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State Manual Training Normal School

THE TECHNE

Life without Labor is a Crime, Labor without Art and the Amenities of Life is Brutality. — RUSKIN.

JUNE, 1922

"The education of the future will be largely an education through experience. It will center around and recognize the peculiar capacities and nature of the individual, and will be designed to develop in him self-direction, self-appraisal, and self-control; that is, initiative, critical faculties, and intelligent restraint. At the same time it will recognize the importance of tying the individual to the social group. Accordingly, it will give him essential experiences in a social environment, in an attempt to transmit to him the social standards, ideals and problems of his age. In a word, the education of the future will be individualized, socialized and vitalized."—*From "Education as Purposing," S. A. Courtis, Director of Instruction, Teacher Training and Research, Detroit.*

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PUBLISHED BY THE STATE MANUAL TRAINING NORMAL, PITTSBURG, KANSAS.
A COLLEGE FOR TEACHERS.
W. A. BRANDENBURG, *President.*

VOL. 5. JUNE, 1922 No. 6

The purposes of this magazine are: To set forth the distinctive work of the State Manual Training Normal; to publish papers that will be of interest to its readers; to assist teachers to keep in touch with the development in their subjects; to foster a spirit of loyalty that will effect united action among the alumni and former students in promoting the best interests of the institution.

Alumni, teachers and friends of the Normal are invited to send communications on such subjects as fall within the scope of the magazine to the committee in charge.

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The editors will welcome suggestions from TECHNE readers. Their desire is to make this little magazine helpful to teachers. Tell us how we can make it of greater service to you. Tell us what YOU want.

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Controlling the Intestinal Flora by Diet and Some of Its Effects.

J. R. WELLS, B. S., M. S.

In the following article it is the writer's aim to present some of the findings of recent investigators in the field of intestinal bacteriology in such a way that they may be of practical value.

It has long been recognized that certain pathologic conditions in man are associated with an intestinal flora that is markedly putrefactive in type. Headaches, skin disorders, digestive disturbances, nervous abnormalities and certain forms of liver and kidney troubles have been attributed with more or less reason to the effects of excessive intestinal putrefaction. Metchnikoff believed that premature aging of man was the result of this bacterial activity, and the term "auto-intoxication" became a commonly used term as a result of his theories. Many of Metchnikoff's assumptions were not founded on definitely established facts, and it has since been shown that in many of the cases of so-called "auto-intoxication" the abnormal symptoms were really due to chronic infections in the digestive tract or elsewhere. When these foci of infection were removed the symptoms disappeared. In other cases the symptoms were the result of nervous reflexes. But, after eliminating all these cases, there are still numerous instances of acute and chronic conditions in man in which no focal infections have been found and in which there is definite evidence of intoxication of intestinal origin.

It is generally assumed that these poisonings are due to the absorption of toxic substances from the intestinal tract and that these poisonous compounds are formed as the result of the action of proteolytic bacteria on proteins or their split products. The presence of putrefactive products and of certain other toxic substances in the intestinal contents has long been recognized. It is also known that there are in the intestines members of a group of organisms capable of producing various toxic substances, such as hydrogen sulphide, phenol, indol, and a number of others. We know that limited amounts of some of these poisons are absorbed and excreted by the kidneys without any apparent ill effects.

In diarrheal conditions it has been observed that there is evidence of a poisoning that is profound when the diarrhea is of a putrefactive type, whereas in the fermentative type there is little evidence of poisoning accompanying the attack.

Certain digestive disorders in children have been shown to be associated with a putrefactive intestinal flora. In these cases various workers have found that the return of these children to normal health was coincident with a change of the intestinal flora toward predominantly fermentative types. In each case improvement began at a time when it was possible to show that such a change had been brought about.

Attempts to devise methods of preventing this putrefaction have been persistent and varied. Vaccines, intestinal antisepsis, removal of the colon, and implantation of antagonistic organisms in the intestinal tract have all been tried with only slight success. A popular procedure has been the use of lactic-acid milks, particularly milk fermented by *Bacillus bulgaricus*. It

was believed that this organism could be implanted in the intestinal tract and that it formed enough acid to inhibit the growth of the proteolytic types. In general this method has been a failure, and more recently it has been shown that *Bacillus bulgaricus* cannot be implanted in the human intestinal tract, since it is apparently not an inhabitant of the normal intestine and cannot adapt itself to such an environment.

The most promising method of reducing intestinal putrefaction, and one which has already given valuable results in the hands of various workers, is the substitution of a carbohydrate diet for protein. Within recent years it has been shown definitely by various investigators that under normal physiologic conditions the chemical character of the food ingested is the fundamental factor controlling the bacteria of the intestinal tract. This theory was first advanced in 1886, but it was not until 1908 that the effects of diet on the intestinal flora were clearly shown. It has been proven that, at least in laboratory tests, proteolytic organisms are less active in the presence of carbohydrates, fermentation instead of putrefaction resulting. It is only in the absence of carbohydrates that proteins are attacked by bacteria to supply their carbon requirements. With this idea as a basis, several research workers since 1908 have studied the effects of feeding various carbohydrate combinations on the intestinal flora of laboratory animals, very recently applying them to man.

Of the compounds studied, milk-sugar and dextrin were among the first used, and appear to be most efficient in bringing about a transformation of the intestinal flora. These substances, when fed in sufficient amounts, accomplish this in about ten days. Similar experiments with nearly every type of food used in the diet of man, and various combinations of these, have been carried out recently, with the result that it has appeared possible to classify them into two groups, depending on whether or not they favor the development in the intestinal tract of a putrefactive or a fermentative type of bacteria.

Evidence to date indicates that animal tissues, particularly from mammals, favor the development and maintenance of a putrefactive type of bacteria in the intestines. Eggs apparently have the same influence as do animal tissues. In addition to favoring a putrefactive type of bacteria, these articles of diet furnish the materials needed in the production of the toxins already referred to and also are more or less constipating in nature, since they contain so little indigestible material to incite intestinal peristalsis and consequent elimination. Constipation and other types of stasis of the intestinal tract afford opportunity for greater absorption of any poisons which may be present in the intestine, as is evidenced by recent studies of the severity of the condition known as "locked bowels," or intestinal obstruction.

The second type of diet, based on its effect on the intestinal bacteria, is one composed very largely of cereals, milk and milk products, vegetables, nuts and fruits, with limited amounts of animal tissues and eggs. It has been shown that plant proteins do not favor the development of a putrefactive flora in the intestinal tract, and also that the proteins in milk are not favorable to such a type of flora. A diet made up largely of plant products and milk favor the development of a type of bacteria in the intestines which cannot provide the toxic substances already mentioned, thereby eliminating any

of the consequences of their absorption. Furthermore, a diet containing only limited amounts of animal tissues and eggs provides all the necessary food elements, and in addition plenty of indigestible fiber materials to call forth better elimination from the body. In fact, it is now claimed that such a diet is the best cure that can be given to the individual suffering from more or less chronic constipation.

In conclusion, it appears only fair to say that, in the light of recent discoveries in the field of intestinal bacteriology, the diet of the average person, made up largely of animal tissues with limited amounts of vegetables, cereals and fruits, is not conducive to the best interests of the individual and may be the cause of any one of several of his more or less common ailments. This type of diet can, then, well be supplanted by one in which cereals, vegetables, fruits, nuts, and milk and milk products constitute the major portion, with the amount of meats and eggs limited, although not entirely omitted.

A College Course in Practical Mathematics for Women.

JESSIE GRACE QUIGLEY, Assistant Professor of Mathematics, S. M. T. N.

The prevalent dislike for mathematics among women is due to the lack of a motivated course. A course in practical mathematics should be required of every woman in the freshman or sophomore year.

Those who approach the matter historically cannot avoid the conclusion that mathematics is not purely normative thinking, but is as empirical as agriculture, physics and art. The early Egyptians found it very necessary to have some dependable rule for redividing their land each year after the overflow of the Nile river. Fortunately, one thing led on to another. Thus the Harpedonaptæ of Egypt, the men who squared the corners of the fields and the temples by stretching rope around three pegs in such a way that the three sides of the triangle formed bore the ratio 3 : 4 : 5, furnished incentive for the Greek Pythagoras to investigate and prove "the square erected on the hypotenuse is equal to the sum of the squares erected on the other two sides." Furthermore, the Egyptians found mechanical advantage imperative in erecting their great pyramids and temples. The Greeks went over to Egypt to learn mathematics of the Egyptians, but were soon far superior to their neighbors. When the Egyptians taught the early Greek philosopher Thales what they knew of the right-angled triangle, much to their surprise he applied this knowledge to tell them the heights of objects by the shadow method. The early scholars soon began to use mathematics as a framework of all learning.

This early motivated mathematics was entirely among men, for men; hence we have become accustomed to looking to men for mathematics. The ways of the world are rapidly changing, and the rank and file of women who are gaining "a place in the sun" will find a growing need for practical mathematics. The army of women wage earners are now some twenty million strong.

Statistics show that 85 per cent of the money spent in the United States to-day is spent by women. Statistics also show that less than 10 per cent of

the people ever accumulate as much as a thousand dollars, which shows beyond a doubt that there is a crying need for a wiser handling of finances.

What, then, I hear you ask, should be the content of a course that is to eventually guide the "weaker sisters" in the stupendous task of disseminating 85 per cent of America's vast yearly income?

In conversation with Helen Bennett, president of the Vocational Guidance Bureau for College Women, of Chicago, I asked her what was the greatest fault found with college women. She answered without hesitancy, "Inaccuracy." This little conversation served to make firmer my conviction that inaccuracy must be conquered!

When I first began to teach mathematics this term I gave my class a simple problem requiring a considerable amount of multiplication, addition and division. Out of a class of fifteen I had seven different answers. I asked each student in turn if he was right, and received the usual answer, "I don't know." They were very easily convinced that a method of checking their work was very necessary. I taught them to check the four fundamental operations by casting out nines, and when they employed this method very nearly all mistakes were eliminated.

After a sufficient degree of accuracy is obtained by working the more elementary applied problems, I would spend considerable time on the mathematical theory of investment.

Under the theory of investment I would take up interest, annuities, amortization, stocks and bonds, sinking funds and depreciations, building and loan associations, the theory of probability and its application to financial problems, and insurance.

I would have my students know how to investigate small and large investment propositions, with especial emphasis placed upon local investments.

Correlation with other branches of science is another important phase of this course.

I believe my most beloved hobby in this connection is a careful presentation of proportion. Why should a woman entering the study of chemistry think that a proportion may be written in only one way, when as a matter of fact it may be written in twenty-four ways? Why neglect our only method of comparing magnitudes, as we have in the past? There are many interesting and useful proportions problems relating to needlework; for example, the use of enlarging or diminishing designs for different-sized pieces of cloth. If space permitted, I could write at length on elliptic design, mural decorations, elliptic arches, etc.

The world is awaking to the importance of graphs. I know of no way to present progress to the average person that will be so convincing as by graphs. I would have my class learn all kinds of practical methods of graphing.

In conclusion let me briefly state what I expect to accomplish by giving this course:

(*a*) Absolute confidence in the students' ability to perform the four fundamental operations accurately.

(*b*) Ability in all the operations with fractions, both in algebra and arithmetic.

(*c*) A good practical knowledge of mathematical theory of investments, including the points mentioned earlier in this paper.

(*d*) A clearer understanding of the application of geometry to other fields of interest.

(*e*) Ability to manipulate the formulæ found in the sciences.

If this course in practical mathematics be well presented to college women, I believe it will prove very beneficial.

The School Lunch.

MADELINE MILLER, Friend, Kan.

One of the greatest problems in the public schools is that of malnutrition. The hot lunch, in my opinion, is the only solution.

The hot lunch is especially adapted to the needs of the consolidated school, where the pupils must leave home early, and often after only a hurried breakfast. Besides, there is a long ride before they reach school, and another in the evening.

There are other advantages. First, it affords the teacher an opportunity to give the pupils some idea of the theory of cooking, such as, why eggs should not actually boil, why milk foods should be cooked in a double boiler, why legumes or dry foods should be soaked in cold water, etc. Second, it promotes sanitary habits on the part of pupils, because they are made to feel their own need of cleanliness. Third, it gives a chance for drill in some points of table manners, and seems to encourage the social spirit.

Securing the needed equipment should not be a great difficulty even in the small rural school. The heater can be brought into service, or in many cases an oil stove can be obtained from some home in the community; this, an improvised cupboard, and a small worktable can be arranged in one corner of the schoolroom so as to make a practical kitchen. The smaller equipment, such as kettles, ladles, dishpans and paring knives, may be borrowed from the mothers, who will be found more than ready to coöperate. Each child brings his own plate, spoon, soup bowl or cup, and knife and fork. The desks are to be used as tables. The tea towels and other necessary cloths may be furnished by the larger girls, who will also be helpful in preparing and serving the lunch and putting the room in order for the afternoon duties.

As for supplies, the parents are generally willing to send such things as meat, butter, milk, eggs, vegetables, etc. Crackers may be purchased in the carton, each child paying his share. If there are some who feel the cost of the crackers is too much, croutons can be made from stale bread at practically no cost. Staple supplies, as sugar, salt, beans, seasoning, cocoa and rice, can be secured at the beginning of the school year by a kitchen shower of these articles. This would be a good time to give the parents a better understanding of the school lunch project.

The plan has been tried in a one-room school of very limited resources and has proved very satisfactory, as will be seen from the following statements taken from pupils' compositions:

"The hot lunch is fine."

"Serving a hot lunch at school saves mother from putting up so much lunch."

"When we have our hot lunch at school it makes it seem that we get our dinners as we do at home, and this makes our school life more pleasant."

Here is what the boys have to say:

"It tastes so good, and, best of all, we like to help get it."

"I like the hot luncheon because I feel more like studying than after a cold or partly frozen lunch."

"Our hot lunch increases the interest and good feeling among the pupils and the teacher."

"Hot lunch is well worth the effort; and how I miss it when it is not served!"

"The hot lunch is fine, for it teaches us to prepare nourishing foods."

Lunch has been served to twenty-five pupils each day. The dishes were beans, boiled beef and potatoes, soups (vegetable, tomato, oyster), cocoa, chicken and noodles, and the lighter kind of milk puddings.

The cost of equipment has been forty cents for a table oilcloth and twenty cents for a long-handled spoon.

In this school the board of education furnishes kerosene, toilet and laundry soap, and scouring powder for dishwashing. The total cost of these things for the term will not exceed two dollars.

Tests of Good Farming and Good Rural Schools.

DR. KENYON L. BUTTERFIELD, President of the Massachusetts Agricultural College.
(Reprinted from *Education*, May, 1922.)

It was with pleasure that I accepted the invitation to speak from this platform this morning, for it has always seemed to me that the matters considered at your conferences are very significant problems. But I have queried as to what contribution I could make to the particular theme of the morning. I cannot bring you any new notes from the rural-school field. Long before many of you were born I taught a rural district school out in Michigan. But that was a good many years ago, and my experience would not be of any value to you here to-day. It was a little district school out in Michigan, and much educational water has gone under the bridge since those days. I did not know much about teaching school, anyway—I just taught! I cannot bring you the results or interpret for you the results of research into educational processes. Nor am I sufficiently familiar with the rural school, as it is being developed under the leadership of to-day, to tell the story of a model community or a model country school.

Perhaps the best I can do, under the circumstances, is to suggest some tests of good farming, on the one hand, and some of the tests of a good rural school, on the other hand.

Now these are the tests. I shall suggest, first, five tests of good farming, and then four tests of a good rural school; then I shall let you make the application as to the matter of the interdependence of the farm and the school.

My first test of a good farm may surprise you. The first test of good farming is: Is it profitable? It is not true that if the farmers make money all these other things, the real things of life—better churches, better schools,

and a better rural civilization—will come of themselves. They do not do it. It is a sad mistake to say that they will. On the other hand, it is equally true that you cannot build a permanent rural life, you cannot have, in the long run, good churches, adequate schools of the right sort, and the best type of farmhouse, the highest rural civilization, unless you build them upon a reasonably profitable farm life. I have just returned from China, where I went as a member of a commission whose purpose it was to make a study of education in China carried on under mission auspices. My particular task was the study of agricultural conditions. In connection with that work I studied government schools of agriculture, finally making a report to the government on agricultural education. The very heart of my recommendations was the idea of building up the rural communities; and the first item in that reconstruction program for the bettering of the Chinese farming villages was, make farming more profitable for them. There are millions of farmers in China to-day whose income, above what they eat and what they use themselves of what they grow, is not over three dollars a month of their money, which is only half as valuable as our money.

The reason why there are to-day fifteen millions of people in China who are on the edge of starvation is that the great masses of them constantly live so near the edge of starvation that when drouth or flood or pestilence come they go over the edge. It is just as true of Iowa or Massachusetts as it is of China, that the first test of farming is, is it profitable? Does it give a reasonable standard of living? There are many things that enter into this question. I could talk for an hour of the factors of this problem. We must not forget that it is not a question of rich farmers; the question is whether the great majority of farmers can actually make, under existing conditions and with reasonable attention to their business, a fairly decent sort of living. Is farming profitable?

The second test of good farming is: Does it increase soil fertility, or does it diminish it: You may think that is a long way from the rural school and from this school, but it is a matter of tremendous importance to our civilization. I cannot help again referring to China. One of the strongest impressions I got of China was its age. The people in New England are proud of the fact that their history began two or three hundred years ago. I was in a village in China that was situated near a city which was on the king's tax rolls 4,000 years ago. Since the beginning of the development of China, Greece and Rome have risen and flourished and fallen. The Chinese people have been doing business as a civilization for 4,000 years, and they are doing business to-day, stronger than ever before, in spite of bad government, famine, flood and pestilence; and there are more of them, and they are more virile, probably, than ever before in their history. One of the reasons for this is the Chinese farmer, who, in spite of his ignorance and illiteracy, and because of his great care of the soil, has been able to maintain its fertility undiminished in large sections of China—not everywhere—so that to-day I suppose he gets more yield per acre than any other farmer in the world; and the reason why China is going strong to-day is because of the fact the fertility of the soil has been maintained to a very large extent. When you have counted the blessings the Creator has vouchsafed to mankind, when you have catalogued the material resources of the world, have you ever

stopped to think that the largest blessing, the greatest single resource, is the fertility of the soil? It seems more dramatic, more interesting, to speak of the mines of gold, and the diamonds, the copper, and all that, but such things sink into insignificance in comparison with the power for human good, for human welfare, that lies in the top foot of the soil of the world. It is a resource that in its actual and in its potential value exceeds hundreds of times all the other material resources of the world together that man can use. That is not an exaggerated statement. It is not good farming when that fertility is diminished; it is good farming only when the land is used to its full capacity and yet in such a way that the fertility increases rather than decreases. It is a moral obligation of the present generation to pass on to future generations, the generations that will be living here 3,000 or 4,000 years hence, we hope, a soil as fertile as it is to-day; and people cannot live here thousands of years from now unless the soil fertility is kept up. It is our moral obligation to pass on this fertility undiminished.

A third test of good farming is: Does it maintain high-grade homes, and high-grade churches, and high-grade schools, and the other social agencies and organizations that modern civilization seems to need in order to get to its best estate? If it does not, then there is something wrong, and it is not good farming. It may not always be the fault of the farmer where these things do not exist, where the homes are bare and unpleasant. It may not be the fault of the farmer that the church of the community is run down, ineffective, impotent, or that the school is barely maintaining itself as an excuse for a school. It may not always be the farmer's fault that these things happen, but nevertheless it is not good farming when they do happen. It is not good farming merely that it should be profitable, merely that the soil fertility should be maintained, unless that profit finds itself working out in terms of the right sort of American home, of the right sort of American school; and in my judgment an aggressive church takes the lead in the virile things of the community. I think one of the most searching tests of American agriculture in the next generation is going to be there. Is the profit that we hope the farmer will have, is the good farming that results in the undiminished fertility also going to result in communities that are up to the standards of our American life in their homes, in their schools, in their church leadership, and in their social or community institutions? And if our American agriculture cannot meet that test, then it is not good farming.

The fourth test is this: Does it produce good citizens of the towns, and of the state, and of the nation? Just now, through the great movement headed by the Farm Bureau Federation, backed by the Grange and many other organizations, we have a great agricultural movement. It had to come. It had to come simply because our American farmers had been experiencing that which farmers in all ages have experienced, which our own farmers have experienced from time to time—and it is this: Perhaps it has not been meant that way, but the facts are that all through history, all through our American history, the tendency has been for the city either to exploit or to neglect the farmer, and sometimes both; and the real reason why we have this great agrarian movement to-day is because the farmers have felt that they have been both exploited and neglected. I sympathize completely with their desire to see that these things are remedied. But it would be a great

misfortune if we should have, in this or in any country, a movement among farmers that would make them so class conscious and so interested in their own special concerns and problems that they should forget that there are other problems, that there are other people, to the extent that they should be out of sympathy with the laboring classes or with the professional classes, so that there should be a sharp class cleavage, making a sort of caste system. No. Good farming ought to result in the building of a true American citizenship in the country that is just as intelligent, just as broad, just as interested in everything that pertains to American welfare as any other movement; and it is the great glory of the American farmer that he has been this kind of citizen, and it is the great problem of American life to keep him that kind of a farmer. I think that in no country in the world in any time of history has it been so true that the farmer was a typical citizen as in America and of the American farmer. But a test of preëminently good farming is that the farmers themselves shall be typical, intelligent American citizens.

And, finally: Does this farming result in the farmers' ability to organize and handle their affairs collectively? You may think that is rather a strange test of a good farmer. Here is Farmer Green or Farmer Jones out here. Now, if he meets these other tests, and if all the farmers together meet these tests, have we good farmers? I do not think we have. For this reason: the civilization of this century is one based on the idea of organization. If you stop to think about it you will see that almost everything we do is organized. People must coöperate in order to get things done. They coöperate to have the school, the church, in business, and in labor. The power of organization is the ruling power of our twentieth century civilization, and it is simply impossible for the farmer to reach his full effectiveness unless he, too, can cooperate with his fellow farmers; and I put down as the final test of good farming the ability of those farmers, growing out of their experience together, to manage their affairs collectively. I predict that the time will come when this group movement will result in well-organized local communities—towns, if you please—managing all their affairs in common. I am not advocating the doctrine of communism. I mean that the idea of organization and collective action will prove so effective and so important to the farmers themselves that after awhile they are going to learn to do almost everything of common interest (and there is very little that is not of common interest) together.

Now let us turn over the sheet and see what is on the other side—some tests of a good rural school. I will name four; and in thinking of this now, please keep in mind the tests of good farming. I am going to leave it to you to bring these things together. I will simply outline the tests, and you must make the application.

My first test of a good rural school is this: Does it give country boys and girls as good an education as they would get in the city schools? I know that many will say at once: "That is too severe a test. Of course not. How can you expect it? Here is a little school with one, two or four teachers. Can you expect that that school can give as good an education to those boys and girls as they would receive if they lived in Boston or Brookline or Newton?" Well, I have to admit that it is a sad fact that oftentimes the small

school does not give as good an education as the young people could get in the city. There are two things about it that I insist upon. In the first place, oftentimes the country school does give as good an education. Oftentimes we mix up the essential and the superficial. We look at the building, or the apparatus, or the course of study, and we say: No; there is no comparison there, and there never can be. Probably there cannot be; in material equipment the city school will always be ahead. The real test comes, after all, in the teaching, and the real question that we have here is whether we can have, and whether we can keep, in the teaching profession in these country schools teachers whose personalities are such that they actually do lead these boys and girls, inspire these boys and girls, direct and stimulate these boys and girls of the countryside, so that they really get as good an education in all essential features as if they lived in the city. I know that is going to be a difficult thing. The other point is this, that unless in the long run the education given in the country schools is, to all intents and purposes, really as good an education as is given in the city schools, then there is something wrong. We cannot hope to develop a rural civilization that will meet the tests of American life in the twentieth century unless, to a reasonable degree at least, the essential aspects of a good education can be maintained for the country boy or girl. That is the first test. It is a rigid test; it is a difficult test. But it must be met. There are many ways of meeting it, and those, of course, I cannot give to you.

The second test is this: Does this country school help (I used that word "help" advisedly—do not leave that out) to keep those boys and girls in the country who really belong there? I do not say that we should keep all the boys and girls in the country who were brought up there. I would not have it that way if I could. I would not for the world deprive the cities of this stream of fresh life coming in from the country. That would be the worst thing that could happen to our American civilization, to have a school system or any other system that would keep all the country young people in the country. Also note that I do not ask the country school to keep the boys and girls there. I simply ask that the school help to keep those boys and girls in the country who belong there. What do I mean by the boys and girls who should remain in the country? Those who are rural-minded, who like the country. I mean those who would really prefer to be there, but who do not stay because they do not get the right kind of an education. They are brought up to think there is nothing in the country for them. They get the notion that there is no chance for personal development and growth and enrichment in mind and spirit if they stay in the country. It is one of the tasks of the rural schools to show that those things are not so; that there are opportunities; that there is culture in the corn lot; that there is a chance to grow; that there is a chance for service and a reasonable financial reward; that, deeper than all these things and including them all, there is the opportunity to live as human beings and to attain the full measure of the stature of man and woman. I believe it is absolutely true that conditions can be made such that human life can be developed in the country just as well as in the city, and, for those that like the country, oftentimes far better than in the city. Now, I should want to see this country school help these people who are essentially rural-minded to find themselves in the country—

help them to get possession of and develop those powers and capacities and get possession of those ideas and ideals that will give them a chance in the country.

Then, again, does the country school use the rural environment as organized material for education? Now, I appreciate the fact that the idea of using the environment of the child as a means of education can be carried altogether too far, although I think that if the word "environment" is given a sufficiently wide meaning there is not trouble, because, after all, the great thing that we want to do is to make men and women sensitive to their environment, appreciative of their environment, and make that as wide as the world and as broad as the universe. I take it that it is one of the ends of our education to make people understand the universality of matter, mind and spirit that is around them. Just think of the great wealth of material that the country offers. Think of the soil as, not an inert, dead thing, but a thing of life, telling in itself the story of the whole process of creation. Then we have the plant and its adaption to soil and climate, and the animal, particularly as it has been used by man, and how plants and animals have been developed by man for man's good. That gets us into the right sort of science. Although I do not like to put it quite that way, either, because I should want to see this material used not in too formal a way, not organized too well, as if it were chopped off in blocks, but handled so it will be recognized as vital.

This brings us to the farming industry itself, which leads us into the whole problem of industry. Farming, or agriculture, is the largest industry, or business, in America. Indeed, it is the biggest business in the world. There are more people engaged in agriculture than in all other occupations combined, the world around. It is a primary industry. Men are completely dependent upon agriculture, not only for their food, but for the raw materials of other industries. The problems that arise in agriculture can be utilized to bring the youth to an understanding of the problems of all human industry.

Thus country life in all its aspects can be utilized more easily than city life, because it is more easily understood; it is not so complex. It has absolutely all the human values and problems, and they are easily gotten out in the country, as compared with the city.

Then there is the country beauty—the art side of the matter. I suppose the majority of us go through the world, even those of us who live in the country, blind to the best there is, and do not see the beauty of the countryside, and it is a serious flaw in our education that we are so. Of course, this material that I am speaking about is good material for the city child as well as for those in the country, but it is at the disposal of the country school as it is not at the disposal of the city school.

Finally: Is the country school a school of the whole community? You will say that it is not, and you may question whether it ought to be. I doubt if there is any one department of our educational system for the next generation that it is more important to keep in mind and to work for than this—to make the American school a school of the community. It is vital to democracy that democracy shall be kept at school, and we must get over the notion that the American school is only for the children and the youth. The American school must become the educational center of the community or neighborhood in which it is located. That is a big contract, but it has to be

done. One of the tests—perhaps not quite fair to apply to-day to the country school, but which we must apply to an increasing extent—is whether the country school is a center of life and leading, of education, of development, of continued study and discussion, and adapted for the people of the community. The country school will never serve its community fully until it does this for the community.

I have just given you these tests of good farming and of a good rural school. Perhaps you would think of other tests and consider them more important; but these are important, if they are not most important. At any rate, I believe you will not have good farming unless that farming meets the tests that I have suggested; and I believe you will not have a first-rate country school unless it can meet, to a reasonable degree, these tests that I have named.

Spring Music Festival.

Despite continuous bad weather, the Spring Music Festival the week of April 24 was a decided success. The largest audience that had ever attended a local performance of Handel's "The Messiah" was present the closing night, filling the big auditorium to capacity. Nearly 1,200 high-school students participated in the interstate high-school music contest the afternoons of April 27 and 28. Every one of the eight programs was largely patronized and the contest brought out crowds that could not be entirely accommodated. Artists employed were Alice Gentle, the Salzedo Harp Ensemble, Mrs. George Cowden, Elsie Baker, Chas. E. Galagher, Sergei Radamsky, and Archibald G. Todd.

Prof. P. W. Dykema, of the University of Wisconsin, one of the country's foremost music authorities, judged the interstate music contest. For high-school folks this was the biggest event of the week, for there were more than 100 entries, making up a program ten hours in length, five hours of which took place Thursday afternoon and the other five hours Friday afternoon. It was announced that next year two full days will be devoted to the interstate contest. Among the larger cities entered were Kansas City, Mo., Kansas City, Kan., Joplin, Tulsa, Fort Scott, Chanute, Pittsburg, etc. Results of the contest with the names of winning directors, were as follows:

ORGANIZATIONS.

Mixed Chorus: First, Joplin, T. Frank Coulter; second, Parsons, Charles McCray; third, Pittsburg, William F. Menne.

Girls' Glee Club: First, Joplin, T. Frank Coulter; second, Pittsburg, William F. Menne; third Carterville, Mo., Helen Brown.

Boys' Glee Club: First, Parsons, Charles McCray; second, Pittsburg, William F. Menne; third, Joplin, T. Frank Coulter.

Girls' Double Quartet: First, Crawford county, Ruth Tilton; second, Pittsburg, William F. Menne; Third, Webb City, Mo., Mrs. Lawrence L. St. Clair.

Boys' Double Quartet: First, Pittsburg, William F. Menne; second, Neodesha, Miss Gertrude Hill; third, Webb City, Mrs. Lawrence L. St. Clair.

Orchestra, Class I (not over 30 pieces): First, Fort Scott, W. A. E. Pfaff; second, Pittsburg, J. J. Richards; third, Argentine, R. T. Holmes.

Orchestra, Class II (from 55 to 65 pieces): First, Neodesha, Earl McCray; second, Parsons, Charles McCray; third, Joplin, T. Frank Coulter.

Junior High School Chorus: First, Pittsburg, Bessie Walters; second, Columbus, Glenn Litton; third, Fort Scott.

SOLOS.

Sopranos: First, Naomi MacLaren, Parsons; second, Emma Dodson, Crawford county; third, Louise Chamberlin, Argentine.

Contraltos: First, Lavon Graham, Pittsburg; second, Gladys Catlett, Cherokee county; third, Grace Ellen Hopkins, Neodesha.

Tenors: First, Cecil Jackson, Pittsburg; second, Harrell Hocker, Pitcher, Okla; third, no contestant.

Bassos: First, David F. MacPherson, Carthage, Mo.; second, Harry McMains, Fort Scott; third, Lyman C. Finley, Pittsburg.

Violin: First, Horton Connell, Central high school, Kansas City, Mo.; second, Isadore Berkowitz, Kansas City, Kan.; third, Ilo Hilderbran, Coffeyville.

Piano: First, Mildred Shipp, Fort Scott; second, Georgia Buck, Neodesha; third, Louise Scoville, Coffeyville.

Cornet: First, Philip Cessna, Rosedale; second, Reeve Hewitt, Fort Scott; third, no contestant.

Clarinet: First, Dorothy Stiles, Kansas City, Kan.; no contestants for second and third.

Campus Notes.

Seventy-five degrees and two hundred life certificates were granted at the eighteenth annual commencement, held Wednesday, May 24. This was the climax of a year that had seen 4,200 students enrolled. Dr. Chas. McKenny, president of the Ypsilanti State Teachers' College, gave the address. The baccalaureate sermon the preceding Sunday had been by Dr. Samuel Garvin, of Colorado Springs. The annual alumni banquet and reunion was held Wednesday noon following the commencement exercises.

Construction of the new gymnasium was well under way the last of May. It will be in use at the beginning of the fall semester. Situated at the northeast corner of the campus, just across the road from the athletic field, it is so tasteful in design that it will enhance the beauty of the campus and the college atmosphere pervading it. The appropriation of $100,000, which was first believed to be sufficient only to erect the bare building, is proving adequate for finishing in good shape the interior also. The gymnasium is far enough removed from the east line of the campus for an addition of equal size to be built on that side later.

LEST WE FORGET.

My investigations have led me to the conclusion that the farmer at present gets less results for his labor than any other member of the community. From this statement I would except only the great teaching fraternity, and in that I include both educational and religious teachers.—*Bernard M. Baruch, in 1919-1920 Report, Kansas State Board of Agriculture.*