

THE UNIVERSITY OF MINNESOTA

GRADUATE SCHOOL

Report
of
Committee on Thesis

The undersigned, acting as a Committee of the Graduate School, have read the accompanying thesis submitted by Dorothy Pratt for the degree of Master of Arts.

They approve it as a thesis meeting the requirements of the Graduate School of the University of Minnesota, and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts.

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Date 5-25-1922

THE UNIVERSITY OF MINNESOTA

GRADUATE SCHOOL

Report
of
Committee on Examination

This is to certify that we the
undersigned, as a committee of the Graduate
School, have given Dorothy Pratt
final oral examination for the degree of

Master of Arts

We recommend that the degree of

Master of Arts

be conferred upon the candidate.

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SCHOOL FEEDING.

A Thesis Submitted to the
Graduate School of the
University of Minnesota

by

Dorothy Pratt

In Partial Fulfillment of the Requirements
for the Degree of
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INTRODUCTION.

The problem of malnutrition is age old; yet the recognition of it as a distinct social problem is comparatively recent. A study of the extent, consequences, and causes of malnutrition has led to the decision that the organization best suited to strike at the roots of the problem in the most efficient manner is the public elementary school system through its administration of a school lunch. The problem of this thesis is three fold, (1) to show why the school is the agency best fitted to meet this social problem of malnutrition, (2) to show how the feeding of school children has gradually come under the direction of the public schools in both Europe and America by giving a history of the movement as it has developed on each continent, (3) to show the present status of the school feeding in Minnesota and to outline a plan for the more efficient administration of the lunches both locally and as an educational measure to which that state should give its support.

THE PROBLEM OF MALNUTRITION.

The word "malnutrition" has come into prominence in very modern times but people have suffered because of the fact of malnutrition in every age and clime. The exact percentage of malnutrition is impossible to compute but within the last 25 years physicians and persons with an awakened social consciousness have become concerned as to the probable extent, consequences, ~~and~~ causes of, and remedies for this ill.

Because the children are the assets or liabilities of the race those interested in the prospects for the future began to investigate the condition of the children. As the children are most easily reached through the schools, efforts to discover the extent of malnutrition began in the schools.

"These investigations have generally been of two kinds, the first being a study of the meals eaten by the children, and the second made by school physicians based upon the physical appearance of the children." Neither methods have been wholly satisfactory. Where the first method is used they have taken the testimony of the children, which testimony cannot be relied upon in many cases.¹ Many a time has an investigation found that the pride of a child has kept him from revealing the true facts concerning his lack of food.

Spargo relates the story of an anaemic looking child who, when first questioned, said she did not eat breakfast because she never had any when she lived in Germany and she did not want any. She also insisted ~~that~~ she always had a good lunch. Further inquiry revealed that both her father and mother went to work early in the morning before she was up. They usually left cold coffee and bread for her but as there was no clock in the house she was afraid of

1. Chambers, C.R., "Public Feeding of Elementary School Children, 1917, Thesis p. 14.

being late and hurried away to school without eating. Her father if he had work, left five cents for her with which to buy lunch. When the days were cold this five cents was spent for coffee but nothing to eat with it. The evening meal usually consisted of bologna or sausage. So except for the coffee this child usually went without food from one evening to the next, but without tactful inquiry none of these facts would have been revealed.¹

Another important factor is that in investigations by the teachers the standard of what constitutes underfeeding varies and the resulting statistics cannot be relied upon. The teachers of a certain school were asked to question the children and report the number having had no breakfast that morning and those having an inadequate breakfast. Those having coffee and tea with no other food should have been reported as breakfastless and those having had just coffee and bread should have been reported as having inadequate breakfasts, yet such was not the case in many instances.²

Where the second method is used the results are often erroneous because as Dr. Wile says, "The diagnosis of malnutrition is not made if any other defect is present. The dependence of such defect upon malnutrition is not entered into the record and so the statistics of medical inspection as related to malnutrition are decidedly false and misleading".³

In 1904 the American public interest was first roused to the fact that there was a problem of underfeeding when Robert Hunter published his book "Poverty" in which he stated that about "60 or 70,000 children in New York City alone often came to school hungry and unfitted to do the work assigned to them." The newspapers made

1. Spargo, John, "The Bitter Cry of the Children", pp. 70-71.

2. Spargo, p. 79.

3. Chambers, p. 15. (Wile, Ira S., Journal of Home Economics^{Vol. 4}:p.447.)

a sensational news item of this statement by announcing that "60 or 70,000 children of New York City went breakfastless to school".¹

There resulted a great many investigations, both medical and otherwise, one of which was conducted by John Spargo in New York. He made personal inquiries in schools in various parts of the city, having a total attendance of more than 28,000 children. In 16 of the schools, 12,800 children were privately questioned. Of this number 987 or 7.71 per cent. were reported as having had no breakfast on the day of inquiry, and 1,913 or 15.32 per cent. as having had altogether too little. This number is exclusive of those cases where lack of breakfast was obviously accidental on that particular day. The total results showed that 2,950 out of 12,800 or 23 per cent. were undernourished and this was considered a conservative estimate because of a lack of standard among those making inquiries.²

In 1907 an investigation made by the New York Committee on Physical Welfare of Children showed 13 per cent. of the 990 children question to be underfed.³ The next year Dr. Ira S. Wile reported 35 per cent. to be underfed.⁴ In 1909 Dr. E. Mather Sill made a careful medical examination of 1000 children of the lower east side and found 400 who were badly nourished.⁵ Another investigation in 1910 by the New York School Lunch Committee showed 13 per cent. of malnutrition out of 2,150 children.⁶ Dr. Ira S. Wile again made a test of 1400 children in October 1911. Of this number 10.4 per cent. were undernourished. In April 1912 the percentage was 12.9 of 990 children examined.⁷ A report of 1919 showed 21 per

1. Chambers, p. 15 (Hunter, Robert, "Poverty," p. 216)

2. Spargo, p. 76.

3. "The Cost of Educating the Underfed", School and Society, 1916, Vol. 4, pp. 972-6.

4. Mayer, M.J., "The Vital Question of School Lunches", Review of Reviews, 1911, Vol. 43, pp. 447-9.

5. Bryant, p. 201.

6. Kennaday, P. & Hendrick, B.J., "Three Cent Lunches for School Children", McClures, 1913, Vol. 41, p. 120.

7. Wile, Ira. S., "Conservation of School Children", American Academy of Medicine, 1912, p. 178.

cent. with distinct signs of malnutrition and 61 per cent. under-nourished.¹ In summing up the investigations covering the five year period from 1906-1910, medical inspectors have found that of 860,728 children examined, one out of 20 cases the "condition of malnutrition was so marked that it was entered on the official records as one of the physical defects of the child."²

Careful examinations made by other cities show a similar condition. In Chicago in 1905, 5,150 children of five schools were questioned. Of this number 1,526 or 31 per cent. were reported as having had an entirely inadequate breakfast or none at all.³ During the summer and fall of 1908, Mr. W. L. Bodine, Superintendent of Schools, and Dr. D. P. MacMillan of the Department of Child Study, made an investigation of the situation in Chicago. While their study is valuable it is hardly typical of the situation of Chicago as a whole for the 12 schools which they chose for examination were of the poorer sections of the city. Of 10,000 children examined, 1,123 were picked out as decidedly undernourished. 30 per cent. of the number was deducted to cover other causes for under-nourishment, such as those cases due to disease. This left 780 children or 7.8 per cent whose poor physical condition was caused by lack of proper food. Other reports not as conservative give 12 per cent. as the amount of malnutrition in the Chicago schools.⁴

In Boston a medical examination in 1909 revealed the fact that there were between 5 and 6,000 cases of underfeeding among

1. "School Lunches in New York City", School and Society, Feb. 1915.

2. Bryant, p. 200

3. Spargo, p. 85.

4. Hunt, p. 46; see also

"Hungry School Children in Chicago, Charities 1908, Vol. 21, pp. 93-94.

80,000 children.¹

In one school of the poorer districts of Philadelphia 24 per cent. of the children were found to be undernourished.² Another investigation of 4,589 children showed 53.52 per cent having inadequate breakfasts.³ Underfeeding is not confined to these cities alone. Cleveland, Buffalo, Los Angeles and St. Louis are a few of some of the larger cities reporting a large percentage of undernourished children.⁴

Europe has long been concerned as to the extent of malnutrition among her children. In 1903 Dr. Eichholz of England stated that not fewer than 122,000 or 16 per cent. of the entire school population of London were underfed. At the same time 15 per cent. of the school children of Manchester were reported undernourished.⁵ In 1904, Dr. Brown Ritchie of Manchester examined 10,000 children taken from all grades in 20 schools all over the city. The result showed that 19 per cent. were badly nourished, 11 per cent. very badly nourished. This means that practically one-third of all those examined were below par as to nutrition. Results of medical inspection in Bradford showed 11 per cent. to be underfed. Summarizing the situation in England, Dr. Crowley of the London County Council says, "There children of poor nutrition are very common. Speaking for our large towns generally, it has been said that they constitute 10 to 15 per cent. of the whole school population."⁶

Germany in 1908 made a special medical examination of 27,440 children of all social grades of 22 cities. The result showed 11,442 children or 42 per cent. whom they were able to term

1. Bryant, p. 203.

2. Ibid, p. 203.

3. Spargo, p. 85.

4. Ibid, p. 85.

5. Bryant, p. 28.

6. Ibid, pp. 36-38.

well nourished. About 50 per cent. or 13,823 were fairly well nourished and 2,195 or 8 per cent. were distinctly undernourished.¹

In 1894 an investigation by the school authorities of Belgium showed 23 per cent. or 14,500 cases where the children were underfed.²

Various investigators have tried to estimate the amount of malnutrition throughout America. These estimates vary from 5 to 25 per cent. Dr. E. F. Brown, Secretary of the Committee of New York Lunches in 1915, made the statement that ⁱⁿ 15 cities under his observation between 5 and 6 per cent. of the school children suffered in health as a result of malnutrition.³ According to Dr. Wood of Columbia University, 25 per cent. of the children in the United States suffer from malnutrition (1916).⁴ Mrs Bryant writing in 1913, estimates that at least 10 per cent. of the school population of America is undernourished.⁵

That these estimates are very low is the general belief due to the fact that school authorities have not had a uniform standard of what constitutes an adequate meal and due to the fact that medical examiners seldom make the diagnosis of malnutrition if any other defect is present.

CONSEQUENCES.

The consequences of malnutrition are far reaching and are of three general classes, physical, mental or educational, and sociological.

The physical effects of underfeeding can hardly be over-

1. Bryant, p. 123.

2. Ibid, p. 146.

3. "Starving Children in the Schools", Literary Digest, 1915, Vol. 51, p. 521.

4. "The Cost of Educating the Underfed", School and Society, 1916, Vol. 4, p. 973.

5. Bryant, p. 204.

estimated for it causes physical degeneracy and vulnerability to disease. In 1902 England became alarmed at the apparent deterioration of the physique of her people as shown by the large number of men rejected from the army because of physical unfitness. Germany also became alarmed at the percentage of her men incapable of passing the army tests. Both countries made thorough investigations and found malnutrition during the period of growth to be responsible for a large share of the physical deterioration.¹

"The surest single indication of nutrition", says Mrs. Bryant, "is height and weight".² Constant underfeeding is shown by failure to come up to the average in both height and weight while temporary malnutrition is evidenced by a deficit in weight as compared with height.

The relation of feeding to physical degeneracy is strikingly brought out in the response of children below the average in weight and height to proper nourishment. Mr. F. A. Manny says that two-thirds of the children respond to food.³ In Northampton, England, 44 children receiving school meals (breakfasts and dinners) and 40 children coming from a similar class, but fed at home, were observed for a period of 14 weeks. At the beginning of the experiment the average weight of the children was 3.75 pounds less than that of the children who were not given meals. At the close of the experiment the average weight of the school-fed children was only 2.24 pounds less than that of the others. An experiment made by the School Lunch Committee of New York with a group of Jewish boys showed an average gain of $10\frac{1}{2}$ ounces in three months for those who

1. Bryant, pp. 22 & 29.

2. Bryant, p. 219

3. Manny, F. A. "Defective Nutrition and the Standard of Living", March 30, 1918, p. 701.

took school lunches and $3 \frac{2}{5}$ ounces for those who did not take lunches.¹

Two very interesting experiments were made in Philadelphia in 1910-11, to test the results of their efforts to provide lunches for the school children. In the first experiment measurements were taken and recorded of 362 children of two schools of whom 114 were in more or less regular attendance at the noon three cent dinner and 248 were not. Measurements were made of the weight, height, hand-strength, and lung capacity of the two groups of children at the beginning and end of a six month's period. The gains of the two groups are shown by the accompanying table.²

	<u>Weight</u>	<u>Height</u>	<u>Hand-strength</u>	<u>Lung Capacity</u>
114 "diners"	3.44 lbs.	1.36 in.	3.43 lbs.	12.55 cu.in.
248 "non-diners"	3.21 "	1.07 "	4.18 "	10.47 " "
In favor of - - - - -	.28 "	.29 "	.75 "	2.08 " "
children fed.				

This experiment was made to show the results of "haphazard feeding," that is, the attendance of the children was not required but they came of their own choice and the attendance was not regular..

The second experiment was made with 80 children who were obviously ill-nourished. Of this number 40 were given a daily dinner for three months. Similar records to those of the first experiment were kept with the following results:

	<u>Weight</u>	<u>Height</u>	<u>Hand strength</u>	<u>Lung Capacity</u>
Children fed	1.78 lbs.	.90 in.	3.19 lbs.	11.96 cu. in.
" not fed	.80 "	.68 "	4.13 "	5.40 " "
	.98 "	.22 "	.94 "	6.56 " "

In discussing the vulnerability to disease of children suffering from malnutrition, "Emma Holt, an authority on children's diseases" says, "one of the most striking things about children suffering from malnutrition is their vulnerability. They "take"

1. Wile, Dr. I. S., "Conservation of School Children", American Academy of Medicine, 1912, p. 179.

2. Bryant, op. cit. pp. 160-162.

everything. There is but little resistance to any infectious disease which the child may contract."¹

The relation of malnutrition to physical defects was carefully investigated by Dr. Gastpar of Stuttgart, Germany. He examined 8,000 children who were suffering from some disease. These children he grouped into five classes according to their state of nutrition. He found with one exception the largest percentage of disease was present among the badly nourished, anaemic children. The results are brought out by the following table?² (see next page)

The column of percentages at the right shows that among those classed as "good" only 18 out of 100 were defective while among those classed as "poor with anaemia" 79 out of 100 were classed as defective. Other diseases such as rickets, vermin, and ear troubles showed similar variations in their occurrence.

From the results of the various experiments cited, it seems reasonable to draw the conclusion that malnutrition makes for physical degeneracy and susceptibility to disease which impairs working efficiency throughout life.

We recognize that there are native differences in the ability of children which result in the retardations of some and an abnormal progress in others. Given an equal opportunity physically and educationally, a number of children will show marked differences in their attainments due to native difference in ability. This does not, however, alter the fact that the child whose bodily wants are not cared for cannot attain the most of which he is capable, be he a potential arrest, normal, or accelerate.³

To aid the child to develop to the limit of his capacity

1. Bryant, p. 227

2. Ibid, op. cit. 227-229.

3. Chambers, C. R., p. 36.

RELATION BETWEEN NUTRITION AND VULNERABILITY TO DISEASE

Nutrition	Skin di- sease	Scoliosis	Eye trou- ble	non- tuber- culin disease	Total de- fects	Total exam- ined	Defects among each 100 children
Good - - - - -	8	20	260	77	365	1984	18
Fair - - - - -	49	82	529	379	1039	2625	39
Fair-anaemic -	15	70	254	289	627	1385	45
Poor - - - - -	25	96	209	314	644	1045	62
Poor-anaemic -	31	103	210	441	785	998	89
	128	371	1461	1500	3460	8037	43 (av.)

should be the aim of every teacher in the schools but this aim cannot be realized unless the child is first sound of body. Robert Hunter makes the statement that the public school was the one great social agency which gave promise of supplying to all children whether rich or poor the equality of opportunity but the testimony from all quarters indicates that the schools have failed among those persons most requiring the opportunity it affords due to their undernourished condition.¹

More than 2,000 years ago Aristotle pointed out the relation of physical health to mental health in his maxim, "First the body must be trained and then the understanding."² Much later Bacon made a pertinent query as to the relation of the mind to the body, "Is not the mind in some way in the custody of the stomach?"³ Spargo says that it is "futile from the standpoint of the child to attempt to educate hungry, physically weak and ill developed children who are unfitted to bear the strain and effort involved in the educational process."⁴

It is no longer a mere theory that undernourishment plays a large part in the retardation of school children. Actual observations by physicians and school authorities have borne out their original belief. At the Educational Conference in England in 1907, Dr. Ralph Crowley reported his findings as to the relation of mental capacity to nutrition. He examined 1,840 children in the elementary school of Bradford and classified them according to their nutrition and intelligence with the following results:⁵

1. Hunter, Robert, "The Heritage of the Hungry", Reader, 1905, Vol. 6, pp. 365-75.
2. Spargo, p. 100.
3. "The Cost of Educating the Underfed", School and Society, 1916 Vol. 4, p. 972.
4. Spargo, p. 100.
5. Buckley, pp. 180-181.

Exceptional Intelligence....	62.7%	Good Nutrition
" " " "	35.6%	Below Normal
" " " "	1.7%	Poor Nutrition
Exceptionally Dull	24.9%	Good Nutrition
" " " "	39.5%	Below Normal
" " " "	35.6	Poor Nutrition

Another inquiry was made in England by Dr. Badger, the School Medical Officer for Wolverhampton. He compared 1,299 normal children with 100 mal-nourished with the following results:¹

<u>Normal Scholars</u>		<u>Mal-nourished</u>	
Good Intelligence	16.6%	16%
Average intelligence	68.0%	59%
Dull	15.5%	25%

Dr. Ritchie of Manchester states that of 641 mentally defective children in that city 325 could be classed as having poor nutrition while 111 were marked cases making a total of 68 per cent. of the 641 giving evidence of malnutrition.²

In our own country an examination in 1908 of 1,012 mentally deficient children showed 60 per cent. to be suffering from malnutrition. In Manchester, Connecticut, 1,396 children in eight grades were specially examined. Of this number 174 or 12 per cent. were malnutrition cases and of these cases 9 per cent. were promoted as compared with 25 per cent. who were kept back. Malnutrition was found to be second only to poor mentality as a retarding influence.³ In Chicago of 2,100 retarded children 54.6 per cent. were found to be undernourished.⁴

Indicative as these figures are of the relation of under-nourishment to retardation the results obtained from feeding under-nourished children classed as retarded are still more indicative. The testimony of the teachers is almost unanimous that these children

1. Bulkley, pp. 182-183.

2. Bryant, p. 225.

3. Bryant, p. 226

4. "The Cost of Educating the Underfed", School and Society, 1916 Vol. 4, p. 973.

show a decided intellectual improvement. One striking bit of evidence is given by a medical member of an Education Committee in England who writes, "I find the condition of the children much improved by feeding. Some children who 18 months ago were considered half witted are now monitors and monitresses, taking an intelligent interest in their work."¹ Of Bradford teachers questioned 143 reported that the meals had improved the capacity of the children.² One teacher of Wallesey says, "In several cases the dull, tired and frequently bored look about the children has disappeared, giving place to a brighter manner and keener interest in their work."³ A teacher of Birmingham testifies, "Beyond question a distinct improvement has taken place in the ability of the children to take full advantage of the education given."⁴

In Philadelphia a study was made by a principal of one of the elementary schools of 80 children who were conspicuously ill nourished ; 40 of these children were given a daily dinner for three months. A comparison of the marks recieved before and after the experiment makes an interesting study. The results were as follows:

	Before	After	Gain
The forty fed	64.0	70.1	9.5
The forty not fed.....	64.5	69.2	7.2

A certain rural school in Minnesota with an attendance of but 20 pupils all of whom were undernourished established a hot lunch. In six months all the children were up to normal weight and showed a marked improvement in behavior and ability to accomplish satisfactory results in their work.⁶

1. Bulkley, p.198

2. Bryant, p.59

3. Ibid, p. 71

4. Ibid, p. 70

5. Ibid, p. 162

6. Miss Costigan of the Minnesota Public Health Association, by interview, Mar. 26, 1922.

Malnutrition may effect the mental development in two ways. It may tend to weaken the child's body and hence its mental capacity. It may also weaken his vitality to such an extent that he becomes vulnerable to disease. Thus the undernourished child, subject to disease and petty ills, has a greater number of absences on his record than the well nourished child.¹ Also if there is no food in the house the parents will encourage a child to sleep through the morning to prevent his suffering from hunger.² This also increases the absences, and absences have a definite relation to retardation. Keyes in his studies has found that "repeaters" as a whole loose 26 per cent. more time than accelerates.³

In order to show that proper nourishment had a definite relation to the health of the child, Dr. Haden Guest of Lambeth, England, conducted an interesting experiment. He fed 244 children one nourishing meal a day from January 24th to April 11th (1908). The children showed a marked improvement in health and the number of absences due to illness were considerably less.⁴ After lunches were established in Milan, Italy, the absences decreased in eleven years from 28 per cent. to 6 per cent. of the entire enrollment.⁵ New York reports a similar situation. In nine schools where lunches were established the average daily attendance increased from 1,721 to 3,337.⁶

Malnutrition affects the individual physically by producing physical degeneracy and disease. It affects the individual mentally by retarding his educational progress. But the results of malnutrition do not stop with the individual. Every individual is a member

1. Chamber, C.R., p.41

2. Bulkley, p.196

3. Chambers, C.R., p.42, re-citation of Keyes, C.H., "Progress Through the Grades", p.38.

4. Bulkley, p.188.

5. Bryant, p.139

6. Small, M.E.L. "School Lunches", 1914, Vol.6, p.446.

of society. If he is diseased he is a menace to society. If he is retarded in school because of an unsound body, he helps to keep normal children behind. If he is in a special class for arrests he is a burden to society by adding the expense of education by requiring special instruction. If he grows to maturity physically and mentally unfit, he will not be able to compete on terms with other members of society. Mr. Spargo says we turn him adrift in the world unfit for service and unable to adjust himself to its needs.¹ His period of consumption, handicapped by physical and mental deficiency will not fit him to take his place as a producer. To quote Mr. Spargo again, "It is the universal experience that a low standard of physical development is almost invariably associated with low mental and moral standards."² It is the physically and mentally unfit then who furnish material for vagrants, paupers, or criminals and hence become liabilities to the race instead of assets.

CAUSES OF MALNUTRITION.

The body fails to function harmoniously, that is, it is malnourished if as a whole it is not supplied with enough of the right kind of food. This lack of proper or insufficient food may be reduced to three causes: (1) Inability, due to some physical defect to assimilate the food that is received, (2) poverty and (3) ignorance.

The statement of the first cause practically explains itself. Some of the physical defects which make it difficult to assimilate food are bad teeth, adenoids, bronchitis, tuberculosis, rickets, anaemia, nervousness, mechanical defects of the heart.³

It may be argued that the diseases are very often the result of poor

1. Spargo, p. 104

2. Ibid, p. 104

3. Bryant, p. 216.

food in the first place and such is often the case. It forms as Mrs. Bryant says, "a vicious circle".¹ Poor and insufficient food may cause these defects which impair the power of the body to receive the benefit of good food. "However, it is an important factor to remember that malnutrition, whatever the cause, cannot be cured without good food and enough of it."² Poverty is evinced in at least two ways; by a lack of proper or insufficient food and in unsanitary housing conditions.

Dr. Chapin in his study of the Standards of Living among Workingmen's Families in New York City, 1907, has shown the relation of income to malnutrition. He estimated that the families that spent less than 22¢ per man per day were underfed; that is, were unable to buy enough to support life on a plane of physical efficiency. The yearly expenditure of food of 391 families (on the basis of 22¢ per day per person) was compared with the yearly income and from this comparison was computed the inevitable amount of undernourishment. Wartimes gave further evidences of this fact. In the United States in 1917 and in England in 1915-16, there were fewer children of superior health and fewer low grade. Many men who had received very low wages before the war earned much more in the service and some men made wartime profits. This helped to lessen the numbers in the low grade group. But many salaried men received reduced wages and had a hard time to "make both ends meet". This tended to lessen the numbers in the superior group.³

While these figures do not hold good with fluctuations in the costs of living yet they are an indication that the small income has a very definite effect upon malnutrition.

1. Bryant, p. 215-16.

2. Ibidp. 216.

3. Manny, F.A., "Defective Nutrition and the Standard of Living", 1918, Vol. 39, p. 368.

A study of 52 families of Glasgow again shows the relation between income and malnutrition. The diet of these families was studied for a week and if this diet, expressed in calories, averaged less than 3,000 calories per person per day it was considered inadequate. It was found that the person who earned 39 shilling consumed enough food daily - ~~to~~ 3,184 calories, while the one earning but 20 shillings consumed only ~~enough food - to~~ 2,994 calories.¹

Poverty may have yet another relation to malnutrition than actually limiting the supply of food. A small income means narrower living quarters which in turn means a limiting the supply of air by overcrowding, loss of sleep due to the noises of an overcrowded house and unsanitation due to poor and inadequate plumbing. Such an environment results in a diseased condition, which in turn means malnutrition, as a diseased child is not able to benefit by food to the full extent.

A study of the housing conditions, in Glasgow, made by Dr. Leslie Mackenzie, and Captain Foster, show a definite relation between crowded quarters and the physical condition. An inquiry was made into the living condition of 72,857 school children of that city. Results of the inquiry showed that the average weight of boys and girls between the ages of five and eighteen in relation to the number of rooms in the homes were as follows:²

	<u>Boys</u>	<u>Weight</u>	<u>Height</u>
1 roomed house		52.6 lbs.	46.6 in.
2 " "	"	56.1 "	48.1 "
3. " "	"	60.1 "	50.0 "
4 " "	"	64.3 "	51.3 "
	<u>Girls</u>		
1 " house		51.5 "	46.3 "
2. " "	"	54.5 "	47.8 "
3 " "	"	59.4 "	49.6 "
4 " "	"	65.5 "	57.6 "

1. Bulkley, p. 177-179.

2. Bulkley, op, cit. p. 172-3.

An investigation at East Hampton, England, showed a relation between the nutrition of the child and its housing conditions:¹

<u>No. of Rooms</u>	<u>No. of Children Examined</u>	<u>Percentage with defect</u> ^{nutritional}
2 & 3 room houses	225	17.2
4 room houses	486	16.7
5 " "	657	13.2
6 " "	1,486	13.5
<u>No. of Persons Per Room</u>		
Less than 1	887	9.2
1	576	15.4
Between 1 and 2	1,379	15.2
Two and more	181	17.7

While these figures may not be scientifically correct, for other factors than housing conditions may have contributed to the state of malnutrition in many cases, yet it is an indication that there is a definite relation between the housing problem and the problem of malnutrition and the physical development possible under such conditions.

Some authorities lay quite as much stress upon ignorance, "poverty of knowledge and understanding",² as poverty of income,^{as a cause} Many a slender income if expended wisely would be sufficient to furnish enough proper food for those dependent upon that income.³ Mention has already been made of Dr. Chapen's study the "Standard of Living Among Workingmen's Families in New York City." He estimated that at that time (1907) 22 ¢ a day could furnish enough proper food for one person per day. Many whose incomes are small spend more than enough to maintain physical efficiency yet show a lack of food. They may have enough to eat yet not enough food due to an ignorance of proper food values.

It is true that oftentimes poverty and ignorance go hand in hand yet ignorance is by no means confined to those whose incomes

1. Bullley, op. cit. p. 173.

2. Spargo, p. 87.

3. "With Bread Education", Survey, 1909, Vol. 23, p. 350.

are small. Health education is needed almost as much by the wealthy parent as by the poor parent - else why do the children in the schools of the section of a city where wealth is found show such a large percentage of malnutrition. It was interesting to note that in the city of St. Paul the school which presumably draws from the wealthy homes of the city showed such need of nutritional education that it was chosen as one of the three schools of the city in which a special nutritional class was conducted. Eating and our own bodies have been taken for granted by people for so long that they are only just beginning to realize the need of popular education as to how to treat those bodies and what foods are best to furnish the greatest energy for the body.

Not only are people ignorant of what foods to buy, but how to properly prepare them for eating. The story is told of the child whose teacher told him that oatmeal would be good for him. The child took the teacher at her word but it was later discovered that he was eating the oatmeal uncooked.¹

Malnutrition cannot be attributed to one cause but is the result of many complicated factors which for convenience sake have been reduced to three outstanding conditions: (1) inability to properly assimilate food due to a diseased condition, (2) poverty (3) and ignorance.

REMEDY.

To remove an evil it is necessary to strike at the causes of that evil. It has been estimated that between 2 and 20,000,000 children of the United States are undernourished,² which constitutes an evil indeed. It has been seen that the causes of this ill may be reduced to inability to assimilate food properly because of disease:

- 1.
 2. Two million is the estimate of Spargo (see "The Heritage of the Hungry" p. 86).
- Twenty million is the estimate of Dr. Wood (see "The Cost of Educating the Underfed", School and Society, 1916, Vol. 4, p. 974.)

poverty, and ignorance. The first cause may or may not be due to either of the latter causes. Poverty and ignorance then stand out as the two main causes. What then are the remedies? As the causes are two-fold so must the remedy be two-fold.

Those who emphasize poverty as the cause of this widespread undernourishment, say that to strike at the root of the evil is an economic problem involving the establishment of a real living wage, the regulation of unemployment, and seasonal industries. In recent times labor legislation has been provided fixing a minimum wage for women and minors. Minimum wages for men have been quite generally established by unions. Seasonal industries and periods of unemployment, however, lower the income to below the standard even though the wages paid during the period of employment are considerably above the standard. There is still room for improvement in the economic field to adjust employment so that the yearly income may reach a point where physical well being can be maintained..

But it has been noted that though the incomes are small a knowledge of how to spend that money would insure physical well being in most cases. It was also noted that even excessive wealth is no surety against ignorance in regard to the maintenance of the highest physical efficiency. The problem then resolves itself into an educational or social problem.

The question then arises as to what organization is best fitted to meet this social problem. We are living in an age in which "efficiency" is a by word; that is, we are seeking the greatest results with the least expenditure of time, money, and energy. We should then expect to place the problem of malnutrition in the hands of that organization which could meet this problem in the most efficient manner.

There are many who advocate volunteer agencies such as

charity organizations and women's clubs, are the best fitted to feed school children. This stamps the remedy as a mere relief measure. Temporary relief will never remove the cause be it economic or social. One warm meal a day given to a child by charity will not increase the family income nor will it serve materially to mitigate the widespread ignorance of food values.

The majority of people, however, who have given any considerable attention to the problem recognize that it is essentially one of education and should be recognized as a part of the educational system. It is only when the school lunch is made to function as a part of the educational program of the schools that it can be made to strike at the roots of the problem. The educational advantages of the school lunch are three-fold (1) they offer the best of opportunities for teaching food values, and of cultivating taste for nourishing foods, (2) a chance for training in personal hygiene and habits of cleanliness, and (3) the opportunity to give the children a certain amount of cultural discipline.¹

If the school merely fed the ~~the~~ children it would be doing no more than some volunteer agency might do, but if the school meal can be used to lessen the ignorance of food values, it will have proved itself just that much more efficient in uprooting the cause of ignorance. It might be argued that the domestic science classes have undertaken instruction in food values but only girls are enrolled in such courses. Is it not just as necessary for a boy to know what foods contain the greatest value as girls?

1. Chambers, C. R. , op. cit. p. 83.

The school lunch not only means that the children are instructed in food values but that their parents become interested in the study of foods through the interest of their children. Mothers come to the school to find out how to prepare some of the dishes which the children have enjoyed and in some schools recipes are given the children to take home.¹

A knowledge of good values also has done much toward educating the children's taste for proper foods. The psychological effect of eating with other children encourages many to eat what they see other children eating and enjoying. Many mothers have also testified that they "were willing to give their children vegetables, but the children did not want them until they had learned that their bodies absolutely needed the food material contained in the vegetables." The mothers also said that "it was just as easy to fix up desserts containing milk and eggs or fruit as it was to bake pie and cake."²

The school lunch also serves as a material basis for the study of hygiene. The children are required to wash their hands and faces before coming into the lunch room and napkins are used to induce cleanly habits. The children are not allowed to hurry through the meal but are taught to masticate their food well and none are allowed to leave the room until all have finished. Lessons in physiology for the older classes are easily introduced in connection with the meals.³

Not the least important educational advantage of the school lunch is the opportunity it furnishes for instruction in simple courtesies and in the promotion of a spirit of democracy. In many a poorer home the children seldom sit down to the table but eat

1. Bengtson, A., Superintendent of Renville County, by letter, Jan. 1922
2. Bengtson, by letter.
3. Hotchkin, A. M., "Penny Lunches in Rochester, N.Y." 1913, Vol. 5, pp. 55-57.

walking around the rooms or the streets. For such cases the teaching of table manners is necessary. The fact that the teachers and the children, rich and poor, sit down together, partake of the same food tends to encourage a spirit of friendliness.

As the schools can offer these many educational advantages, beside the initial act of feeding the children, it seems that here is the logical agency to strike at at least one of the primary causes of malnutrition, namely, ignorance.

Aside from the educational value of the school lunch two other reasons¹ why the school should provide a lunch room for its children should be noted, (1) Many children, especially those who live in the rural districts, live too far to be able to return home for a hot lunch at noon, consequently their lunch must be a cold one unless some provision is made at the school for a hot dish; (2) Many mothers are away from home at noon, some because they are engaged in industry, others because of the increasing interest of Women's Clubs in civic and social problems. In either case the children will probably be either forced to eat a cold lunch laid out for them or buy a lunch. Often the money given them for lunch goes for sweets and not for nourishing food.

It may be argued that if the school takes upon itself to feed the children, at least one meal a day, it will be but a short time until it has taken over all the obligation of the parent toward the child and so will have done much to break up that sacred institution, the family. But this is not the object of school feeding. Through the correlation of the meal with efforts to educate both the child and its parents the family is prepared to function better within itself. Says Miss Smedley in her book on the school lunches in

1. Chamber, C. R., p.89.

in Philadelphia, "The school lunch offers one of the most effective links between the school and the home. It is the best possible medium for teaching wise food habits which, instilled in the child are frequently introduced in the home."¹

The meals as conducted by the educational authorities may be financed in two ways² (1) Each child may be required to pay for the meal and those who are not able to pay to receive the meal free, the resulting deficit to be paid out of the school funds. No one should however, be allowed to distinguish between the child who is able to pay and the child who cannot; This seems the most practicable plan up to date but those who wish to see the school feeding operate to the limit of its possible efficiency advocate that the lunch be free to all. If it were free to all attendance might be made compulsory and the advantage of its educational possibilities would reach every child, rich and poor. It may be argued that free feeding would involve too great an expense, too great an increase in taxes. This objection, however, may be overcome through a consideration of the fact that the children must be fed and the expense is no greater if the school administers the lunch than if the home provided it. In fact when food is bought in large quantities it may be obtained more cheaply than in small quantities.³ Wald in an article on the feeding of school children says, "Estimated by the most material measurement it is a comparatively small investment of public thought and public money for a large result."⁴ The objection may

again arise that to have the children fed by the public will weaken

1. Smedley, E. "The School Lunch, Its Organization and Management in Philadelphia, p. 47.

2. Chambers, C.R., p. 92.

3. Alice Hotchkin (Journal of Home Economics, Vol. 5, p. 249, say that estimates show that but \$1.00 per pupil is spent during the year.)

4. Wald, T.D., "Feeding of School Children", Charities 1908, Vo. 20, pp. 381-2.

parental responsibility and result in wholesale pauperism. "I am not afraid of that cry", says Spargo, "it has become too familiar. I remember very well that when it was proposed to make the schools free to all, the same bogey of pauperism was raised..... In the early day of the Free Library Movement, a similar outcry was heard, but one never hears it nowadays, nor does anybody consider that he is pauperized when he takes a book from the city library to read."¹ "I am sure that in the poor districts of Chicago there is not greater educational need than simple lunch rooms and when they are properly managed there is no danger of pauperizing."²

Malnutrition looms before the world as a serious problem. Its extent has been discovered to reach an alarming percentage of the school population. It results in physical degeneracy, mental retardation, and social misfits. It seems to be caused chiefly by poverty and ignorance. The remedy therefore must be two-fold, economic and educational. Our chief concern is with the latter and the organization which can accomplish the most beneficial results. This organization is the Department of Public Schools which by providing a lunch can increase the actual working efficiency of the children and can use it as a laboratory on which to base instruction in food values, physiology and hygiene, and to develop a spirit of democracy.

1. Spargo, p. 250.

2. Hunt, p. 49. Report of Mr. Honbecker's lunches in the Goldsmith School of Chicago.

HISTORY OF THE MOVEMENT IN EUROPE.

Europe recognized that she had a problem of malnutrition and tried to meet it long before America awoke to the seriousness of the extent and consequences of undernourishment in this country. School feeding as a remedy for malnutrition had won adherents in Europe even before education had become compulsory. The movement began in various ways in the several countries but has come to be recognized after years of experience, to be a proper function of the educational system. It has even taken a national aspect in many of the countries. Mrs Bryant, author of a book on School Feeding has characterized the movement in Germany as a "scientific experiment", in France as an "unconscious evolution" and in England as a "national necessity".

IN GERMANY¹

It is in Germany, over a century and a half ago, that the first attempt was made by any agency outside the home, to provide a meal for school children. In 1790 when the factory system brought in an industrial upheaval soup kitchens were established in Munich for the relief of the unemployed and as a preventative measure for vagrancy. From the first, the schools encouraged the children to go to these soup kitchens where a warm meal was served, free, or for a nominal price as the case demanded. During the

¹Taken from Bryant, L.S., "School Feeding," pp. 99-130. See also: "Feeding of School Children in Continental and American Cities", page 18, in Great Britian Sessional Papers. 1906-1907.

next fifty years the Children's Homes, charitable agencies, undertook a similar task of supplying children in extreme need with breakfasts or lunches but the work was "unorganized and sporadic".

The next step was taken by the Philanthropic School Society, an organization which originated in Hamburg in 1870. The purpose of this society was to increase public school attendance, and efficiency through the provision of free text books, prizes for good scholarship, clothes and food. The provision of food soon came to be considered one of the most important activities of the work of the society and was early subsidized by the cities as one of the best remedies for non-attendance.

The movement received further impetus in 1890 at the national convention of vacation colony workers at Leipsig. Here it was reported that the benefits received by the children through these vacation colonies soon disappeared upon their return to their homes, due to crowded quarters, bad air and bad food. In order that the beneficial results of the summer camps might not be entirely lost, these colony workers tried to continue their efforts to feed the children through the winter.

Because of the results of this Leipsig convention, an investigation of the subject of school feeding was begun, backed by the authority of the Prussian government. The results of this investigation were published in 1896 by Dr. Cuno. He reported that some sort of provision for school feeding was found in 79 cities, carried on by private societies, publicly endowed societies, Children's Homes and vacation colonies. In 42 cities which reported, 27,635 children were being fed.

Dr. Cuno's report aroused such widespread public interest

that in 1897 a bill was introduced in the Reichstag by the Social Democrats calling for the provision for school feeding in all cities but the bill was defeated upon the ground that a migration to the cities would result. Public interest had been aroused, however, to such an extent that an increasing number of cities subsidized the private agencies providing school meals.

Between the years 1890 and 1907 public interest was further aroused by the startling discovery that of all the men examined for the army 44% to 46% were rejected because of physical unfitness. Because of Germany's compulsory military service these figures show the condition of practically the entire male population. This unfitness was traced to many causes but underfeeding during adolescence was pointed out as one of the chief causes. From this time school feeding received the serious attention of an increasing number of people and "took on the characteristics of a national issue".

The city of Stuttgart furnishes a good example of how this matter of school feeding was administered. The work was under the direction of the Medical Inspector of Schools and was supported entirely by the municipality. No children were given meals free unless in need. Breakfast was served either before school or at ten o'clock recess. The municipality made careful regulations governing the service, the location of centers, the kind of milk sold, and the sanitation of the kitchens and dining rooms. In the poorest sections a hot meal was served to children whose mothers and fathers were away from home at noon.

In Charlottenburg the situation was much the same with the additional feature of "follow up" work whereby home conditions were investigated.

These two cities furnished a standard to be attained by the schools rather than typical instances.

Some idea as to the extent of the provision for school meals may be had through Kaup's report which gives the results of his investigations in 1907 and 1908. An inquiry sent to 525 cities with a population of 10,000 or more brought answers from 487. Of this number 239 reported some form of school feeding. Of 189 which reported their form of organization, 43 were supported entirely by the municipality, 68 were supported partially by the public and partially by private organizations, 73 were supported entirely by private organizations. In the latter case where the work was supported by private agencies there was the closest cooperation between these agencies and the school authorities. The total expense of the work in 1907-8, exclusive of cases where the children paid, amounted to \$146,136.00 and Dr. Kaup estimated that under a national program the expense would be about \$1,666,066. It was estimated that about 6 per cent. of the school population of these cities were fed. Acute malnutrition was estimated at 8 per cent. and of the entire school population 50 per cent. were estimated to be but fairly well nourished, leaving but 42 per cent. well nourished.

At the time that Mrs Bryant's book was published (1913) the movement had grown until practically all children might be fed at school, those who were able paying for the meal. Provisions were again under way for national legislation making school feeding compulsory wherever there was need but war and its resulting confusions have arrested all such movements.

IN FRANCE ¹

The movement was started in France in 1849 by the battalion of the National Guard in the second arrondissement of Paris. The battalion found that it had a surplus in the treasury which it wished to turn into a fund to be used for the benefit of the community. This fund formed the nucleus of the "Caisse des École" organized to assist the poor children in the schools. The value of their work became increasingly evident and in 1867 a law was passed authorizing the establishment of a similar agency in every commune of France. The funds were to be used for medical inspection, school lunches, and any extra services authorized by school authorities for the "physical or other welfare of the children". The Cantine Scolaire, or school lunch room, soon came to be an important function of the Caisse de Ecoles, but in 1880 the support of the school lunch was taken over by the government in Paris and has since become recognized as a part of the regular expense of education.

As early as 1867 Victor Duray, the minister of public instruction, recommended medical inspection of the children with special attention to nutrition. In the next decade school meals for the very poor were started in 469 places and were usually conducted by committees of the Caisse des École.

Paris was one of the first cities of the world to make adequate provision for the administration of the cantines scolaires, and this, not as a matter of charity but as the expression of a

¹ Taken from Bryant, pp. 77-98. See also: J. C. Gebbart, "Municipal School Feeding", National Municipal Review, March 1919, p. 160.

fundamental conviction of its educational advantages. In the early stages of the movement in Paris, the cantines were administered by a committee of the Caisses des Écoles receiving a subsidy from the government. This subsidy was increased until the city has assumed the entire financial responsibility. In 1905 this made a little over 4 per cent. of the city's entire educational budget.

In order to standardize the work throughout the city, a few rules were made to apply in all the schools. (1) All children may take advantage of school feeding but all pay for what they received if they are able to. Children who are not able to pay send a request to the principal of the school. The cases are investigated by a special delegate of the Caisse des École, who includes in his report of each case the circumstances which oblige the family to ask for aid. A free ticket is then given to the child covering but one school year. (2) When the meals are served no distinction is made between the child who pays for his ticket and the child who does not. The tickets are sold in the town hall under the direction of the mayor and a committee of the Caisse des École from the Cantonal Delegation. The rest of the organization and administration of the work is left to the Caisse des Ecole of each district.

These Caisse des École employ one of two methods, (1) They hire a caterer to take care of the cantine, paying a certain sum per meal. (2) The cantine is under the direct supervision of a Caisse des École committee.

Under the second preferred method of management there is at the head of the work in the district a committee of about

twenty members of the Caisse des École. This committee chooses the trades people who are to be patronized, the staff of workers for each cantine and issues orders for the purchase of food. It appoints one woman inspector who has fifteen or twenty helpers. It gives directions as to what food shall be bought and how much paid for it. One cantine usually supplies two schools. At the head of each cantine is "a cantiniere" who cares for equipment, receives, prepares and serves the food with the help of as many assistants as are necessary. The inspector must visit as many cantines in a day as she can while her assistants inspect the rest and she submits a report to the Cantine Committee each month. Care is taken that the meals shall vary from day to day, be well balanced and wholesome. Children, rich and poor, together with their teachers eating at a common table makes for democracy and good fellowship.

An idea as to the extent of the cantines scolaires throughout the country in 1909 may be had from a report issued in that year. A questionnaire was sent to the eighty-eight prefects of the department of France, fifty-five of whom replied. Two reported no school feeding and one could give no definite information. In the other fifty-two departments some form of cantine work was carried on. Of forty-three departments reporting the method of support, twenty-seven were financed by the public the remaining being subsidized by a semi-public agency.

	No. Schools	No. Cantines	No. Children Fed
Paris	588	353	38,531
France (excluding Paris)		<u>2,367</u>	<u>147,974</u>
		2,720	186,505

The cantines are not the only form of school feeding. In many places where cantines are not yet established a warm dish is served by the teachers or janitors of the schools. These lunches

are called "Soupes Chaudes" or "Soupes Scolaires". In some of the rural districts the children bring the raw materials and a soup is prepared by the teacher to supplement the cold lunch brought by the children. At the time of Mrs. Bryant's writing (1913) there were 1400 communes supporting some form of cantine scolaire.

Although no provision has been made by national legislation for state support of school feeding, the movement is nation wide.

IN ENGLAND ¹

Victor Hugo may be said to have furnished the impetus for the movement in England in the early Sixties when he fed the children of a nearby school in his own home. The Destitute Children's Dinner Society resulted in 1866. That the effort was considered worth while is evidenced by the fact that by 1905 there were one hundred fifty-eight volunteer organizations for school feeding in London and a total of three hundred sixty throughout England. These societies had no central organization or no standard of work but they merely tried to relieve acute distress.

Education became compulsory in 1870 which furnished an added impetus for the work throughout England.

In 1887 some effort was made whereby these various volunteer organizations in London might cooperate through a central committee composed of representatives of these various agencies. This effort evidently failed and in 1889 another committee was appointed by the School Board to investigate the matter. As a result the London Schools Dinner Association was founded merging most of the volunteer organizations and securing a spirit of cooperation

1. Bryant, pp. 22-76
Bulkley, M.E., "The Feeding of School Children", pp. 15-27.

with those organizations remaining independent.

In an effort to make the meals self supporting many of the children most in need of the school lunches were neglected. A committee appointed by the School Board in 1898 reported a lack of efficiency and cooperation in the work and recommended that the school authorities cooperate with the volunteer agencies in providing meals, and that those children unable to pay should receive their meals free after an investigation of their cases had been made. In 1900 the Board went a little farther and established a committee known as the "Joint Committee of Underfed Children" composed of members of the School Board and representatives of the volunteer agencies. This committee was, however, handicapped in the amount of work it could accomplish by the fact that it had to depend upon the volunteer organizations for funds.

By 1900 agitation for State feeding began to be heard and this agitation grew when Major General Frederick Maurice of the British Army announced that only two-fifths of the men who applied for enlistment in the army were able to pass the physical examination. The nation was roused to the seriousness of the health of its people. The king appointed a committee to investigate the schools to find out what physical training was provided for, and what further education was needed to improve the national physique.

The Royal Commission on Physical Training investigated all educational institutions from the universities to the elementary schools. It reported that in the latter instance gymnastic drill was not lacking but the children were too weak to take advantage of it or to receive any benefits from it. It was found that in the army and navy training schools and industrial schools for truant or defective children where food was provided, gain in

health was the most marked result. This convinced the commission that of the causes which held down the physical welfare of the people, lack of proper nourishment was the most serious. They therefore recommended the general establishment of school lunches to be paid for by a small fee.

The question "Is our race deteriorating and, if so, what are the causes?" was still bothering authorities and the next year a new committee known as the "Interdepartmental Committee on Physical Deterioration" was appointed to study the general social and economic causes for the alleged deterioration of certain classes and point out means for diminishing it. This committee consulted sixty-eight witnesses, men and women, from all parts of Great Britian connected with schools, factories, government, charities, and well acquainted with the lives of the masses. They reported no hereditary taint which gave them hope of being able to remedy the situation. They decided that as bad as were the effects of congested housing and unemployment no cause was more prominent nor prevalent than chronic malnutrition, found among all ages in town and country.

Although poverty and ignorance were at the bottom of this state of malnutrition, they could only be eradicated by almost revolutionary reform legislation, while the problem of school feeding could be met immediately.

Before a new plan of work could be put into operation an investigation of the present status of school feeding was necessary. Another committee was appointed and it reported three hundred fifty-five organizations in one hundred forty-six places serving some sort of meals from three to four months in the winter.

As a final result of this agitation, these investigations,

and a newly educated public opinion, the Provision of Meal Act was passed by Parliament in December 1906. By this act feeding of school children was transferred from charity to local educational authorities. The act provided for the use of school funds in the establishment of regular school restaurants where meals would be served to all desiring them, at cost to those able to pay, free to those not able.

Bradford may be taken as an example of how this act is administered in the cities. Their equipment is provided by the school authorities and is of the best. The work is in the hands of a Canteen Committee, a sub-committee of the School Board, and comprised of head teachers, medical inspectors, visiting nurses, and attendance officers.. Children whom the teachers think are in need of food, but cannot pay, are recommended to receive meals free. Sometimes parents apply to the teachers. Wherever free meals are given, the Canteen Committee investigates home circumstances and from their investigation determines whether or not the parents shall be required to pay. Where parents can make a partial payment any sum is accepted from a half penny to the entire cost of the meal, but no distinctions are made..

The preparation of the meal is directed by a man who is a professional chemist as well as a well trained cook. The meal is prepared at a central kitchen. The cost of Bradford's meals amounted to \$39,600 in 1908-09, aside from the initial cost of equipment. The total cost of a dinner was three cents, the food costing two cents and administration one cent. There was an average daily attendance of 2,700. Of this number about two hundred forty paid for their meals entirely or in part.

Not of minor importance is the educational advantages of

such meals. The food is better than that found in most of the homes, and is served better. Cleanliness is taught in connection with the meals and food values and costs are taught the older children. Follow up work is also carried on by members of the Canteen Committee in the homes of the children and recipes of foods served in the school are distributed among the mothers. Results have proved the experiment well worth while not only in regard to the physical improvement of the children but also in regard to their table manners and conduct. Results are noticeable also among the parents according to Miss Margaret MacMillan who reports an increased interest on the part of the parents in regard to the necessity of studying their own children.

Beginning with 1909 annual reports have been issued by the board of education on the workings of the Meals Act. The report of 1909 shows one hundred thirteen places out of a possible three hundred twenty-eight putting the act into operation. In many of the rest of the places volunteer agencies were continuing the work in part subsidized by the city. In all, perhaps two hundred towns of England and Wales had some form of school feeding. In forty-four places meals are served holidays as well as school days and in thirty-four places meals are served the year around although the attendance is smaller in the summer.

Since 1910 the National Board of Education has placed the general supervision of the Meal Service in the hands of the Medical Department and it is the Chief Medical Inspector who makes the annual report.

In 1916, 1,000 elementary schools in London provided some form of school lunch. This means an army of volunteer workers are needed as nine such workers is the average for every school. During

the war the work suffered considerably for most of those formerly available for volunteer work were engaged in war work.¹ A return to normalcy in the country, however, will probably mean that the work will return to its former status.

Other European countries² have also seen the necessity of feeding their school children as evidenced by the amount of attention such work has received in these countries.

Holland was the first country to have national legislation providing school meals. The Compulsory Education law of 1900 also provided that clothing and meals be furnished by municipal authorities for any children who were in need of such in order to attend school. The work had previously been carried on by volunteer agencies in no less than fifty-three communities. By 1907, thirty-seven towns had adopted the provisions of the act. The work in Holland consists almost wholly in the caring for those children in absolute need but is carried on entirely by school authorities.

In Switzerland where the schools are of excellent quality but far apart, meals have been served since before 1894 to provide for children who had a long distance to go. In 1903 the Federal Government made it obligatory for the cantons to supply needy children. In 1906 Federal Authorities authorized the use of state funds for the support of school feeding and vacation colonies. Reports of 1908 showed eighteen of the nineteen large cities with some provision for school feeding. Great care is taken that the meals shall contain the proper amount of food value and no distinction is made between those receiving the food free and those who pay.

1. Gilbert, J.W., "For London's Children", Contemporary Review 1916, Vol. 110, pp. 654-6.

2. Taken from Bryant pp. 130-146.

" " Hunt, "Daily Meals of School Children" pp. 52-54.

In Italy there were in 1913, fifty-five cities with provision for school feeding.¹ Milan may be cited as a typical example of how the work is administered. The movement began in 1894 by a semi-official body known as the "Committee of Patronage". In 1900 the city took over the control of the lunch system. At first these lunches, only consisted of sandwiches, but in 1904 hot lunches were introduced. In 1908, 38 per cent. of the school population availed themselves of these lunches and 30 per cent. received their meals free. The total expense in 1908-09 was \$81,322. One striking result was a decrease in the absences from 28 per cent. in 1894 to 6 per cent. in 1905.

Austria, Sweden, Norway, Belgium, Denmark and Spain¹ are other European countries giving considerable attention to a school feeding problem. In all of these countries the history of the movement has been much the same as that of the other countries described, beginning with volunteer work until it had proved its worth when it was taken over entirely or in part by the municipal authorities.

¹ Langworthy, C.F., "Lunches in Elementary Schools", Journal of Home Economics, 1913, Vol. 5, p. 249.

HISTORY OF THE MOVEMENT IN AMERICA.

In the United States school feeding at present has about the same status as it had in Europe before 1905. We may say that in America it has not as yet gone beyond the experimental stage.

Dr. Josephine Baker makes this startling assertion: "It is interesting and significant to know that generally speaking, and taking the countries as a whole, there is far less undernourishment among the children of France, Belgium and England today than there was before the war, while in the United States the proportion of undernourishment has constantly increased since prewar days so that now we have twice as many in some places, and three times as many in others as we had five or six years ago. The reason for this is that the child in Europe has had its problem studied and has received proper attention. Europe cannot afford to waste its child life, consequently it is paying the utmost attention to child welfare work and seeing that every child is reared under as wholesome and healthful conditions as possible. In this country we have been extremely neglectful of child life and it is not too much to say that our children have not had a square deal. It is not too late, however, to put our children physically on an equal basis with the children in other countries." ¹

As in other countries the movement began in the United States solely as a relief measure and it has scarcely gotten beyond that stage, but there is an increasing amount of cooperation among people interested: educational authorities, social workers, physicians, and teachers. The number of cities carrying on the work has increased rapidly during the last few years. In 1906 when Great

1. Josephine Baker, Ladies' Home Journal, January 1922.

Britain sent out a questionnaire as to the status of the work in various countries but three cities of the United States reported, New York, Philadelphia and Chicago, and from their report it is obvious that the movement was still young.¹

Since 1906 the movement has gained throughout the country. An article written in 1913 reports forty-one cities of the United States as having some form of school feeding.² A survey of sixty-eight cities made by New York in 1915, showed that in thirty-eight of these cities lunches were furnished directly by the schools, in eighteen concessions were farmed out to commercial caterers, seven cities allowed cooperative student organizations to furnish lunches under the supervision of the board of education, and in five of the cities the lunches were served by private philanthropic organizations.³ In 1919 a questionnaire was sent to one hundred thirty-one cities of a population of 50,000 or over. Replies were received from eighty-six of these cities. Of this number, seventy-two reported some form of school lunches. In sixty-eight of these cities the work was carried on entirely by the city government.⁴

IN PHILADELPHIA.⁵

Philadelphia was one of our pioneer cities to serve school lunches. The initial effort was made in 1894 when the Starr Center Association, a benevolent organization, served penny lunches in one of the schools in the poorer district. As need for more of such work became increasingly evident, a Lunch Committee of the Home and

1. Great Britain Sessional Papers, 1906-7, p.18.

2. Langworthy, C.F., "Lunches in Elementary Schools", 1913, Vol. 5, p. 249.

3. Rapeer, L.W., "Educational Hygiene", 1915, pp. 271-290.

4. Gebhart, J.C., "Municipal School Feeding, National Munic Review, March 1919, p.163.

5. Taken largely from Smedley, E., "The School Lunch, Its Organization and Management in Philadelphia", 1920, pp.11-22.

School League was formed which extended the penny lunch to nine schools of the city. In 1909 the School Board made its first move to assist in the work by equipping a lunch room in one of the High Schools.¹ In 1912 the Board voted to establish lunch rooms in all the High Schools, the work to be under the Department of High School Lunches.

In 1915 the Lunch Committee of the Home and School League which had continued to serve penny lunches in nine of the elementary schools "reported to the Board of Education that it had demonstrated the need of a lunch system but that such a system could not successfully be carried on by an organization apart from the school management." In consequence of this report the board authorized the extension of the lunches in the elementary schools under the direction of the head of the High School Lunch System.

With the backing of the school authorities it has been possible to increase the number of elementary schools serving either a noon or recess lunch. In 1920 there were thirty out of one hundred ninety-seven schools serving either of these forms of lunches or both. At the present (1922) there are twenty-six elementary schools and nineteen schools including normal high, junior high, and special schools serving a lunch.²

The administration of the Philadelphia school lunches has been worked out with great care. The Board of Education furnishes all equipment but the supervision of the work is in the hands of a Department of School Lunches. There is a director of school lunches appointed by the Board of Education. Her salary is fixed by the Board but paid out of the receipts of the lunch rooms. She is empowered to employ all workers necessary for the department, to buy

1. Coöperative School Lunches in Philadelphia, American City, 1917,

Vol. 17, p. 24

2. E. Smedly by letter, April 18, 1922.

all supplies, fix and pay all salaries out of the receipts of the lunch room, and in general to direct and supervise the work. Her corps of workers includes one general assistant, an assistant in charge of elementary school lunch rooms, a secretary, two clerical assistants, dietitians, and helpers which may include student aids.

The School Board does not receive any money directly from private agencies but it cooperates with various agencies in providing for the needs of children who cannot afford to buy lunches.

This centralization of the work under one head makes for efficiency in several ways. The fact that the Board supports the movement gives the lunches prestige among the people in the community. Prices are less when the food is bought in large quantities. Accounts are gone over once a week so that any leakage is soon revealed. Small schools which are not self-supporting receive benefits from the profits of larger schools. The same standard of food and service is maintained.

The educational value of the Philadelphia lunch system contributes in no small measure to the benefits derived. Where student government is in operation, the students take over much of the discipline of keeping the lunch room in order. In schools where the teachers are interested the lunch room is linked with the activities of the domestic science department, shops and other branches of the schools.

IN NEW YORK.

In New York the problem of school feeding has been a pressing and difficult one to solve. Volunteer agencies first undertook to meet this problem in 1855 when the Children's Aid Society began to furnish free lunches for the Children of the Industrial School. Dr. William Maxwell, superintendent of the New York schools, urged

that lunch rooms be installed in the elementary schools where they might be furnished to all children who wished to have them.¹

In 1907 a School Lunch Committee, an unofficial body of volunteers, composed of medical inspectors, social workers, and Columbia faculty members,² was formed with Miss Alice Kittredge as chairman. Their plan was to provide nourishing lunches on a self-supporting basis with special attention to those children who showed evidence of lack of food.³ Plans were also made to conduct classes in food values and food preparation among the mothers.⁴ This School Lunch Committee was recognized by the School Board and given permission to operate. The committee was soon able to increase their work.⁵

In 1908 the Board of Education made its first move to aid directly in the establishment of school lunches by conducting an experiment in two of the schools. The Board for this purpose chose school No. 21 in the Italian district on the lower East Side and No. 51 where the population is largely Irish American. These two schools were equipped by the School Board and the lunches were administered by the School Lunch Committee. After two years the Board of Education formally endorsed the lunches and gave permission to install them in other schools with the understanding that the Board would supply the equipment, rooms and gas and that the cost of the food and service would be met by the sale of the meal tickets.⁶

1. Bryant, p. 18.
2. Rapeer, L.W., "Educational Hygiene, p. 280.
3. "School Lunches for Children", Outlook, 1916, Vol. 112, p. 136.
4. Wile, I. S., "Lunch Progress in New York", Journal Home Economics, 1914, Vol. 6, p. 445.
5. "School Lunches for Children", Outlook, 1916, Vol. 112, p. 136.
6. Bryant, p. 147; see also Mayer, M.J., "The Vital Question of School Lunches", Review of Reviews, 1911, Vol. 43, p. 458.

By 1914 there were 17 schools with provisions for school feeding, serving 24,087 children.¹ In 1918 there were school lunches in 53 out of 504 schools in five boroughs of New York.² In some places the work was still conducted by private agencies such as the Children's Aid Society, but all organizations and persons interested were convinced that more could be accomplished if school feeding became a definite part of the work of the Board of Education and taken out of the hands of private agencies altogether.³ In 1918 the Board of Estimates decided that \$50,000 would be the sum needed to meet the maintenance and extension of the work which sum was to be available January 1, 1919. In 1920 \$49,059 was authorized for the use of school feeding which sum was to mean the establishment of lunches in more than 30 schools during the year 1921.⁴

Now (1922) lunch service is provided in schools having 30 per cent. malnutrition or over and in all schools where children have to come a great distance.⁵

School lunches are still administered by a School Lunch Committee under the Board of Education but the Committee works through paid agents. There is a general supervisor who makes out the menus. Under her are the managers of the various schools who order supplies, collect the money, and make reports. There is also

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1. Wile, I. S., "Lunch Progress in New York", *Journal Home Economics*, 1914, Vol. 6, p. 445.
 2. Tyler, S. T., "Bureau of School Feeding, *New Republic*, January 12, 1918, pp. 312-13.
 3. Gebhart, J. C., "Municipal School Feeding", *National Municipal Review*, 1919, Vol. 8, p. 159.
 4. "School Lunches in New York City", *School & Society*, 1920, Vol. 11, p. 20.
 5. Bleier, M. J., Manager of School Lunches in New York City, by letter.

an associate manager in each school responsible for serving the meal. A corps of student aids lessens the number of paid workers necessary.¹

Each child must first have a bowl of soup after that he may get any of the other items on the bill of fare. Where one school has a predominance of any one nationality the menu is made to include such foods as are most acceptable to that group.

The school meal is supposed to be one-third of the amount of food a child needs in a day but sometimes one-fourth to one-half is actually provided. In 1912 it was reported that there was a deficit of \$0.063 per child per day but this deficit will decrease as the number of children taking advantage of the meals increases for then food can be bought in larger quantities at a greater discount.² The School Lunch Committee estimates that the meals may be self-supporting if 300 children from each school should buy meals daily.

The School Lunch Committee cooperates with the Health Department and influences the general health of the community by trading where decent conditions of work and welfare prevail.³

IN BOSTON.⁴

As early as 1894 Mrs. Ellen H. Richards of Boston was

1. Wile, I. S., "Lunch Progress in New York", Journal Home Economics, 1914, Vol. 6, pp. 144-5-6.
2. Bryant, pp. 148-150.
3. Wile, I. S. "Luncheons for School Children in New York", Outlook 1916, Vol. 112, p. 361.
4. Bryant, pp. 164-8.
Rapeer, p. 271.

aroused by the poor food sold to children by store keepers and street venders, and later became instrumental in getting the school board to supervise the selling of food. She herself sold lunches to some of the High School students until arrangements were made with the New England Kitchen where wholesome lunches were prepared and distributed. The movement did not gain much prominence or headway until 1909 when a Hygiene Committee of the Home and School Association was formed with Mrs. Richards as chairman. This Association was the result of a meeting of the Home Economics Association where the work of New York and Philadelphia was described. Work began at once in one of the schools already equipped with a kitchen for the cooking classes. Before the end of the year lunches were established in five other schools. By the fall of 1911, 22 schools were equipped. After the initial cost of equipment the Boston ~~l~~ lunches have been entirely self-supporting. At present (1922) nearly all the school lunches or almost 100 per cent. serve lunches under the supervision of the Department of Medical Inspection.¹ Now Boston as well as other places throughout the state has the backing of the State in using school funds for the establishment of school lunches. A law passed in 1913 subject to the referendum vote of the citizens was called "An Act to Protect and Conserve the Health of the Child and to Provide Meals at Cost in the Public School" and it provided that any board of education might appropriate funds for the equipment and administration of school lunches.²

IN BUFFALO.

The Federation of Women's Clubs took charge of penny lunches in Buffalo for five years prior to 1911. In 1911 the

1. Boston Medical Department of the Public Schools, by letter.
2. Rapeer, p. 293.

the Common Council made this work a part of the Domestic Science Department with the Superintendent of Education in general charge in cooperation with a commission appointed by him. The supervisors of the various lunch rooms are chosen from among the domestic science teachers. The first appropriation by the city amounted to \$2,000 to cover the service and equipment, the food to be sold at cost. Free lunch tickets for needy children are provided by the Charity Organization Society. There is also cooperation with the Board of Health through their nutrition classes.¹ The educational side of the meal is not neglected for the preparation of the lunch gives a practical application for the domestic science classes. The noon hour is utilized to teach courtesy, and to present lessons on food values, hygiene and botany.² In 1911 there were six schools serving a hot lunch but since the School Board has taken over the work one more school has been added, making seven out of the 63 elementary schools which serve lunches.³

IN CINCINNATI.

The teachers, the Civic League, and the council of Jewish Women first introduced penny lunches into the Cincinnati schools, the first school to be equipped being one in the industrial section of the city where children whose mothers were away at noon bought indigestible things at the nearby confectioners. The women worked through a body of directors and a corps of volunteer assistants. The expenses of the lunch room were met by receipts except the

1. Small, Mary, "Elementary School Lunches in Buffalo, N. Y.," Journal Home Economics, 1912, Vol. 4, pp. 490-2.
"Domestic Science in the Buffalo Public School, Bulletin 1922.
2. Small, Mary, "School Lunches", Journal Home Economics, 1914, Vol. 6, p. 437.
3. Hackett, Ella, by letter.

salaries of the cooks which were paid out of the Philanthropic Fund of the Council.¹ The School Board kept in touch with the work through the reports of the directors but the advantage of making the work part of the educational system brought it eventually directly under the Board. A Penny Lunch Association was formed with the Superintendent of Schools at its head and including the Health Officer, the school principal and representatives of the organization which had first conducted the work. The Association has two regular meetings a year and others called when occasion demands to discuss food prices, the status of the work and suggest plans for improvements. The Association has no dues and the members receive no pay for managing the lunch rooms so money for the cooks' salaries is furnished by the Board of Education. The manager of the lunch room is responsible for buying, planning menus, keeping accounts, and assisting in serving. Often she has a committee of interested women to help her. Where there is no such manager the principal and teachers have sole charge of the work. All the lunch rooms are inspected by the chief health officer.

The movement has grown in Cincinnati until there are (1922) 50 per cent. of the schools serving either a noon or recess lunch.²

IN MILWAUKEE.

The history of the movement in Milwaukee largely repeats that of Buffalo and Cincinnati. Here too the Women's Clubs saw the need of school lunches and tried to meet the situation. In 1904 pennylunches were started in three centers, financed by donations. The women who lived near by cooked and served the meals in their homes. Later the Penny Lunch Committee of the Women's

1. Bryant, pp.168-172.

2. Ulrich, C. M., by letter.

School Alliance took charge of the buying and serving but meals were only provided in the poorer districts. The daily attendance upon these meals increased and nine centers were established. The Women's Clubs felt their incapacity to increase their efforts and yet they felt that more should be done and advocated that the Board of Education take over the work.¹ This the Board did through their Business Department, which hires a matron to supervise the work. The Board furnishes money for equipment, salaries and provisions but the receipts usually pay for the price of the food.

In the spring of 1922, 12½ per cent. of the schools served lunches at five cents a meal and two cents a piece for additional dishes.²

IN CHICAGO.

The school lunch has been fostered by charity organizations and women's clubs in Chicago since 1902. The Jewish Women's Lodge in that year initiated school feeding in the Goldsmith School located in one of the poorest sections of the city. There is the unusual feature in their experiment that all meals are served free. They tried for sometime to charge for the lunches but the majority of the children were so poor all idea of making the lunches self-supporting was abandoned.

Other agencies became interested in meeting the problem of malnutrition and they decided that all children whether rich or poor should have the privilege of a school lunch but the School Board felt unable to finance the movement. The Board expressed its willingness, however, to cooperate with private agencies by allowing the use of school rooms, and by providing gas and light.³ In 1910

1. Mowry, Mrs. Duane, "Penny Lunches in Milwaukee, American City, 1911, Vol. 4, pp. 283-5.
2. Secretary's Department of the Board of Education, by letter.
3. "Hungry Children in Chicago", Charities, 1908, Vol. 21, pp. 93-96.

the Board went a step farther and appropriated \$1200 to start a lunch system in six schools of the poorer districts. The cooking utensils were made by the boys in the manual training classes, and the food was prepared by the teachers and pupils.¹ Now there are 65 schools chiefly of the poorer communities out of 240 schools serving some form of school lunch. They are all under the direction of the Board of Education, being supervised by a Director of Special Schools, a physician, and a dietitian, but as yet the Board is not able to finance the entire movement.²

IN ST. LOUIS.

St. Louis had for sometime provided lunches for its High School students but in 1911 the experiment was made in the elementary schools. They were primarily intended to benefit the poorly nourished but were extended to all children who did not eat at home.³ The lunches continue to be conducted by two agencies, the Council of Jewish Women and the Children's Lunch Room Association, a private organization. The Board of Education cooperates through its Director of Hygiene who approves the menus from time to time and inspects the quarters which the School Board provides for the serving of the lunches. In the spring of 1922 there were six schools in the congested district serving lunch. This is not a large per cent. as there are 135 schools of all kinds in the city but the movement is young in St. Louis.⁴

Of our western cities Los Angeles and Seattle may be cited as examples of how school lunches are conducted in that section of

1. Mayer, M.J., "The Vital Quest of School Lunches, Review of Reviews 1911, Vol. 43, p. 448.
2. Bruner, F.G., by letter Apr. 7, 1922.
3. Bryant, p. 173.
4. Henart, J., Director of Hygiene of St. Louis Public Schools, by letter Apr. 12, 1922.

the country. The movement is new in both cities. In Los Angeles the work is under the supervision of the Home Economics Department. The domestic science teacher of each school buys all the food and directs the preparation of the lunch. The Board allows the use of gas and water and in a few cases pays for one hour's work a day. The teacher in charge keeps her accounts and once a month sends all receipted bills to the office of the supervisor. There are now 30 per cent. of the elementary schools serving lunches.¹ In Seattle the work is also under the supervision of the Department of Home Economics. The School Board installs the first equipment and pays for it, after that the lunch rooms are self-supporting. At present there are 18, or 21.6 per cent. of the elementary schools serving lunches.²

The school lunch movement has not been confined to the cities but has spread throughout rural districts. It has been noted that Massachusetts has state legislation allowing the use of school funds for the equipment of lunch rooms. No other state has as yet followed Massachusetts' example but the movement in rural districts is growing, fostered by local agencies. In Ohio an experiment was made in two counties to operate a lunch room in connection with the domestic science classes. The experiment proved a success. In the smaller rural schools a minimum amount of equipment was provided by the University or by the parents of the community. In these schools the teacher and a committee of three children furnished lunches each week. In the larger rural schools equipment was donated by the community, the Board of Education, or by proceeds from entertainments. Here the older girls prepared and served the lunch. In all cases the lunch room was correlated with other

1. Bancroft, H.J., Assistant Supervisor Home Economics, by letter.

2. Dabury, E.P., Director of Home Economics, by letter.

studies. An idea of how the movement gained in three years may be had from the following chart:¹

	1915-16	1917	1918
No. Counties Serving Lunches (88 counties in Ohio)	19	47	64
No. County Superintendents Interested	14	35	67
Smaller Rural Schools	23	13	48
Larger Rural Schools	20	31	53

SUMMARY.

In an endeavor to meet in some measure the problem of malnutrition the cities of the north, east, south and west rural sections have established some form of school feeding. In practically every case the movement began as a relief measure of some volunteer agency, either a charity organization or some women's club. After they had proved the movement worth while through actual beneficial results, the various Boards of Education have taken over the work in order to increase the number of lunch rooms and their educational possibilities. In some cities it is supervised by a special committee, department or director of school lunches. In other cities it is recognized as a part of the work of some particular department such as the Department of Home Economics or the Health or Hygiene Department. The general tendency then is toward centralization under the Board of Education and the recognition of the school lunch as a necessary part of the school system.

1. Kauffman, T.E., "School Lunch Work in Ohio", Journal of Home Economics, 1918, Vol. 10, pp.490-4.

SCHOOL FEEDING IN MINNESOTA.

A study of the development of school feeding in foreign municipalities and some of the larger cities of the United States shows how they have tried to meet their problems of malnutrition. The cities and rural districts of Minnesota reveal much the same condition of life as the sections of Europe and the United States previously discussed hence it is not unreasonable to assume that this particular section of the country also has a problem of undernourishment with which to deal.

Ten years ago Dr. ^{In St. Paul.} Meyerding, Head of the Department of Hygiene of the St. Paul Department of Education, made an investigation which showed that 33 per cent of the children of that city were underweight.¹ As failure to come up to the average in weight is one of the most obvious signs of undernourishment,² it may be seen that there was a distinct problem of malnutrition in St. Paul. It has been found that two-thirds of the undernourished children respond to feeding.³ No organized attempt was made, however, to feed the St. Paul children through the schools until very recently. The work is still in an experimental stage though the results obtained even in this short space of time have proved the worth of the movement and school feeding will doubtless continue in St. Paul.

In the spring of 1920 an experiment was begun⁴ at the suggestion of Miss Cordiner of the Extension Department of the University of Minnesota. The Council of Home Defense, a wartime organization, whose primary aim no longer required the efforts of

1. Dr. Meyerding, by lecture, March 24, 1922.

2. Bryant, p. 218.

3. Manny, F.A., "Defective Nutrition and the Standard of Living" Survey March 30, 1919, pp. 699-701.

4. Mrs. Arends, Chairman of the School Lunch Committee, by Interview, January, 1922.

the women, undertook to serve milk in several of the schools during the morning recess. Before long the work was taken over by the Welfare Committee of the Mother's Clubs of the Schools. Before the end of the year eighteen or twenty milk stations had been installed. The work was entirely voluntary being carried on by the mothers of the children in the various schools. The women took turns serving in these milk stations, four being on duty a day. The chairman of Mothers' Clubs of each of these school made out her report and turned over the money to the Welfare Committee of the central committee of the mothers' Clubs. Methods were not very business like under this form of organization and the work was taken out of the hands of the Welfare Committee and a separate School Lunch Committee was formed working in cooperation with the Welfare Committee. Mrs. Arends was made the first Chairman of this committee, taking up her duties in the fall of 1920. For another half year the work was carried on entirely by volunteers. This meant that only in those schools where there were active mother's clubs were there any milk stations and in some of the districts where milk stations were needed quite as badly they had to go without because there were not enough women with sufficient time and interest to give to the work.

The work had also been begun in a rather unscientific fashion. The children had been neither examined nor weighed and aside from general appearances no definite results could be measured. To remedy this unscientific procedure scales were placed in each school, paid for by the Junior Red Cross.

In the fall of 1920 application was made to the Community Chest that the work might be carried farther than was possible under the volunteer plan. \$5,000 were allotted to this School Lunch Committee but this sum was not available until the first of the

year of 1921. In the meantime milk stations were installed in as many new schools as possible. After January 1st, it was possible to install stations in schools where there were no mother's clubs and eighteen paid workers were hired. They tried as far as possible to hire some of the mothers who were in need and could spend but a few hours away from home.

Since the work is not a part of the school system and is not supervised by the School Board, the paid volunteer worker in each school is under the direction of the principal. For the same reason no milk station can be installed without the consent of the principal which has its disadvantages. It sometimes occurs that in a school where the condition of the children shows that a milk station might be used to advantage the principal does not feel that he can give enough of his time or interest to the matter.

By the close of the school year of 1921, 38 stations had been installed and closer attention was given to the measuring and recording of results. The children were weighed sometimes as often as every three months and their weights recorded, all gains or losses being carefully noted. Whenever a child showed by its general condition to be in need of any special medical attention a note was sent to the parents and an examination by a physician was recommended. During the winter a "Let's Grow" Contest was staged and prizes awarded to the children who showed the greatest physical gain during the period of the contest. Though this was a general health education campaign conducted by the Hygiene Department, school feeding contributed much toward the beneficial result of the contest.

Though 20 per cent. of the children in 1921 received their milk free, the stations paid for themselves. By selling the milk at three cents a bottle, a one-half cent profit was gained which

took care of those in need.

In 1922 \$9,500 was allotted the School Lunch Committee by the Community Chest, not the full amount which they had hoped for, but enough to increase the work. Also an agreement was made with five milk companies which made it possible to sell the milk for two cents a bottle. Before the year was over 44 of the 60 schools in St. Paul served milk sometime during the day and in one school a soup kitchen was installed. This was the Ames School of Hazel Park to which the children came from a considerable distance and some two miles, which made it impossible for them to go home at noon. The year 1921-22 saw another "Let's Grow Contest" in which the interest was wide spread and keen. The children were weighed and measured before the contest began and at the close of the contest prizes were again awarded to the children who showed the greatest improvement during the time of the contest. Toward the close of the contest a Health Day Program was staged at the Auditorium, the chief object of which was health education for the parents of the city. Dr. Meyerding, Head of the Hygiene Department of the St. Paul Schools opened the program by defining the real aim of the contest, he said it was not merely "Let's Grow" but "Let's Grow in Knowledge of Health and Happiness". He gave a few figures showing what the health work and the milk stations had accomplished in actual results. Ten years ago there were 33 percent. of the children of the elementary schools underweight. In 1921 there were 27 per cent. underweight, and in 1922 this per cent. had been reduced to 20.

The per centage of the underweight children in the various schools in 1922 compared with the number in 1921 also speaks well for the efforts of the agencies fostering the health and school lunch movement. These percentages were as follows:

	<u>1921</u>	<u>1922</u>
Madison.....	29%	20%
McKinley.....	32	30
McClellan.....	41	38
Adams.	35	30
Franklin.....	27	18

In the last mentioned school an unusual amount of social work and health education was carried on and the results might well encourage further efforts in other schools.¹

Besides these milk stations and the one soup kitchen, five nutritional classes were conducted in the schools. In these classes were children over 7 per cent. underweight who were considered in need of special health education. Three of these classes were conducted by Miss Mildred Wood of the Women's Section of the St. Paul Association.² Two nutrition classes were conducted by Miss Betts of the National Dairy Council. This nutritional work also received the help of the Jewish Welfare Council through the cooperation of Miss Levy with Miss Wood and Miss Betts.³

The testimony of the teachers and mothers of St. Paul as to the results of the milk stations is similar to that of other schools and should convince city authorities the work is well worth while. The teachers of the Hancock school say that after the children have had their milk at the morning recess they can get three times as much work out of them as previously. Some of the children have gained four and five pounds and in a few cases eight and ten pounds in three months (1.5 pounds average gain in three months)⁴. It has also been gratifying to notice how seldom the children spend their money for candy, pastry and soft drinks. In former times shop keepers and street venders could count on no small trade from

1. Dr. Meyerding, Head of the Hygiene Department, by lecture.

2. Miss Mildred Wood of the Women's Section of the St. Paul Association, by interview.

3. Miss Lynnblad, Secretary of the Hygiene Department, by interview.

4. Minnesota Public Health Association, chart prepared by Dr. Thomas D. Wood.

the school children.

The health campaigns and the school feeding are surely accomplishing results in St. Paul but as has been said the work is still in an experimental stage. The efforts expended by the various agencies are praiseworthy but the very fact that the work is not concentrated under one head leaves a doubt in one's mind as to the efficiency of the work. The School Board furnishes a hot dinner and a hot breakfast to the children in the fresh air rooms in the city. If the school authorities recognize the need of the sickly child for proper food and the education possibilities of serving these meals, should it not also recognize the need for schoolfeeding for the child who is in better physical condition? School feeding and lessons in food values might have reduced the number needing the special care of the fresh air room.

We have already noted the various agencies working in the field of nutrition but in proposing a plan of organization it might be well to show briefly how these agencies cooperate.

The School Board has no money to finance school feeding but Dr. Meyerding keeps in touch with other agencies doing nutritional work in the schools. The committee apportioning funds from the Community Chest will not furnish any money to the Hygiene Department for the schools but it recognizes the worth of school feeding and for the past two years (1921-1922) has given the School Lunch Committee of the Central Council of Mothers' Clubs money to finance the work.¹ Mrs. Arends, chairman of this committee, gives her official report to the Community Chest Committee and an unofficial report of the extent of the work to Dr. Meyerding. Miss Wood of the Women's Section of the St. Paul Association, who has charge of

¹. Miss Lucy Cordiner of the University Extension Division, by interview, March.18, 1922.

the nutrition classes in the schools also makes an unofficial report as to the extent of her work to Dr. Meyerding. The Hygiene Department also keeps in touch with the nutrition of workers of the National Dairy Council and Jewish Welfare.

The central committee of the mothers' clubs looks forward to the time when the School Board will finance school feeding and have complete supervision of the work.

In presenting a scheme for the more efficient administration of the school lunches, it is not our purpose to present an idealistic plan, something which could not be worked out for many years, but to present a workable plan growing out of the present organization. In view of the fact that the work has already come under the general oversight of the Hygiene Department and that school feeding is a part of general health education, this seems the logical department to vest with the supervision of the work. Under this department should be a special committee known as the School Lunch Committee to meet once a month to go over the reports of the various schools and discuss improvements. This committee should be composed of a representative of the central council of mothers clubs, a nutrition worker, hired by the department of education, and a manager of school lunches who should have the combined merits of a dietitian and a business woman also paid by the department of education. The nutrition worker would, as now, conduct nutrition classes for the 7 per cent. underweight. The manager would plan the menus for those schools having noon lunches, buy the food and make arrangements for the purchase of milk for the various milk stations. She would also, after the monthly meeting of the Lunch Committee, prepare a general report for the head of the Hygiene Department.

Under the School Lunch Committee would be a paid head

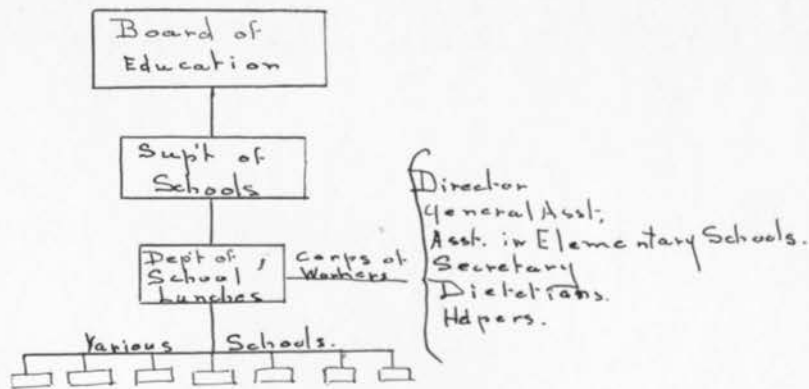
worker for each school who would make a weekly report to the committee. Under this paid worker there would be volunteers of some of the older children, women of the mothers clubs, and some members of interested organizations such as the Jewish Welfare. In this way popular interest would be retained by a direct contact with the work. The Education Department should furnish all equipment, pay the salary of all paid workers and have sufficient funds at hand to care for the children who cannot afford to pay for milk or lunches. Food for the other children should be sold at cost.

High School lunches should be managed and supervised in the same manner as the elementary schools. In the elementary schools some equipment should be provided for at least a hot dish to supplement the lunch brought by children whose mothers are away from home at noon or who live more than a half a mile from the school.¹

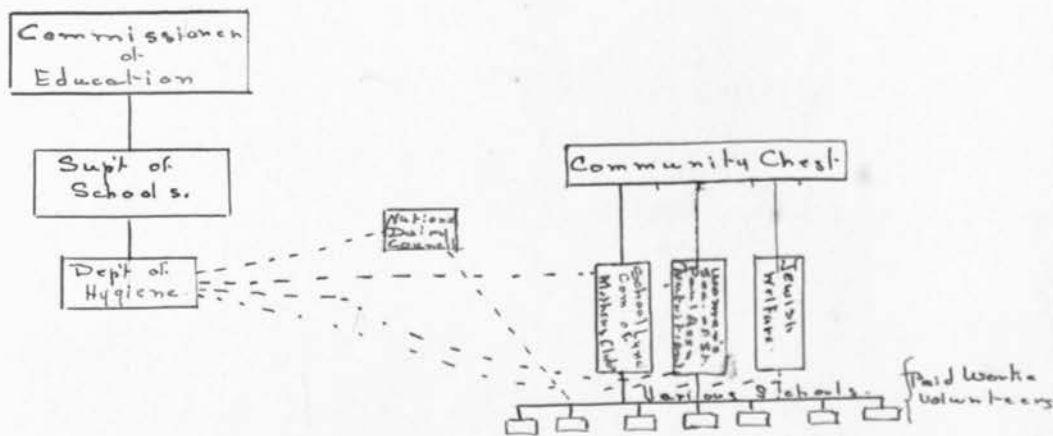
To make the school lunch function to the limit of its social and educational as well as physical possibilities should be the aim of the St. Paul Lunch Committee. It should link itself with the study of physiology, with the domestic science classes, with instruction in gardening and with the development of a friendly democratic spirit. All these subjects may be better taught when connected with a lunch room as a working laboratory. It is our belief that under such an organization efficiency would be increased (1) through a saving of time and energy by centralizing the work instead of expending the efforts of several agencies and (2) bringing all lunch rooms up to a certain standard which makes for greater results. The following diagrams show^a comparison of the present and proposed St. Paul organizations with the Philadelphia organization which has met with considerable success:

1. Mrs. Arends, by interview.

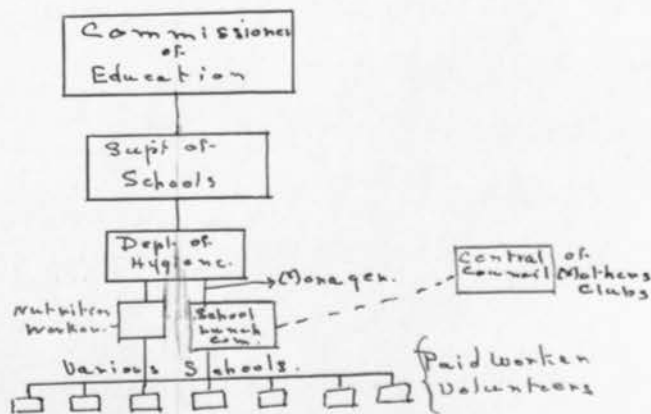
Present Philadelphia Plan.



Present St. Paul Plan.



Proposed St. Paul Plan.



— Official Connection.
 - - - - - Semi-Official "

IN MINNEAPOLIS.

The present status of school feeding in Minneapolis is similar to that in St. Paul. The milk stations are administered and financed by the Parents' Teachers Association of each school under the general supervision of the Welfare Committee of the Parents' Teachers Association of the city. In some schools the mothers have charge of the selling of the milk, in other schools this is done by the teachers and in still others by the older pupils. All children who want or need the milk are encouraged to get it regardless of their ability to pay, those not able to pay receiving free tickets from the teachers. The regular selling price of milk is two cents, while the cost price is one and three-quarters cents, which leaves a profit of one-fourth cent per bottle. This profit is used to care for those who cannot pay. Further funds are provided through the receipts from entertainments given by Parents or children. Often the funds received in this way from wealthier districts makes it possible to care for the children of the schools of poorer districts. At the beginning of the fall term in 1921 44 schools were reported as having milk stations but during the year this number increased until in 1922 52 of the 86 grade schools were serving milk. One of these schools, the Clay School, also served a penny breakfast. The School Board keeping in touch with the amount of work being done, is beginning to see the value of the school feeding plan in connection with health education as conducted by their Department of Health Education. Not only does it encourage the work but it has equipped a lunch room in the new elementary school, the Roosevelt School.

That need of all such school feeding and health education is necessary is evidenced by the fact that in the fall of 1921 one-

Miss Lucy Gilbert, Nutrition Worker of the Women's Home Community Council, Jan. 1922.

fourth of the children were found to be from 10 to 20 per cent. underweight and one-third of the children 7 per cent. underweight.

That better results could be obtained if there were a central organization administering the school lunch is unquestionable. A plan for the centralization of the work would follow much the same plan as is proposed for St. Paul.

In Minneapolis there is a Hygiene Department and a Health Education Department, each under the superintendent of schools.¹ As school feeding is a part of health education, this seems the logical department to supervise the school lunch. The nutritional worker, dealing more especially with the child whose physical condition is below normal, naturally seems to belong to the Hygiene Department. But since the nutrition worker would be a member of the School Lunch Committee under the Health Education Department this makes a place for cooperation between the two departments. There would be a manager with the same duties as those mentioned in the St. Paul plan, who would be a member of the committee. A representative of the Welfare Committee of the Parents' Teachers Association and a representative of the Women's Home Community Council would also be members of this committee. The rest of the organization would follow that presented for St. Paul.

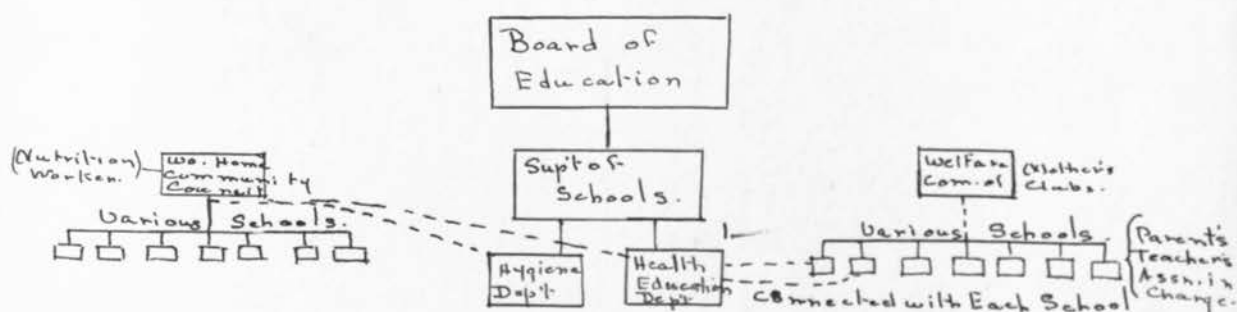
The nutrition work is in charge of the Women's Home Community Council through Miss Lucy Gilbert of their Children's Committee, who is hired by this council and supported by the Community Chest. She supervises the weighing, measuring and examining of the children in the schools and conducts the nutrition classes. Where the children are 7 per cent. or more underweight she makes out special menus for them for three weeks in advance. In as many schools

1. Miss Strate, head of the Health Education Department, by interview.

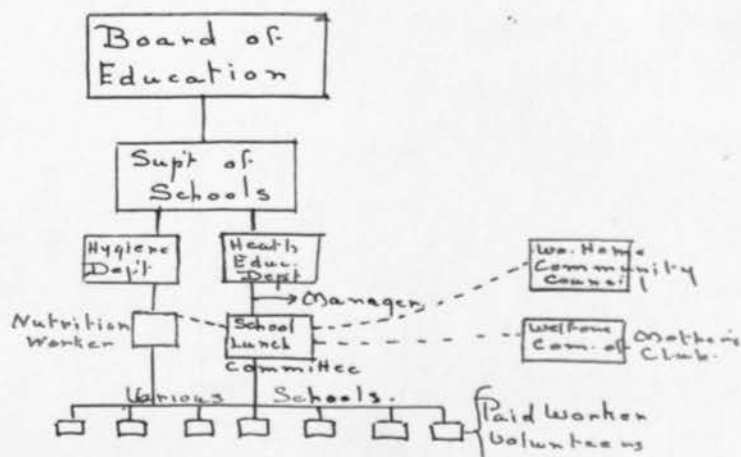
as possible the children are weighed every week and a careful record kept of their condition. In cases where it seems evident that the child's home conditions are not altogether normal follow up work is done by Mrs. Day also of the Women's Home Community Council, who visits the homes of such children.

A Diagram of the present and proposed organizations for Minneapolis are as follows:

Present (Minneapolis) Plan.



Proposed (Minneapolis) Plan.



— Official Connection
 - - - - - Semi-Official

1. There is one exception to this plan. One elementary school has a lunch room equipped by the board.

IN DULUTH.¹

The Women's Council of Duluth has fostered the introduction of hot lunches into the schools by providing equipment or money for utensils. The money to pay the salary of a cook is taken from a fund raised by selling the food at a little above cost. The principal, members of the Parents' Teachers Association and volunteers of the Women's Council assist with the serving of the meals. Some milk stations have also been established but are only for the benefit of the undernourished children who are selected by the combined decision of the principal, nurses and doctor. Those children whose family names are on the Associated Charities list receive their milk or lunch free of cost and the money is supplied by the charities from a fund set aside for that purpose.

IN VIRGINIA.²

Virginia may be quoted as an example of how some of the larger towns have endeavored to meet the problem of their undernourished children. The work is financed and administered by the local school district. Hot lunches are served at noon consisting of soup or cocoa. For the children 10 per cent. underweight milk is also served in the middle of the afternoon and a bowl of soup in the middle of the forenoon.³ The per cent. of malnutrition in the elementary schools is 7 per cent. This includes, however, only the first six grades, the last two grades being included in the Junior High School. In the Junior and Senior High Schools the per cent. of malnutrition is 7.4 per cent. Some indication as to the results of the health education of which school feeding is a part made by

1. Miss Margaret Quillard, by letter, Feb. 21, 1922.

2. Miss L. Broecker, Super. Home Economics, by letter, Feb. 10, 1922.

3. Miss Broecker says "I do not want you to think I approve of so much liquid for children for a meal. But on the whole the penny servings are very popular and no doubt fairly beneficial."

had from the following figures showing the decrease in the percentage of malnutrition:

1921-1922.		
September - 14%	January - 4%	(Grades 1 - 6)
November - 6%	February - 4%	

RURAL WORK IN MINNESOTA.

The school lunch work in the rural districts of Minnesota antedates any efforts in the city schools by several years. This is due to the fact that the children come from such great distances that a return at the noon hour to their homes is impossible. Some of the teachers oftentimes noticing how inadequate was the cold lunch, brought by the children and how hurriedly it was eaten in order to go out to play, attempted to provide at least one hot dish for the children such as cocoa, or soup. By 1912 a number of schools had provided means to serve some hot dish to the children at noon but all such efforts were entirely voluntary and local and no data as to the exact situation is available.¹ With the increase in the number of consolidated schools provision for school feeding increased. In about 1919 the state made its first recognition of the value of the hot lunch for the children by including provision for the serving of a hot dish as a part of the equipment necessary in the consolidated schools in order to obtain state aid but since the meeting of the legislature this has not been required.² Outside of this provision the school lunch work in the state schools has remained essentially local and voluntary. There are, however, two state agencies which are interested in the work and have tried to keep more or less in touch with whatever was being done in the various schools. One of these organizations is the Minnesota Public Health Association, the other the Extension Division of the Agricultural

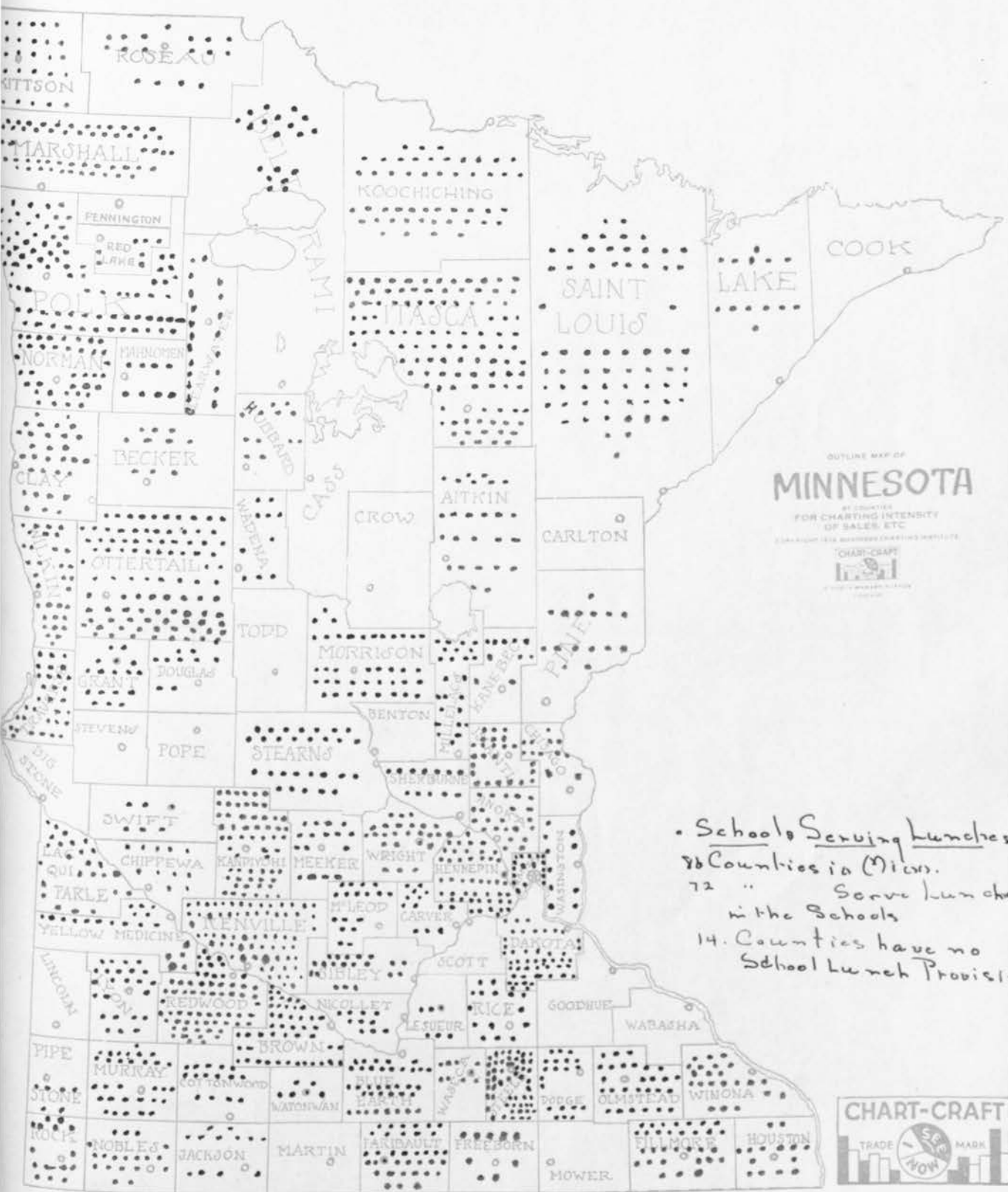
1. Miss Lucy Cordiner, by interview.

2. Miss Alexander, State Department of Education.

College of the University of Minnesota through the work of Miss Cordiner. In 1920 the Minnesota Public Health Association sent out to all county superintendents of schools a general questionnaire as to what was being done to further the health of the children in the schools and a part of this questionnaire related to the status of the school lunch. The results of their investigation revealed the fact that about 25 per cent. of all rural schools served some sort of a hot dish at noon. Though no investigation has been made since it is believed that the number has increased to about 50 per cent.¹ Miss Cordiner who keeps in touch with the schools through her health demonstration work among the mothers, reports that an average of 20 per cent. of the rural schools of the north provide hot lunches for the children and an average of 65 per cent. of the rural schools of the south. This is entirely exclusive of the work being done in towns of over 500.² No data is available as to the extent of the work in the towns except as the number of nutritional classes furnishes an indication of the number of places where some provision for feeding may be found. An investigation of the Minnesota Public Health Association covering the time from July 1919 to December 31, 1921, shows 296 such nutritional classes throughout the state, most of which are in the larger towns.³

No exact figures as to the percentage of children of the rural district who show signs of malnutrition are available but it is recognized by all those who work among these children that there is fully as much malnutrition among the children of rural districts as among the children of the city and some workers believe that there is considerably more. This is contrary to the belief of the

1. Miss Costigan, Minnesota Public Health Association, by interview.
2. Miss Cordiner, by interview.
3. The Minnesota Public Health Journal, Feb. 23, 1922, pp. 928-929.



• Schools Serving Lunches.
 86 Counties in (M)ins.
 72 " Serve lunches
 in the Schools
 14. Counties have no
 School Lunch Provision



Survey of Minnesota Rural Schools Which Serve Warm lunches

1. Dept of Pediatrics University of Minnesota. 1920.

general public but an inquiry as to the daily life of country children shows more than one reason why malnutrition claims such a large percentage.

Farm products, including milk and eggs, two essentials to maintain a proper diet, are a matter of dollars and cents to the farmer and his family. Consequently all but the skimmed milk and all but a few of the eggs are sold by many of the farmers. There is also the fact that during the winter months many green vegetables and fruits obtainable in the city markets are not to be had in some of the rural districts. This means that a balanced ration is hard to maintain in the daily menu. Again there is the fact that many of the children come miles to school. This works a hardship upon them in several ways. They must leave early in the morning and breakfast is very often hastily eaten and very likely the right foods are not put before them. They must, unless some hot dish is provided at school, eat a cold lunch. Often this lunch is eaten hastily so that more time may be had to play. Sometimes the children eat a large share of their lunch at the morning recess to fill the cavity left by a hastily eaten breakfast and at noon there is not enough left to satisfy their appetites. Some teachers have told of frozen lunches when the weather was very cold. Eating their lunches at school works a hardship upon the children in another way. On the farm, the dinner is served at noon to satisfy the need of the farmers and the evening meal is often a light "supper". Thus it will be seen that the children's needs for their growing bodies receives scant attention.

Since hot lunches were introduced the teachers testify, as do those of the city, that the children are less irritable and a distinct improvement in their physical condition is noted. A teacher

1. Miss Cordiner, by interview.

of Crow Wing County said that headaches were prevalent in her school until a hot dish was served at noon and now the children seem to be practically free from this ailment.¹

To Miss Cordiner who has watched the results of the hot lunch with care, the social value of school feeding has impressed her as one of the greatest benefits derived. A spirit of cooperation between students and teacher is obtained in the preparation of the lunch. The lunch furnishes a practical lesson in better dietary habits or confirms the dietary habits taught by careful mothers. It also furnishes practical experience in domestic science, cleanliness and correct table manners.

There are three general methods used in the rural districts of Minnesota in preparing the lunch: (1) by the teachers, (2) by a committee of pupils and the teacher and (3) prepared and served by the children in rotation) The third method has been found to be the most successful. The children gain more practical knowledge and the lunches show greater variety in the menus.

There are also three general methods of obtaining supplies: (1) by having the children bring them, (2) by having the children contribute a weekly sum for the purchase of the supplies and (3) by obtaining supplies through the School Board appropriation fund. In places where the second method is used, children who are not able to contribute money are allowed to bring supplies. If a child cannot pay for his lunch in either manner, he will receive his lunch free, usually through the recommendation of the county nurse.

A description of the work and its results in the schools of two counties may serve to further illustrate the status of school lunches in Minnesota.

1. Ibid

In Martin County in the southern part of the state there is a school so situated that it has children from six miles distant. School work was poor which was the result, the principal decided, of a hastily eaten breakfast. She asked the children to be ready for the buss fifteen minutes earlier so that they might arrive at the school that much earlier. Here they were served a hot cereal with milk. The children contributed the milk and the money for the cereal was furnished by the School Board. From the time this breakfast was inaugurated the attendance record was raised as was also the scholarship record.¹

Miss Bengtson of Renville County² has done everything possible to further the work in the schools under her supervision. In 1920 she "took a kind of survey of what the children in the schools were eating". The teachers in several typical communities asked eachpupil to write down in a note book just what he had to eat for breakfast, what he had in his lunch pail, and what he had for dinner at night. These records were kept daily for two weeks at the end of which time the teachers examined them. The teachers were appalled to note what an unbalanced diet the children were receiving; also how much alike the diet was in the various parts of the county. Coffee was often had two and three times a day.

In connection with the agricultural work a balanced ration for cattle and hogs was taught to the pupils. In connection with physiology and hygiene the children were further taught "what the human body needed and what elements needed were contained in the ordinary food". It did not take long for the children to realize that they were not getting a balanced ration. "It then became very easy to endorse the hot lunch from a nutritional standpoint, namely,

1. Miss Cordiner.

2. Miss A.M. Bengtson, County Superintendent of Renville, by letter, Jan. 19, 1922.

that of supplementing the child's regular diet." Now, in addition to serving the regular hot lunch at noon, the teachers in the special schools serve a cup of hot milk in the morning and in the middle of the afternoon.

Measuring tests are carried on to test the results of the hot lunch and it has been found that in the "schools where this extra milk is served, the underweight children have come up to normal weight in a surprisingly short time". Many interesting "testimonials were received, some to the effect that the children had learned to refuse coffee at their meals and asked for milk instead, others to the effect that the children did not seem to crave sweets as formerly. Many mothers have learned from the children the value of the balanced diet and have tried to arrange their daily menus accordingly. In many instances children who formerly refused to eat vegetables have learned to eat them because they have learned that their bodies need the food contained in these vegetables. Miss Bengtson writes "I think no work that we have done in this county has brought such encouraging results as the introduction of the hot lunch."

In cities and larger towns a standardized method of conducting school lunches is possible under the City Department of Education but unless some form of state regulation is provided for rural schools, lunches will continue to be entirely local, at the mercy of the interest of the superintendent, teachers or parents. Roosevelt in 1913 favored school feeding in the State platform of the Progressive Party.¹ Miss Bengtson says "I deplore the fact that there is so little of this work being done by the state".² At present the only two state agencies which foster the movement are the Minnesota Public Health Association and the University Extension Division through

1. Rapeer, p.293.

2. Miss Bengtson, by letter.

their Home Economics Specialist. The first mentioned organization cannot undertake any program for the direction of the school lunch in rural districts because of lack of funds. It is an entirely voluntary organization supported by the sale of Christmas Seals.¹ Neither would the work be stable because ~~the~~ funds were available one year there would be no surety that adequate funds would be available another year.

The second mentioned agency, the University Extension Division, is not the proper agency to take the responsibility of standardizing the school lunch. Their worker keeps in touch with rural schools but only as it touches her work of home demonstration for the mothers of the community. She does all in her power, however, to encourage the establishment of hot lunches.

The next department to which we might look for aid is the State Board of Health. Here again an obstacle is met by the fact that the law relating to their duty in regard to schools only provides that the Board shall inspect school building "in respect to sanitary conditions".¹

No provision is made to further health education among school children. Very recently (April 18, 1922) steps were taken to organize a Child Hygiene Bureau under the State Board of Health, the purpose of which is to be "almost wholly educational".² The bureau would, however, chiefly try to instruct the mother in infant care "in the interest of better babies and better motherhood".³ This is a laudable ambition and if carried out will mean less mal-nutritious children in the schools. But there will still be need

1. A Compilation of the Laws of Minnesota Relative to Children, 1921, p. 58.

2. St. Paul Pioneer Press, April 4, 1922.

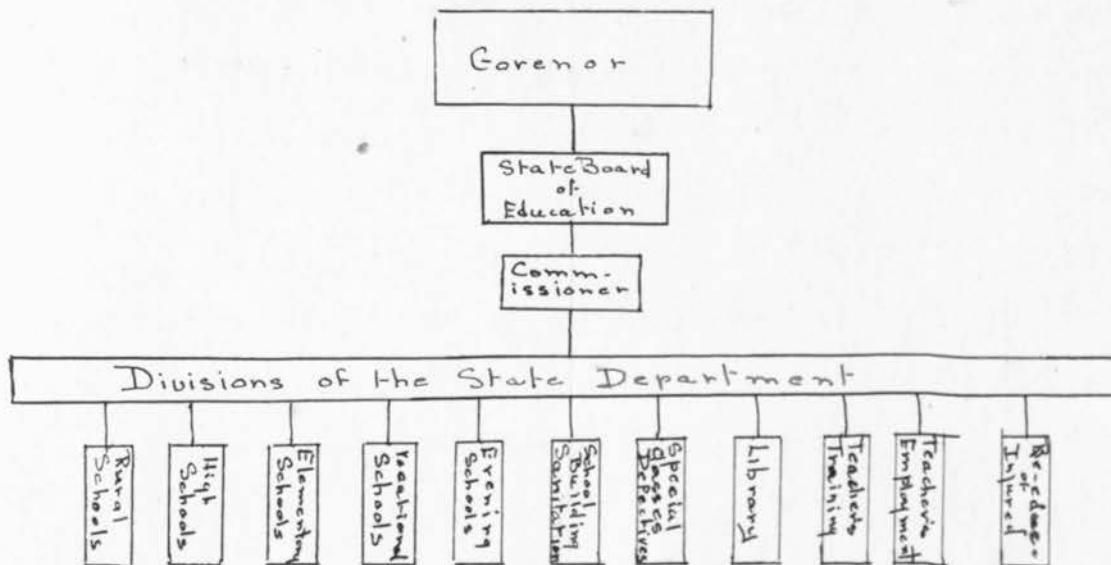
3. Ibid.

for the hot lunch in the rural schools and additional instruction hinging upon the lunch as an object lesson is never amiss in the schools though the mother be well informed in matters of hygiene and dietetics. The State Board of Health is increasing its interests and there might yet be a separate Bureau to supervise school lunches and the educational advantages it entails but this would be overlapping the ground which should properly belong under the regular school system. Some states such as New York and New Jersey have state nutrition workers who are interested in the school lunch and who try to keep them up to a high standard. This all helps and as has been noticed in connection with the movement in the cities, her cooperation is very necessary because of her work with those much below normal in weight but to make the school lunch function to the limit of its possibilities is after all a duty of the educational system.

Massachusetts in 1913 passed a bill authorizing any school board to appropriate funds for the establishment of a lunch room in the schools. Massachusetts is advanced in this respect and her example is an excellent one to follow but to standardize these lunchrooms some provision should be made for their supervision through the State Board of Education. At present there are only two places where this has been in any way attempted. In places where meals are served the domestic science classes, the State Supervisor of Domestic Science has the direction of the work. For three years previous to 1922 consolidated schools reported whether or not they provided lunches during a certain period of the year, but there was no regulation as to nutritional value of the food served.

With the present organization of the State Department of Education (see chart) there is no place for the state to supervise

(Minnesota)
State Department of Education.



At present reports sent to the State Department are chiefly statistics as to the school attendance, teacher's qualifications, and a financial report.¹

¹ Interview at the State Department. (Miss Schroeder)

of both town and country.

the school lunches. But that this is a movement which needs the support of the state can hardly be doubted when one considers: (1) the extent of malnutrition in the country due to ignorance and conditions of life, (2) the long distances children must go to attend school which makes it impossible for them to return home for a hot lunch, and (3) the educational opportunities it offers as a working laboratory for the instruction of food values, food preparation, hygiene, physiology, courtesy, and friendship.

A study of the movement at home and abroad shows an increasing tendency toward centralization. This is evidenced in Europe by the number of countries with national legislation supporting the movement of school feeding; in America by the steady increase in the number of cities which have taken over the entire administration of the lunches, and by a tendency in at least one instance toward state support. Minnesota prides herself upon her advanced laws for the care of her child life and she might well support a movement which aids in building a citizenship of strong physique, and with a knowledge of how to maintain that physique.

Summary: There are a great many children suffering from malnutrition due in a large measure to ignorance of what foods are of the greatest nutritional value. Organizations and persons interested in the welfare of the race and realizing that the undernourished child is physically weakened, which in turn makes for mental and moral weakness, have tried to lessen the extent of malnutrition. This was attempted in a large measure by feeding the children administered by various agencies. The work was haphazard, however, and did not accomplish the best results until taken over by the school department. Under the administration of the school authorities not only are the children's bodies given temporary relief by feeding but

the lunch room is utilized as an object lesson whereby food values, and care of the body are taught as well as many other related subjects such as domestic science and a spirit of democracy is fostered, all of which aids to undermine ignorance as a cause. When the lunch room thus becomes an educational factor it can accomplish far greater results in building a citizenship fitted to cope with the world and by this fact is it justified.

The fact that centralizing school feeding under the public schools accomplishes greater results is not longer mere theory, but is proved by the history of the movement on the continent and in America.

The present status of the movement in Minnesota shows that the work in the cities is in its infancy but a central organization under the educational authorities is possible and practicable. In the rural districts school feeding is quite as necessary as in the cities. To prophesy is dangerous but it is not unreasonable to believe that Minnesota who prides herself upon her care for her childhood will recognize the value of state supervision of the work for the accomplishment of the most far reaching results.

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