the youngest children in our public school itno the streets? We rejoice in and appreciate this battle to protect the rights of older girls and boys to all that makes for their growth and good citizenship, but we can but ask, is health of body and mind, and growth or development any more sacred and valuable on one age level than on another? Ask the pediatricians and psychiatrists to answer these questions. Dr. George D. Stoddard of the University of Iowa, who has been engaged in a scientific study of a child's life, asks, "What evidence do we have that four college years for the average child os more valuable to him than four years of special education as a pre-school child?"

"I cannot believe that the boards of education and school authorities responsible or such action have studied sufficiently the outcome of such conditions. Surely they have not weighed the values, or willingly subjected the most helpless of all the chidlren in their care to those unjust decisions. Nor do I believe that the teaching body as a whole is willingly fighting for unreduced salaries at the cost of curtailing service to all children, especially the youngest members of the educational family. We are told that the best teachers in our schools not only realize that they, too, must suffer financially as other professions have, but that they are ready and eager to make any just sacrifice for the children in their care.

"Who then can best alter or influence these unjust and disastrous conditions? Teachers? A thousand times, no! Parents must meet this challenge and demand justice for the youngest. When parents protest, boards of education and school authorities *must* listen. For this reason a heavy responsibility falls upon the shoulders of parents for conditions in their own public schools.

"Shall the 'slaughter of the innocents' go on at its present pace under the caption of school economy? This challenge must be met by all the parents, of good or ill fortune, if the doors of the kindergartens are to remain open to the little children of our nation during this depression.

"Dr. Joy Elmer Morgan, Editor of the*Journal of the Natioanl Education Association*, in an editorial note, in the December 1932 Journal,

says, 'The kindergarten is the best part of the school. It lays foundations; it establishes basic habits; it makes the transition from home life to classroom activity. It probably yields a larger return for every dollar spent than any other unit of the school. Are you, as a teacher, helping parents and citizens to understand that in the cholice between the dollar and the child, it is not good economy to abolish the kindergarten?"

In the beginning of this article it was stated that kindergartens have proved their worth. Besides what noted educators say, I wish to call your attention to a number of recent scientific research findings.

The Study, "Kindergarten Training as A Factor in Progress Through the Grades" by R. J. Bell concludes: "It seems clearly demonstrated in the foregoing that kindergarten training seems to reduce failure, retardation and withdrawal and at the same time to increase the possibilities of promotion, acceleration, initiative, and ersponsiveness. The effects of kindergarten training as shown by the investigation described prove conclusively that the broader the experience gotten early in life the more certain is the child to remain intedested and active in his school work, and the more capable he will be in the inauguration o pfroblems of his own. He is less liable to ail of promotion and is more likely to remain oen of a group of accelerated or normal children. He will respond more readily to situations confronting class and individual child and will manifest greater initiative in the creation of situations or the elucidation of conditions."

The Study, "Kindergarten Training in Relation to Progress in School Subjects," by Coleen M. Smith, gives the general conclusion that: "The kindergarten child is better adjusted than the non-kindergarten child at an earlier age in matters which involve the formal school subjects."

The Study, "Kindergarten Training as Affecting Chronological Age and Educational Age on Entering First Grade and as Affecting Intelligence Quotients," Lillie Lewin, concludes: "Pupils who have been in kindergarten one term or longer exceed those who have not attended kindergarten by approximately three months in mental age. The habits and skills developed in kindergarten are probably responsible for the three months superiority."

The Study, "Kindergarten Training as it Affects Social Development," by Mary M. Reed, concludes: "The importance of providing an environment where a child's natural tendencies have a chance to function under the guidance of a person who understands child nature cannot be overestimated."

Therefore, the bulk of evidence shows that something does happen to the child as a result of his experience in the kindergarten which affects his later progress and achievement.

Can we afford to eliminate kindergartens? Parents, superintendents, and school boards must answer this.

ADDRESS BY HON. HAROLD L. ICKES, SECRETARY OF THE INTERIOR

In Connection With the National Education Association Program, October 29, 1933

How many of us have stopped to consider what would be the result if all the schools of America were to be closed tomorrow and kept closed for one full generation. One could not undertake to describe the conditions that would exist at the end of that comparatively short period, but there can be no doubt that the effect would be startling. We would have a country made up almost entirely of illiterates. Culture would have disappeared. Science would be merely a word of Latin origin. In the course of a generation we would have gone back literally hundreds of years as to all the essentials that distinquish this period from that of the dark ages.

It goes without saying that the higher the civilization of a country and the more complex its life, the broader and the higher and the more universal must be the education of the people in order to maintain that civilization. In a low stage of civilization education as we have developed it today was not necessary. All that the youth just emerging from savagery into barbarism needed to know to prepare him to be a good member of his tribe was a knowledge of how to hunt and fish. Later, in a higher state of civilization, it was essential for him to be trained to till the soil and to take care of his flocks. Thence, on up through advancing stages more and more education was needed to fit him for the life that he was called upon to live.

You all remember the boast of proud Douglass in one of Sir Walter Scott's poems that none of his sons save the one who had entered the priesthood "could pen a line." There was here described a period post-dating by hundreds of years the emergence of man from the savage state. And if our anthropologists are to believed, hundreds of thousands of years had elapsed before the distinctive form of man had developed in the animal kingdom. Scott was writing of the days of chivalry when men had acquired many of the arts and graces of living. Yet aside from the churchmen, the statesmen and those few who were gradually building up the other learned professions, men were still, generally speaking, illiterate. Every book was a closed book. Knights in armor who could not write their names rode full tilt at each other in tournaments to win the favor of a lady's smile, little caring that that same lady did not know her alphabet. The generality of the people lived dull and sodden lives, tending their flocks or eking a scanty harvest out of the soil with the aid of crude and clumsy instruments.

Gradually more and more people began to acquire the rudiments of learning but they were indeed rudiments. The United States of America is a comparatively young country, and even as late as our pioneer days the people got along with little formal schooling. When

finally the value of an education came to be realized by the people, schools were established to teach boys and girls to read and write. What scattered schools there were kept open for only three or four months a year and few indeed were the children who studied more than the three R's. It was still considered that the most valuable part of the education of the youth of the land was to be gained through experience on the farm, in the apprentice shop, or on board ship, because we were a nation of farmers and artisans and sailors. The three R's were considered merely as finishing touches to the practical education received outside of the school. The masses of the people had to be content with this smattering of an education, although there was a college here and there to educate the few for the learned professions. It is probably safe to say that college education of those early times was not the equal in depth and extent to the education that the modern child can receive in an up-to-date high school.

But life never stands still. It either goes backward or forward, and the course was an upward one following these early pioneer days. Life became more complex as commerce and industry developed rapidly and contested with agriculture for supremacy. As a result of our industrial and commercial development, social, political and economic problems became more numerous and difficult of solution, so that in course of time it became manifest that all the children of all the people should receive at least a common school education. Our well being as a people and the relative position of our country in the family of nations required us to turn our attention more and more to education. So a noncompulsory school system gradully gave way to a compulsory one, until now school attendance for a certain number of years is required in every State in the Union. The mere statement of this fact is all that is necessary to demonstrate the universal belief in this country that we must educate our youths broadly and generally in order to assure the best possible citizenship and the well being and security of the State itself.

There never was a time in the history of America when education was so vital to us as a nation and so essential to us as citizens. Yet strangely enough the friends of education are finding it necessary to go through the land in order to educate the people on the importance of education. Perhaps we have taken our education too much for granted. Like air and light and water, we have come to assume that it is a natural element; that it will always be with us; that it was ours when we were children for the taking, and that it will be theirs for our children in their turn for their taking.

It is unhappily true that friends of education and believers in democracy must be on the alert as they have never had to be in the past in order to preserve unimpaired this essential tool of democracy. There is an enemy within the gate. Apparently there are those in the land who are taking advantage of the economic strain and stress under which we have been suffering to dim the light that has guided our course since

pioneer days. It is being urged that we have spent too much money on education; that we are over-educated; that the schools are full of frills and fads and fancies that do our youth more harm than good; that all the education that is necessary for our children is a grounding in the three R's.

Those who thus counsel us would turn back the clock for more than a hundred years. They do not seem to realize that civilization and education go hand in hand; that in fact education is the foundation rock upon which our civilization has been built. Weaken or destroy the foundation and the building erected thereon will totter or fall. It stands to reason that if the universal education that supports and justifies our civilization is undermined our civilzation itself will suffer to a corresponding degree.

In moments of reverie we may idealize the simple bucolic state in which our ancestors lived. With the edges of our imagination we may play with the idea of reverting to a condition of society of a hundred or two hundred or three hundred years ago. We may longingly wonder how it would seem to substitute the kerosene lamp for the electric bulb or even the tallow dip or the rush light for the kerosene lamp. We may romanticize about dressing again in homespun, raising all our own food and producing all our own clothing on our own little farm. To give up the automobile for the plodding cart, to discard the tractor for the horse drawn plow, to throw away our ice-making machines, our bath tubs, and all our modern comforts and conveniences may be an idea to play with in an idle moment, but I am certain that no man, woman or child would in reality want to revert to the dull, drudging, unimaginative existence of our great-grandfathers.

Yet some such retrogression will follow if we allow our educational system to slip back to what some people apparently are willing it should revert to. Such a highly complex civilization as we have built up requires highly trained intelligence for its maintenance and further development. No one would thrust an intricate and highly sensitized machine into the hands of a man just emerging from the jungle and expect him to operate it. If anyone thinks that I am drawing a strained and out-of-focus picture, let him try this experiment: Take any finely built, well developed and strong youth from the jungle. Put him into a factory containing complicated and delicate machinery, turn on the power, lock the doors, and leave him free to run that machinery. Can anyone doubt that the result in a short time would be the utter ruin of that machinery because the savage hand with all the willingness in the world lacked a trained and educated mind to direct it as to which levers to pull, and which wheels to turn?

So intimately is the general education of the people related not only to their own happiness and well being but to the prosperity and security of the country that the importance of maintaining and developing our educational system ought not to require argument. It is by means of

an educated people that material wealth is increased. The natural resources of our country are no greater today than they were a hundred years ago. As a matter of fact, they are much less. Quantities of the gold, silver, coal and iron have been mined, and to a considerable extent our oil has been exploited and our forests cut down. Probably our native ability as a people is little, if any, greater than it was a hundred years ago. Yet none will deny that the value of the people of the Nation is vastly greater than it was a century ago. This increased value is due to the fact that they have become more universally intelligent as a result of education. Of the three factors in the production of material wealth, namely, natural resourses, native ability of the people and education, education is the only one that varies to any considerable extent. And it should be borne in mind that education can vary in either direction. If our production and accumulation of material wealth is greater in the degree that our education is more universal and of higher quality it goes without saying that with a falling off in education our material prosperity would diminish correspondingly.

We accumulate wealth; we can pass on to each succeeding generation tangible property in any form. We can even to some extent transmit native ability. But we cannot bequeath an education to our children. The most we can do is to provide them with the means for an education. Every babe that is born into the world is as ignorant as its most remote ancestor. It can neither write nor read. It has only rudimentary mental processes. It merely has reactions and responses to external stimuli. If abandoned to its own fate on an uninhabited island, if it survived at all, it would grow up to be a totally illiterate man and an ignorant one, except as it might learn certain facts of life from its environment and from its experience. Since it is necessary to recreate in each generation those processes of education which the preceding generation enjoyed, we must continue to provide schools and teachers and all the essential tools that go to furnish and equip the mind.

We have been made sadly aware during those last few years of the necessity of economy. With our private incomes sharply diminished, with our means of livelihood cut off, with less pay forthcoming for the same amount of work, we have had to pinch and scrimp to make both ends meet. If this condition has been true in our private affairs, it has also been true as to those common enterprises which we maintain by the taxes that we pay to government. Our schools have suffered along with everything else. Hundreds of thousands of children are either being denied educational opportunities entirely or they are able to attend school only on a part time basis. Thousands of schools have been closed. Equipment has been deteriorating and replacements of essential tools for education have been lacking.

I do not deny that of necessity some economies must be made in our schools. But we are going too far in that direction. Our schools ought to be the last to feel the pinch of economy, just as they ought first to experience the return of prosperity. Undoubtably the educational tree

needs some pruning. There may be some dead and decayed branches that ought to be cut off. But if such pruning is necessary it should be done scientifically, by experts. It serves no good purpose of economy and it is immensely damaging to our educational system to slash into a budget regardless of whether we are cutting into a vital spot or not.

Even in these days of tremendously pressing problems, to my mind the most important question of all is, what are we going to do about schools. That education should be universal goes without saying. By education I mean more than the three R's. I believe that every child should be given all the education that he can reasonably absorb. This does not mean that all children should spend an equal number of years in school or that all should take the same courses. It means that everyone in order to have the best chance possible for a happy and full life should have every bit of education that he is capable of receiving and of using to advantage.

He should have this not only for his own sake but for the good of the whole. The intelligence of a nation is the sum of the intelligences of all of its citizens. Intelligence is the product of education and education is the greatest national asset that we have. No nation in these times can hope to survive, to say nothing of progressing in the arts and the sciences, in commerce, in trade, or in industry, unless it is composed of a well educated citizenry. Least of all can a democracy, depending, as it must depend, upon an informed public opinion for the selection of its leaders and the framing of its laws hope long to endure unless it consists of a highly and universally educated electorate. The individual American must be educated not only that he may be able to enjoy a happier and fuller life; he must be educated in order that, in cooperation with other educated Americans, he may do his part toward sustaining and upbuilding an intellgent and beneficient and capable government.

PREDICTING COLLEGE MARKS AND TEACHING SUCCESS FOR STUDENTS IN A TEACHERS COLLEGE*

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PURPOSE

This study endeavored to determine which of several criteria would likely be most helpful in predicting (1) college success and (2) probable teaching success for students majoring in education at Kansas State Teachers College, Pittsburg. One hundred women students were studied. The factors investigated were intelligence, age, the curriculum followed, the year of graduation from high school, the particular high school attended, race, teaching experience, occupation of parents, and high school record.

MEASURES USED

The measure of each student's college success was the average of her college marks up to and including the semester ending in June, 1930. The number of semester hours of credit per student ranged from 16 to 120 with an average of 47. Each semester hour of credit with a mark of "A" was given a weight of 5, and credits with marks of "B," "C," "D," and "F" were weighted 4, 3, 2, and 1, respectively.

The measure of each student's probable teaching success was her score on "Aptitude Tests for Elmentary and High School Teachers, Set 1," by J. E. Bathurst, F. B. Knight, G. M. Ruch and Fred Telford.

The measure of each student's intelligence was her score on the 1929 edition of the American Council Psychological Examination.

PREDICTION OF COLLEGE SUCCESS

Psychological Examination:—None of the factors investigated show great promise for predicting college success; however, both the Psychological Examination and the Aptitude Test may be helpful. The relationship between average college marks and scores on the Psychological Examination is represented by a correlation coefficient (Pearsonian) of .527+—.048. This is low. However, of the eight students ranking highest on the Psychological Examination, six made an average college mark of "B" and two of high "C;" of the seven ranking lowest in the examination, two made average marks of "D" and five of "C." Of the 100 students, 38 averaged "B," 58 averaged "C," and 4 averaged "D." There were no averages of "A" or "F."

Aptitude Test:—The correlation between the average college marks

*This article is condensed from one bearing the same title which was published by Dr. Fritz in *The Journal of Applied Psychology* for August, 1933. It is based upon data given in the master's thesis of James W. Evans, K. S T. C., Pittsburg, with added analyses and observations by Dr. Fritz.

and the Aptitude Test scores was .629+—.041 for the 100 students. This means that the Aptitude Test predicts college marks better than does the Psychological Examination. It may also mean that the Aptitude Test tended to measure what these people had learned in their college classes in education since all had taken such courses before they wrote the test. Of the 20 students scoring highest on the Aptitude Test, 14 had an average mark of "B" and the other 6 of high "C;" of the 22 scoring lowest, only one had an average of "B" with 18 of "C," and 3 of "D."

Age:—There was a tendency for the younger students to secure slightly higher scores on both the tests.

Year of Graduation and High School Attended:—Neither the year a student graduated from high school nor the high school from which she came gave any hint as to the average college mark she earned.

Negroes:—Nine of the students were colored. The average of their college marks was 2.9, considerably below the median. Their average score on the Psychological Examination was 105.2, slightly above the median. Their average score on the Aptitude Test was 110.8, also above the median. It appears that these colored students received lower college marks than their intelligence and aptitude score would warrant.

Teaching Experience:—Twenty-five students had teaching experience other than supervised teaching. The amount of experience ranged from three months to 99 months, with an average of 25, and a median of 16. These experienced students averaged 2.5 years older than the total 100 students. Their average college mark was 3.5, as compared with 3.3 for the 100 students. Their intelligence and Aptitude scores were very slightly above average. It is probable that their slight superiority in scholarship is not attributable to greater intelligence so much as to better work habits and to a greater proportion of "A" and "B" marks given a few years ago when these students took some of their college work.

Occupation of Parents:—The parents of these 100 students were engaged in 30 different occupations. The parents of 23 of them were farmers. The average college mark of this group of 23 students and their scores on both the Psychological Examination and the Aptitude Test were well distributed throughout the ranges for the 100 students and afford no factors of value for predictive purposes.

High School Record:—The 100 students came from 56 different high schools in five states. No satisfactory plan for equating their high school marks could be found and the records showing the pupil's success in high school had to be eliminated from this study.

Prediction of Probable Teaching Success

As previously stated, the criterion of teaching success used in this study is each student's score on the teachers' Aptitude Test. This test is supposed to measure the extent to which a student possesses the quali-

ties of a successful teacher. It is objective and probably more valid for this purpose than the usual rating schemes.

Psychological Examinations—If the Aptitude Test does measure teaching success, then the Psychological Examination is a fair predictor of teaching success. The correlation between these two tests for the 100 students was .732+—.031. This comparatively high correlation might be taken as indicative that the Aptitude Test is really another intelligence test.

College Marks—To what extent do college marks predict probable teaching success? The correlation between the college marks and the Aptitude Test scores was .629+—.041 for the 100 students. This is not high; however it does show considerable relationship between college marks and teaching success—providing the Aptitude Tests constitute a valid measure of teaching success.

Other Factorss—A further analysis of the groups previously mentioned in our search for factors to predict college success showed no significant relationship between probable teaching success as measured by the Aptitude Test and the factors of: curriculum followed, year of graduation from high school, particular high school attended, the fact that the students were colored, that they had had teaching experience, or that their parents were farmers.

Summary

The findings given here apply only to students in the one department of the Kansas State Teachers College of Pittsburg and cannot be considered applicable to all departments in that college, nor to all colleges.

Of the several factors investigated for predicting college success, only the two tests appear to have any value. These were the Aptitude Tests for Elementary and High School Teachers, Set 1, and the American Council Psychological Examination, 1929 edition. The Aptitude Test gave a correlation of .629—+.041 with college success, and the Psychological Examination a correlation of .527+—.048. The best that can be said even for these two tests is that they may be helpful in predicting college marks but are by no means dependable predictors.

The measure of a student's probable teaching success was her score on the Aptitude Test. Of the several factors investigated for predicting probable teaching success, only two had any value. These were the Psychology Examination and average college marks. The Psychological examination gave a correlation of .732+—.031, with the Aptitude Test. One is inclined to wonder whether the Aptitude Test is not another intelligence test rather than a measure of teaching success or ability. The average college mark correlated .629+—.041 with the Aptitude Test. If the Aptitude Test really measures ability to teach school, then it is evident that those students who earn the better marks in college are the better risks as teachers.

A REVIEW

Eaker, J. Gordon. *Walter Pater, A Study in Methods and Effects.* University of Iowa Studies. Vol. V, No. 4. 1933. 50 pp.

The author quite logically chooses "The Child in The House" and "Emerald Uthwart" as a point of departure for examination of Pater's style. "Imaginary Portraits," "Greek Studies," "Marius The Epicurean" and Pater's critical essays, "Gaston de Latour," and "Plato and Platonism" receive consideration in the order named. Dr. Eaker discovers in Pater's works a synthetic method which depends upon choice and combinations of details for unity of viewpoint and accuracy of aim. Pater enchances the quality of his style by injecting into his writing his own subjective attitudes and by decorating it with his inimitable artistry. He emphasizes interplay of light and shadow and utilizes proportion, balance, and conflict of forces. The style of Pater may be resolved into the subject, plus Pater, plus Pater's artistic interpretation.

Pater's choice of style is fortunate as he employs it in his critical essays to bring out a characteristic aspect of an author's work. His procedure is less effective when, as in "Plato and Platonism," he applies his method to a subject that is complex or that contains numerous elements of approximately equal importance. His grasp of life in the ensemble falls short of that of Carlyle or of Ruskin.

In his analysis of Pater's achievement, Dr. Eaker is unbiased and his conclusions are well-founded and modest in their scope. His style shows the influence of Pater's method. This study is of distinct value in that it gives a careful evaluation of Pater's work and a close differentiation between the style of Pater and that of Carlyle and Ruskin.—R. Tyson Wyckoff

JAMES A. YATES

The death of Dr. James Anderson Yates brings poignant grief to a vast number of personal friends, including thousands of men and women who were his students during his long career as an educator. Few men have the gift of inspiring profound respect among acquaintances to the extent that Dr. Yates possessed that gift.

Dr. Yates was devoted to his profession. To it he had given the best that was in him for 45 years. He was not a teacher for the remuneration that came to him. He was a teacher because he loved the work and appreciated the opportunity that the profession gave him. No educator ever more fully recognized the obligations of his position. He was continuously striving to be fully as progressive as the age in which he labored. A few years ago he devoted his year's leave to study for his doctor's degree from his old college, the University of Kentucky. There as a young man he had received his bachelor degree and there a few years later he had been awarded his master degree. At an age when most men would consider it foolish to devote the time to more study, Dr. Yates became again a student. He was a brilliant and thorough student again and no youth was ever more enthused about the commendation he received than was Dr. Yates when his alma mater conferred his earned degree upon him. He was a scientist of high rank, with a reputation that extended into the circles of chemistry throughout the country.

The loyalty of Dr. Yates to the College must always command the admiration of every friend of the institution. He came to Pittsburg 26 years ago from Ottawa University where he had spent ten years rendering the same sort of service he was to render in Pittsburg. The College was then only four years old, with a small faculty, a small student body and poor equipment. But he was looking ahead. He believed the institution was destined to grow into the important institution it has become. He put his life into it. Hours meant nothing to him except the opportunity to work for it. Through these 26 years Dr. Yates had never faltered in his faith in nor missed an opportunity to advance the interests of the College. In doing this for years Dr. Yates devoted night after night to extension work. He traveled to other points to conduct classes and direct work at the cost of physical strength. In

these activities he gave special attention to the classes for miners, and hundreds of men in this industry are saddened today by the loss of their friend.

Dr. Yates was completely unselfish in his devotion to the College. He had no personal ambitions to satisfy, except that of pride in the advancement of the College. For that reason he was always a safe counselor when vital issues were to be decided.

Dr. Yates was a kindly man of peace. But when fighting was required to protect the interests of the College, Dr. Yates never hesitated. He was an antagonist of no mean ability. In the earlier years of his career at the College, much fighting was required. Dr. Yates was dependable. Behind his efforts was a sincerity that no man ever questioned.

Often it was remarked by his close friends that Dr. Yates was doing just what he wanted to do. He never was dissatisfied with his station. To him nothing was more important than his work at the College. But he took his part as a citizen. He mapped out his course of duty and followed it painstakingly. In the Masonic order, he was an active worker. He had been honored by the various bodies to which he belonged. He was a faithful churchman.

At the College and among his associates in civil life, Dr. Yates was "Daddy" Yates. Undoubtedly he preferred that title to the others to which he had a right. It was not merely a name. It was the sincere expression of a love and regard.

"Daddy" Yates, sincere educator, loyal faculty member, able citizen and lovable friend! It is no wonder that there is sadness in Pittsburg today. —*The Pittsburg Headlight.*

ABOUT THE CAMPUS

Donald Stewart of Independence, World War veteran and former assistant general of Kansas, delivered the Armistice Day address at the College.

Four classes in English grammar are being taught in the collegiate Department of English.

Thirty-two men are studying radio in a class which meets every Thursday night for two hours. The course is for men who are not in school and is sponsored jointly by the College and the State Board for Vocational Education. Professor W. H. Matthews is the instructor.

Philipp Abbas, cellist and a member of the music staff, headed the cello section of the Kansas City Philharmonic Orchestra for its first concert in November and was invited to join the orchestra for the season. Mr. Abbas and Vivian Abbas, his wife, have a number of important engagements for cello and piano concerts this winter.

Kansas State Teachers College's football team, playing a program of nine games this season, won four of them, tied at zero in two, and lost three. Within the Central Conference it won two games, went in a zero tie for two, and lost two, closing the season with third place in the conference. The season's scores were as follows, with Pittsburg first: Maryville, Mo. State Teachers, 33-6; Southwestern, 14-2; Fort Hays, 0-0; Washburn, 0-6; Wichita University, 0-7; College of Emporia, 0-0; Emporia State Teachers, 21-0; Kirksville, Mo., State Teachers, 0-7; Simpson College, 19-13.

The K. S. T. C. band of seventy-six members has mads three trips out of the city this fall. It played at Coffeyville in October for a Shrine ceremonial, at Wichita October 28 for the Wichita-Pittsburg game, and at Iola November 11 for the Armistice celebration.

Dr. G. W. Weede, head of the Physical Education Department, made all the home football games interesting for the uninitiated by giving a play by play explanation of the game through a loud speaker in the press box on Brandenburg Field.

"The Development of Personality" has been the theme of a series of Y. M. C. A. and Y. W. C. A. meetings this fall with faculty members as speakers.

The telescope on Russ Hall is available to the public every Friday night when the weather is fair and is used by the college class in astronomy other nights. The chief objects of observation this fall have been the moon, Venus, and Saturn.

A basketball team with three forwards may represent Kansas State Teachers College of Pittsburg until late in January if an immediately available successor to Ernest "One Grand" Schmidt, all-conference center for four years, cannot be discovered by Coach John F. Lance. A forward masquerading as a center would mean that rival teams would have the advantage on tip-offs. The trouble is that the most promising candidate for the job of center—Laurence Royer of Newton—will not be eligible until the second semester.

Dr. C. W. Street, head of the Education Department, was confined to his home for several weeks this fall by illness.

Vocational classes in Practical Mathematics are being conducted at Riverton for the employees of the Empire District power company for the twelfth successive year. Some of the men in the class have studied mathematics every year since Prof. J. A. G. Shirk organized the class in 1922. Prof F. C. German is now conducting the work for the fifth successive year.

Dean G. W. Trout was host to the faculty men at the nineteenth annual "Trout Bake" Oct. 20. The dinner was prepared and served in the open.

Bohumir Kryl appeared with his Symphony Band for a matinee concert at the College Oct. 31. A large crowd heard the concert, which was the most important music event of the fall semester.

The staffs of the student publications this year are as follows: Collegio, Howard Jones, Uniontown, editor and Marvin McCeary, Blanchard, Okla., business manager; Kanza, Signor Fink, editor, and Archibald Petentler, business manager. These men were elected by the Board of Publications last spring.

A debate squad of fifteen students represent K. S. T. C. this season. The first inter-collegiate debate was held here with Independence Junior College, Nov 28, with the audience's decision fovoring the K. S. T. C. team. Prof. John R. Pelsma is the coach.

A novelty at Porter library is a recreational reading corner, where the most interesting literature on a variety of subjects is made readily availabl to students.

Prof. E. E. Stonecipher, head of the Bureau of Rural Education, was recently elected a member of the national council of the National Economic League to help represent the state of Kansas.

Practical knowledge is the keynote of the engineering lectures which are given by faculty members during the first semester of each year to all freshmen pre-engineering students.

Broadway, the thoroughfare in front of the campus, is to be widened from thirty to forty feet and repaved with concrete instead of brick, according to plans nearing completion.

The Art Department sponsored Dec. 3-9 an exhibit of paintings by Helen Waskey Embree, former student.

Thirteen student actors presented Nov. 23 the mystical drama, "Death Takes a Holiday." Ruth Merlyn Oskin, Pittsburg, had the role of the attractive girl to whom Death, masquerading as Prince Sirki, pays court. Gene Abernathy, Pittsburg, had the part of Death. Other members of the cast were: W. Burdell Baker, Topeka; Arthur Comstock, Tulsa; Carl St. John, Nashua, Mo.; Helene Robeson, Columbus; Margaret Lawrence and Annie Marie Lindsay, Cherokee; James Giddings, Independence; Charles Funk, Winfield; Christine Stillwaugh, Stark; Milton Zacharias and Mardelle Wines, Pittsburg. Miss Eula Oleta Jack, assistant professor of Speech, was the director.

Dr. L. C. Heckert, professor in the Department of Chemical and Physical sciences, has been named head of the department by President W. A. Brandenburg to succeed Dr. James A. Yates, whose death occurred Nov. 12. Dr. Heckert has been a member of the faculty since 1926 and previously taught at Iowa State College. Dr. C. B. Pyle, head of the Psychology Department, succeeds Dr. Yates as acting chairman of the Graduate Division during Dr. C. P. Dellinger's leave for the year. William H. Matthews, associate professor of physics, takes over the chairmanship of the committee on Smith-Hughes vocational training, after having been associated with Dr. Yates in that work for several years.