By

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# **PREFACE**

A HOUSEHOLD economist who read the manuscript of this book said, upon returning it, "This will be a revelation to the dietitians, for nothing at all like it has ever been printed. It will give some of them their first conception of what the homemakers who live in mean streets and crowded cities have to contend with."

As editor of the Social Work Series, what has impressed me most in Miss Nesbitt's pages has been the evidence of keen observation and of a rarely democratic spirit. The individual householders\* whose troubles are described here—often by no more than a word or two—live for the reader and grip his attention, helping him to see everyday life more sanely and interpret it more sympathetically. Other social workers who have seen the proof-sheets have been enthusiastic for the practical reason that here are set down the definite steps by which the city dweller with small income and large family can get the most for his money. Those who are far removed from dependence are glad enough, in these days, to have such knowledge. I have been interested to note, for example, that the clerks who copied these chapters were eager for each installment, finding many of the suggestions applicable to their own households.

Miss Nesbitt is not only a dietitian—she is a social case worker of varied experience. As a member of the staff of the United Charities of Chicago, and later of the mothers' pension department of the Chicago Juvenile

<sup>\*</sup>It should be explained that all names given to these real people in the book are pseudonyms.

#### **PREFACE**

Court, she had an opportunity to see where the ideas of household economists, as now formulated, are not universally applicable, and where, on the other hand, they are eminently practical. Still later, her work as director of one of the food conservation sections organized by the Council of National Defense has impressed upon her anew the fact that the women who need cooking classes and food demonstrations the most—namely, those who have the least money—are the very ones who remain outside such present-day activities, unless approached understandingly and one by one. When thus sought out, they are eager to learn and eager to apply their new knowledge.

Social workers who are in and out of the poorer homes of the city in response to many varying calls know that the wives and mothers there are now more interested than ever before in discussing ways and means. Often, however, the worker who must pay many other calls cannot take time to enter into domestic details with any thoroughness. Even so, it should be possible to make an opening for the more leisurely volunteer, acting under competent guidance. To her could be entrusted the task of carrying out the practical and friendly suggestions of this book.

As its pages go to press, the civilized countries of a world at war are looking to America to show her highest generalship in the production, distribution, and economical use of food stuffs. The task is one in which the humblest householder not only may bear a part, but, in doing so, may add permanently to the health and morale of our own people.

MARY E. RICHMOND

Editor of the Social Work Series

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### INTRODUCTION

A SUCCESSFUL American tells how his widowed mother brought up her four sons on "next to nothing a year." But the basis of their diet was oatmeal, cracked wheat, milk, and vegetables, available in their rural community for the "few cents" per day she could spend for food. No more wholesome diet for growing boys could have been secured, and, in addition, there was a good physical inheritance back of them. The social worker whose daily tasks take her into city and town homes with small incomes realizes that results would be different if the four sons were growing up now in a crowded district where the home table had to be furnished at present-day prices.

What are the conditions, this social worker may ask, necessary for health and full physical and mental development? Science is not yet able to give us a complete and final answer; yet we are by no means wholly without authoritative guidance. Later chapters of this book will attempt to answer the question in simple, everyday language, in so far as the findings of science and the teachings of experience make an answer possible. Meanwhile it may be well for us to realize at the outset two facts: wholesome living conditions cannot be provided without intelligent thought, neither can they be provided without at least the smallest income which, with skillful management, will buy the material necessities for maintaining a normal home.

The subject of a minimum normal standard of living and its cost is one on which it is easy to generalize, while it is difficult and troublesome to go into details. But the details, however tedious, must be known before one can determine how much a standard of living will cost or how nearly it will fill human needs. The prosperous citizen whose own standard is so far removed from that

of the city workingman as to offer no basis of comparison of costs may believe that \$12 per week is an adequate living wage for the latter because he has known men on that wage whose families were apparently well cared for. If he were shown, however, that this amount of money can be stretched no farther than to cover housing in dark bedrooms, food consisting largely of bread and coffee, clothing bought at a second-hand store, furnishing little or no protection against storms and cold, so that children's feet are wet and soggy half the winter, he would at once recognize its inadequacy.

Students of the cost of living are unanimous in the decision that the present rate of wage of the unskilled workman will not at prevailing prices support a family of average size—two adults and three children—in a manner which will furnish conditions necessary for their best development. Various estimates of the income necessary for this purpose have been made. Robert Chapin in 1907, after a study of some 500 workingmen's family budgets, estimated \$825 per year as the amount necessary in New York

City;\* while J. C. Kennedy in 1910, after a study of living conditions that included about 200 budgets, estimated \$800 per year for the Chicago Stock Yards District.† Since 1910, however, the cost of fuel, clothing, and household necessities has increased enormously. The Board of Estimate and Apportionment of New York City in 1917 estimated the necessary amount as \$980.41.‡ In smaller cities and communities nearer the source of supplies for food and fuel these figures for cash income may be lowered. Nevertheless such figures as are available for these places indicate that the cost of food supplies, fuel, clothing, and household articles averages about the same as in the larger cities. While fresh food materials

\* Chapin, Robert C.: Standard of Living among Workingmen's Families in New York City, p. 281. New York, Russell Sage Foundation Publication, Charities Publication Committee, 1909.

† Kennedy, John C., and others: Wages and Family Budgets in the Chicago Stockyards District, with Wage Statistics from Other Industries Employing Unskilled Labor, p. 79. Chicago, University of Chicago Press, 1914.

‡ Report on the Increased Cost of Living for an Unskilled Laborer's Family in New York City. Prepared by the Bureau of Personal Service of the Board of Estimate and Apportionment. New York, February, 1917.

—milk, vegetables, and fruit—are likely to be cheaper, clothing and household supplies are frequently more expensive than in the cheaper city shops. There are, however, in many instances advantages difficult to estimate—plots of ground for a garden; chickens, pigs, or a cow that may greatly increase the actual if not the cash income. Neighborhood farmers may be glad to give fresh products in exchange for a very little work. There may be skimmed milk at the farm house or dairy, either given away or sold for a few cents per gallon. In a certain village in northern Wisconsin the men set aside a day on which to cut and haul wood for the one widow in the place. A thrifty and industrious family often lives adequately in a village upon an incredibly small cash income.

It should be kept in mind, however, that wherever the lot of the family is cast, whatever the nationality or former standards and habits of living, the material necessities for maintaining a normal standard of living in this country are at the minimum very much the same. While some of these necessities are practically free in some places, if all of them must be bought outright for

cash, the difference in cost between different American communities is slight; and if the estimates of the cost of living given above are approximately correct, it is plain that on the present scale of wages for the untrained laborer, even in some cases for the semi-skilled, the father, unaided by the lucrative labor of his wife, cannot provide for a family of three children conditions for wholesome growth and development.

In the endeavor to attain this wholesome standard of living—"to live nice," as the mother may say—families suffer from various handicaps which grow heavier as we go down the scale of income. These handicaps become insurmountable for the family of average size—five persons—earning somewhere from \$800 to \$1000 per year in our large American cities, or its equivalent in smaller places. On these incomes a point is reached at which the money will no longer buy, with the amount of skill we can reasonably expect from the untrained woman, the physical necessities which will give the children full growth and development and the adults a chance to maintain their efficiency. Moreover, the smaller the in-

come the greater the chance of its being irregular. A day laborer is not paid for days on which he does not work, from whatever cause. The day off of the factory worker is most likely to be at his own expense, and at best the pay comes in in small amounts so that it is hard to plan expenditures to good advantage.

The heaviest burden, therefore, is laid upon the weakest shoulders. Even the woman of education with an income which supplies a generous margin over the amount necessary for wholesome living would no doubt have bitter moments if she entered upon her duties as a homemaker entirely untrained. She can, however, pay for her mistakes in money, and need not pay in human life. Nor need she go on making serious mistakes if she is willing to work and study. The things she has greatest need of knowing have been printed in books which she can read; they are taught in lectures and classes that she can command. For her the paths of good living have been blazed by the experience of generations that have given thought to the art. She is accustomed to order and cleanliness and a home in which the laws of

sanitation are observed. The composition of the meals prescribed by the customs of her circle of acquaintance conforms reasonably well to dietetic standards. She will quite naturally serve fruit, cereal, bacon, and eggs for breakfast; soup, meat, salad, two or three vegetables, and a sweet or fruit dessert for dinner. She cannot get very far away from an adequate dietary in following these customs, though she may spend a great deal more money than is necessary.

The case of many girls who marry out of the factory or shop, however, is quite different. Not only is such a girl usually untrained for her business of homemaker, but the avenues of information are for the most part closed to her. She does not read; sometimes cannot. She cannot afford to pay for instruction, nor do the customs of her circle stand her in good stead. The home in which she grew up has often been dirty, disorderly, and crowded. The habits of the family were perhaps uncleanly. The daily meals of coffee and bread, with one to which meat and potatoes were added, violated the laws of good nourishment. Her husband's wage is small, increasing slowly, if at all.

Thus, wherever the line may be drawn at which the income is insufficient to buy the essentials of a normal standard of living, long before this line is reached failure on the part of the homemaker is almost assured because she is untrained for her task. When income drops to a point where no mistake can be afforded, no dishonesty of tradespeople be endured, no accident be allowed for, it is where even a wise and well trained woman might conceivably fail in her household administration. But the women who must manage these small incomes are often unwise and seldom well trained. Mistakes are practically certain to occur, and they must be paid for in the stunted bodies and weakened brains of children, in the inefficiency or drunkenness of husbands, and in premature aging of the mothers' own bodies. In a few years the pretty, fresh-faced bride is an old, broken woman, discouraged by the struggle of trying to make so few dollars cover the needs of so many mouths and so many feet.

The wisest and best trained woman in the land could not have stretched Mr. King's \$13 per week over adequate living for his family of six children.

The charity organization society to which they were referred by a lady who had been struck by their poverty sent its home economics worker in the hope that she might be helpful to the mother in her household problems. The trained worker, however, found little opportunity for service. Like many women in a similar position, the mother had discovered through experience the way to make her small income meet such necessities of life as she could pay for. Clothing not received as gifts was bought at a Salvation Army store for a few cents per garment. A bargain had been driven with the cobbler around the corner to mend the shoes at times when he had no other work at a charge of little more than cost of materials. The children knew the best places to look for the broken boxes which furnished nearly all the fuel for the battered stove in which baking was almost impossible. After the rent of \$3.50 per week and other necessary running expenses had been paid there were usually \$7.00 left for food. Most of this sum was spent for day-old bread at half to two-thirds the regular price, for the variety of dried peas and beans which happened

to be cheapest at the time, and for oatmeal, cornmeal, sugar, and syrup. All these articles are among those which give the highest value for the money spent, and to which the choice must be largely confined if food for eight persons for a week is to be secured for so small an amount of money. Ten cents daily were spent for meat for the father and there was an occasional 5 cents' worth of trimmings of fat from a good-natured butcher who would ordinarily have scorned such small sales. Two quarts of milk were being received as a gift, and this with coffee and bread made up two meals of the day, while the third was usually of soup or porridge made of beans, peas, or cereal. On Sunday the family had a stew made of a cheap cut of meat and a vegetable-whatever was cheapest at the time, usually a five-cent ruta-baga.

This administration of Mr. King's income by his wife, ignorant of the principles of nutrition, was in most respects an efficient one; that is, little more could have been secured for the money, although the result was pitifully inadequate. Had the income been doubled, however,

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thus being raised to an amount which with careful and intelligent management could have been made to buy the things needful for a home in which the children could grow and develop in a natural, healthful way, and the husband retain his full working power, the mother would have faced an infinitely more complicated problem, and she might not have been equal to it. A child who can do simple addition is not always able to do long division or factoring.

Take, for example, the case of Mrs. Zarmonski, who for two years had managed a bare existence income wonderfully well, and had kept her three children alive—no small achievement—though seriously stunted in growth. She was granted a mother's pension which would have provided adequate food, clothing, and shelter for her family had it been judiciously managed. It was several months, however, before the supervising visitor succeeded in inducing her to make changes in the food habits, which had necessarily been very restricted under the former conditions, or to pay an extra \$2.00 per month rent in order to have well ventilated sleeping rooms. The first

month of the larger income there were white shoes and stockings as well as dresses for all the children; the second, an expensive bright colored rug for the sitting room. There had been nothing in her experience or training to enable her to make intelligent judgments of the kind now necessary. Before this she had only to decide which things were necessary to sustain life and which unnecessary. Now she was called upon to decide as to which desirable things outside this realm of necessity were essential and which non-essential to the welfare of her family. There was no reason to expect she would be able to make these decisions wisely, yet the limitation of her income forced them upon her daily and her failure meant the daily lessening chances of her children's attaining manhood and womanhood with strong, well developed bodies.

On the other hand, many women are incapable even of succeeding, as did Mrs. Zarmonski and Mrs. King, at the elementary task of making an existence income "do." Mrs. Fisk, whose husband earned \$2.00 a day irregularly, with four children to feed, included boiled ham, ready-

to-eat cereals, and canned baked beans in her menu.

It is evident, then, that while knowledge and skill cannot make adequate an income that is too low to buy the materials needed for normal living, it is in general true that the lower the income the greater need has the homemaker for the fullest training and most complete knowledge of all the arts and sciences included in home economics. Too often, however, the sum of her knowledge on these subjects is the traditions and superstitions inherited from her ancestors and such training as her parents' home—often in a foreign country where conditions were entirely different-afforded before she was thrust out, immature, to make her own home. Her need of the latest discoveries of science which throw light upon the daily problems of physical life is urgent. But before she can be helped, these discoveries must be translated from the language of the scientist into the simple terms of her daily living. Sometimes they can reach her by no other avenue than by word of mouth or by demonstration from the visitor whom her misfortune brings to her door-

the nurse, probation officer, relief agent, or friendly visitor. Occasionally a word at the psychological moment from this trusted friend of the family marks the beginning of a revolution in the conduct of a home or in the physical habits of a family. More often, however, the sum of many words and demonstrations is needed to start and guide the changes which bring wholesome living conditions out of an unkempt, mismanaged home.

The object of this little volume is to offer to the busy social worker whose specialty is family work and whose contact with burdened mothers gives her rich opportunities for spreading the gospel of right living, a translation of the principles underlying nutrition and the other arts and sciences connected with homemaking into terms of the simplest daily life. The characteristics of that daily life on the household management side will first concern us, then the stock of knowledge now at our command which can be applied readily to household conditions as we find them.

# PROBLEMS OF THE VISITOR TO THE HOME

THAT are the essentials of homemaking? This is a question that the visitor to the home should ask herself on entering upon her task. She wishes to make her efforts count in building up the life of each family under her supervision at the point where its needs are most vital. How distinguish these needs? By what touchstone is she to test the destroying effect of a dozen different shortcomings in household management, cooking, and choice of foods, or gauge the particular adaptability to the case of different educational methods? The subject of homemaking is so wide, standards are so various and ill defined, that it is easy to become hopelessly lost in a maze of details with no sense of proportion left. One may find oneself giving to trivial preferences the importance of an essential principle. Thus a conscientious worker spent an incredible amount

of time and energy in inducing a housekeeper to make beds in the morning instead of in the afternoon. Did the matter warrant such an expenditure? What may seem confusion to an outsider often represents order to the worker in the midst of the task. Her own system, evolved by her personal effort, may be better for her than a more efficient one handed down ready-made.

The standards of housekeeping are various. To one woman a chair out of place or a speck of dust on the furniture would render her house unendurable. To another a régime of such immaculate order represents intense discomfort. The woman, usually credited to New England, who keeps house "by the wrath of God" to the martyrdom of husband and children has become a familiar figure in literature. Certainly any attempt to impose a personal standard on a family of which one is not a part should be preceded by searching inquiry as to whether the matter in question is essential to family welfare. Customs and habits differ widely in different countries, vet each civilized nation has a standard of wholesome living to which a majority of its inhabitants

under favorable conditions adhere. How far should we reduce these standards to a sameness? While undoubtedly some time is gained for homelier tasks when the Italian or Polish woman gives up making the crocheted lace with which she so lavishly decorates her bed coverlets, chairs, mantlepiece, etc., still without it her rooms lack a certain native charm. Americanization is too often a ruthless destroyer of beauty and charm.

Can we not say that whatever is necessary for the health—physical and mental—of the family, and for the unity of its life, is essential to successful homemaking, while things not necessary for these purposes, however desirable, are unessential? It is well to remember, also, that whatever is essential applies equally to the Italian, Slavic, and American family.

The educational work needed in any family is, of course, dependent upon the situation revealed by the study of its condition. Few mothers of families likely to become dependent have had any theoretical training for the important work of homemaker, but most have had more or less practical training. Some are able to deal with all

except the most complicated problems in a fairly efficient way. Others are almost as helpless in their task as would be a young child who had suddenly acquired the management of a household.

The character of the home life of the mother during her childhood and her industrial history are elements in the background of the situation which are of great importance in laying plans for educational work. For example: if the mother of a shiftless housekeeper was thrifty and industrious, any reminder of her training will be useful. A Swedish woman who had fallen through want and discouragement into slovenly habits was restored to her former standard simply by the renewal of a long broken relationship with her sisters, who had kept their mother's teachings. Many women of foreign birth who were taught careful management in their youth have since fallen into the prevalent and deplorable American attitude of scorn for small economies: familiarity with their background may point the way to a return to long discarded habits and customs. Again, the woman who was in domestic ser-

vice before her marriage is better trained for the care of her own household than if she had worked in factory or shop. In short, any earlier experiences which inculcated sounder standards than those at present prevailing in the home may be classed as an asset of reconstruction.

It should be recognized, then, at the outset, that the widest possible variation, not only in present standards and home conditions, but in background and summonable resources of past training and experience, will be found among the families that come under the social worker's care. Yet the need for certain educational work is practically universal. None of the mothers are familiar with the simple principles of nutrition which must be known by one who would make intelligent choice of foods. None possess such a knowledge of the comparative values of different foods, kinds of clothing, household materials and supplies, as will enable them to lay out their money to the best advantage. All need more or less instruction in dietetic standards and help in planning the family budget.

While the infinite variety in personal charac-

teristics and in circumstances makes any hard and fast classification of families impossible, the visitor to the home inevitably tends to group families according to certain obvious characteristics having special significance for her. Thus, there is the group of families whose general home standards—as to cleanliness, order, etc.—are comparatively high, but whose dietary needs are not met; the family (far rarer) whose general home standards are very low, yet whose food is fairly adequate; and the families—a large and heterogeneous group—whose general home standards and whose dietary standards are alike below par.

Whatever the type, the rapidity with which a family can rise to a normal standard of living depends, in general, upon the will of the mother to reach it and her receptiveness more than upon any other factors.

Many of the mothers met are of excellent natural ability, with a devotion to their children which makes them eager to learn everything that will increase their efficiency as caretakers. As a rule these mothers can sew, clean, and perform

satisfactorily most of the necessary cooking operations. They have had, however, no opportunity to learn anything of food values or of dietetics, and so are unable to choose wisely, especially as their ignorance makes them an easy prey to clever or unscrupulous advertisers. They frequently pay extravagant prices for patented foods which pose as brain foods or producers of great energy.

In these clean, apparently well ordered homes, often the most acute under-nourishment is found. The standards of cleanliness and housekeeping are good, but clothing and furnishings are being kept up at the expense of food. Sometimes the desire for learning causes the skimping. If the mother has had to support the family by doing days' work, she is likely to long fiercely to have her children rise above this way of living. Many an under-nourished child is being put through school until he "graduates" at the expense of his own and his mother's vital energy.

The small and irregular supply of money prevents such a mother from working out an economical system of expenditure; she buys from

day to day at great disadvantage; she neglects the care of her own and the children's teeth, or, to save coal and covering, lets them sleep in unventilated rooms. If sufficient income can be assured, these mistakes are easily and quickly corrected by the woman eager to improve living conditions.

At the death of her husband, a laborer, Mrs. Kleinberg received \$1,900 insurance, and for four years managed, by the aid of this fund and her own work, to care for her four children without asking for relief. Her health finally broke down under the strain and she became the recipient of a mother's pension. At this time the tuberculosis dispensary gave the following report of the physical condition of the family:

Mrs. Kleinberg, weight 116½ pounds, second stage pulmonary tuberculosis. John, thirteen years old, weight 74 pounds (14 pounds below the average), tuberculous glands. William, ten years old, weight 57½ pounds (9 pounds below the average), first stage pulmonary tuberculosis. Mary, seven-and-a-half years old, weight 46¾ pounds (3 pounds below the average), tuberculous glands. Thomas, six years old, weight 42 pounds (3 pounds below the average), non-tuberculous.

The first expense account received from the family after they began receiving relief showed that the habitual daily diet was baker's bread, one to two pounds with a dozen buns. Meat and potatoes were a part of the daily fare, and sometimes a second vegetable, usually canned beans or peas. Half a pound of butter was bought once, occasionally twice, during the week, and once in a while a prepared cereal, usually cornflakes. There was no fruit and no regular supply of milk, but now and then a pint or quart was bought.

Mrs. Kleinberg was given the simple rules for the regulation of family diet which appear on page 89, information on food values, a recipe book, and help in planning her expenditures. She could already cook reasonably well and she used the recipes to good advantage. Teeth and diseased tonsils received attention, and the family was moved into a suburban cottage with garden space. Six months later Mrs. Kleinberg had gained six pounds and the children were reported as having improved. Her expense accounts, which were kept with great fidelity, showed that

three quarts of milk daily were being used; that enough cereals and fruit were bought for liberal daily use, and that fuel and staple foods were purchased in large enough quantities to last from one payment to another. Bread was being baked at home, and the garden was so successful as to furnish a sufficient quantity of vegetables. The standard of housekeeping and cleanliness was good and the children's clothing attractively made and kept.

The income at this time (1914) was \$48 per month, plus the garden and some gifts of clothing. As cost of living and the needs of the family increased, it became, by 1917, \$69 per month. In this latter year the tuberculosis dispensary reported that all of the family were well and well nourished, that the weights of three of the children were up to the average of normal children of their age, and that the fourth was four pounds over the average.

At the opposite extreme from Mrs. Kleinberg's is the home where the standard of cleanliness is low and the clothing and household furnishing receive scant attention, yet where the food is

fairly adequate and the children appear to be in normal physical condition. The children of these families—comparatively few in number—are the ones that have given rise to the fallacy that the children of the poor are healthy. Their faces may be habitually grimy and their clothing torn and ragged, but their skins are clear and fresh and their weight is normal. Probably in most cases this is due to a splendid physical inheritance, fairly adequate food, and enough outdoor life partly to offset the bad living conditions inside the house.

In the third group of families the standard is an all-round low one—uncleanliness, lack of proper household management, poor food, bad hygienic habits, all contribute to the family ill being. Here experience has proved that the explanation often lies in the mother's poor physical condition, in subnormal mind or lack of mental balance, in exceptionally deficient home training, or in bad habits—particularly drink and sexual immorality.

Mrs. Frank, at sixteen, had married a man old enough to be her father, and at twenty was left a

widow with three children. Mr. Frank seems always to have treated his wife as though she had remained the young child whom he first knew. She had never handled money and had performed very few of the household tasks except to cook and care for the babies. Left, when her husband died, in poor health, with a nursing baby, and without means of support, she applied for relief. The agent found her in three poor rooms, heated by a coal stove which she did not know how to manage. During the cold days of the winter following, it became necessary to take mother and babies from their rickety rooms and deposit them with a kindly neighbor lest they should freeze to death. Mrs. Frank seemed utterly unable to feed the fire or to keep the ashes shaken down in the stove, and when the cold got too intense she simply went to bed and waited for someone to come and rebuild the fire. The kitchen table was habitually piled high with samples of all the household articles they possessed: dirty dishes half filled with food were mixed with the children's shoes, with nails, brushes, cooking utensils, and bits of junk.

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This woman, though obviously of low mental ability, was said by the psychologist who examined her not to be subnormal; the explanation of her exceptional incapability seemed to be that she had grown up in an isolated way, the only home she had ever known having been in a houseboat on a river. Apparently no standard of a well ordered home had been established in her mind, and she had received almost no training for the life before her.

During the first four months of the period during which she received relief she was visited on an average of four times a week. Time after time the visitor found conditions almost as on the original visit. If she was left to herself for even a few days, unbelievable piles of dirty clothing and rags would accumulate on chairs or beds or be thrust into the dark corners of closets.

This woman needed to be taught practically everything—homemaking, cooking, cleaning, and the care of children, as well as diet, choice of food, and household management. At the end of two years of faithful work, during which the family had been moved into better rooms and the

mother had received the medical and dental care necessary to get her into fairly good physical condition, weekly or semi-weekly visits were still necessary in order to be sure that the children were reasonably clean, well fed and clothed. Yet the mother showed decided improvement, and her devotion to her children was unquestionably strong. Moreover, she possessed considerable native refinement and the moral tone of the home was high. It seems probable that, as the children grow older, their training may make up for the mother's lack.

A woman who is mentally subnormal frequently, like Mrs. Frank, shows such whole-hearted devotion to her children that (under close supervision) she learns in spite of her handicap to give them good physical care.

Mrs. Weiss, left a widow with five children under nine and no means of support, was mentally incapable of making change and was graded very low on other mental tests. House and children were habitually in such a condition of filth and neglect that all observers agreed that the children should receive institutional care. On the

mother's insistence upon keeping them, she was given a trial under the close supervision of a Juvenile Court officer and of her mother-in-law, who lived in the same building. By slow degrees she learned how to handle money, how to keep her house clean, and her children well fed and clothed. She was eager to learn and worked hard. One desirable habit after another was slowly established. Arrangements were devised for keeping the food materials covered, and she learned to wash the dishes regularly after each meal, before any special attention was given to the condition of the floor. Then regular periods of scrubbing were inaugurated. Food problems were easier to handle with her than with many more intelligent women, as she was willing to follow instructions literally. She agreed to buy three quarts of milk each day and to make no coffee for the children. A list of cooking times for cereals was given her, which she followed. A vegetable and a fruit were chosen for each day's use from a list given her. The expenditure for meat was limited to 25 cents a day. Later she mastered a fair amount of regularity in meal times.

# PROBLEMS OF THE VISITOR

On the other hand, another subnormal woman with equally faithful and close supervision and with the help of an unusually capable mother who lived a few blocks away, improved little in the care of her house and children and became a sexual delinquent within a few months. In another case, a home economy worker made daily visits over a period of many weeks to a home where the mother was mildly insane before conditions became such that commitment to a hospital for the insane was possible. Through the coöperation of the father and older children, the children had been kept in school and reasonably well clothed and fed, but the mother herself had contributed nothing to the result, though she had remained in apparent charge of the household.

Of a radically different type, though sometimes found living in an equal degree of squalor, are those families whose standard, once higher, has lapsed through the mother's discouragement, brought on by extreme poverty or illness or other misfortune. The change for the better is often startlingly rapid after the conditions which brought about the deterioration are removed.

Mr. Anderson had become physically incapacitated by an accident shortly after his marriage, and for six years Mrs. Anderson supported the family by doing night scrubbing. The conditions in the home came to light through the mother's application at a lying-in dispensary. Mr. Anderson had become violently insane several weeks earlier, and she had kept him locked in one room while she had gone to her work, leaving the three children under seven locked in the rest of the house. Naturally the house and children were in an indescribably neglected condition and the fourth child was born in these surroundings. Mrs. Anderson was in a nervous and seriously rundown condition though with no definite disease. The two-year-old child had rickets and could not walk. The four-year-old was also rachitic but able to walk. The oldest boy was very much under-nourished.

Mr. Anderson was sent to a sanitarium and the wife received a regular allowance for the support of her family. She was given instructions in diet, recipes for simple dishes, and three quarts of milk a day. Insistence upon a higher standard of

#### PROBLEMS OF THE VISITOR

cleanliness was left until her health was better. A month later the house was still habitually dirty and disorderly but the food was greatly improved and she had learned to manage her income. The three quarts of milk, a well cooked cereal, vegetables, and fruits were part of the daily diet.

She was advised to buy staple food materials in larger amounts than had been her habit, was shown samples of orders bought by other mothers in similar circumstances, and was helped to make out a list for herself. An infant welfare nurse gave instructions about the care of the baby, and she received a typewritten diet list to use for the two-year-old child, and learned to wash his face and hands before eating. At the end of another month the family was moved into better rooms. The visitor went over the care of food materials with Mrs. Anderson and found she had two dozen glass jars which could be used for the purpose; and tin boxes for bread, flour, and sugar were added.

Six months after regular instructions had begun the house was habitually clean, well ventilated, and orderly. Staple food materials were

being kept on hand in covered receptacles. The table was habitually set for meals and the children trained to eat with clean hands. The usual breakfast was of cereal and milk; the main dish at the dinner was soup, meat, or eas, with potatoes and fruit; the supper consisted of vegetables with milk and bread. The two-year-old boy was learning to walk and had acquired a fairly good color. Mrs. Anderson had learned to plan her household expenses so as to buy staple food materials, coal, and household supplies in amounts large enough to last a month. She was baking her own bread, buying cereals in bulk, using oleomargarine, choosing the vegetables and fruits cheapest at the time, so that her income was covering the needs of the family. Later a sewing machine was added to her household equipment and she made all of the children's clothing. At the end of two years the children were apparently in normal physical condition and well mannered. The house was clean and well ordered. This woman was not of high mental ability and was almost entirely untrained, but was eager to learn and faithful in following advice.

#### PROBLEMS OF THE VISITOR

Often the low standards of a home can be traced even more definitely than in the case of Mrs. Anderson to the ill health of the mother. In such cases, until the physical or mental condition has received thoroughgoing attention, little improvement in home conditions is possible. Mrs. Adams, left a widow with five small children, was the despair of relatives and friends who tried to help her in her distress because of the filthy and disorderly condition of the house and her shiftless household management. A brother-in-law who was willing to contribute regularly to the support of the family insisted upon turning over his money to the organization which assumed responsibility for her care. He said that if he gave it to the mother direct she would spend it for bakery goods and sweetmeats, to save work for herself, and the digestion of the children would be spoiled. The relatives, in fact, all considered her intolerably lazy and shiftless.

Although the visitor put much faithful effort into the attempt to bring about better living conditions and did succeed in making some important changes in food habits, the house continued

unkempt and there was no apparent improvement in the mother's ability to handle money. A physical examination disclosed the need of an abdominal operation, and a bad mouth condition. Six months later, after the operation had been successfully performed and the teeth extracted, Mrs. Adams began to show evidence of renewed vitality and initiative. Moved into new and better surroundings and given the fundamental instructions in the choice of food, methods of buying, and the necessity for cleanliness, she developed rapidly into a reasonably capable housekeeper.

#### III

# AIDS TO HEALTH AND HOUSEHOLD MANAGEMENT

ALMOST as various as the problems of bad home management encountered by the social worker on her rounds are the means by which they can be met. Where the subject matter to be taught and the facilities available permit, group work is more economical in time and effort than individual instruction. In most cases the education in homemaking offered by the community in settlement, school, or housekeeping center can be used to advantage. Often the social and mental stimulus of meeting other women in a club or class is as sadly needed by the mothers as the instruction in cooking, sewing, and household management. When the neighborhood affords none of these opportunities the women's own houses have been successfully used as meeting places for clubs to study housekeeping. A food demonstration, a sewing lesson, or a discussion of

household budgets may be arranged for these meetings, the social side of the gatherings being emphasized even more strongly than when they are held in a public place. The serving of coffee or tea may make all the difference in the minds of the assembled housekeepers between their going to a party and going to a class.

But even where neighborhood facilities already exist the guidance of the visitor is still of great importance. Life-long habits are hard to break, and with the less enterprising wives and mothers a new way of doing the household cleaning or an unaccustomed food material soon falls into disuse if there is no outside source of encouragement. Then there is always the woman who cannot be reached by any means which requires the time and effort necessary to attend a class or club regularly. Ill health, misfortune, or mental dullness imprisons her within her own walls. Help must be brought to her door.

Thus the social worker, if she were infinitely wise, infinitely tactful, would need all her wisdom, all her tact, to meet the various situations that confront her. And no part of the task

of family rebuilding is more delicate than that which pertains to the treatment of home problems. The visitor is dealing with those with whom experience counts for everything, technical training for nothing. This is an entirely natural attitude of mind, as all the knowledge these homemakers themselves possess has come from their own experience or that of others who have transferred it to them. The nurse alone has a training whose worth is recognized. She is able to demonstrate in a manner that is easily understood that she has a knowledge superior to that of the mother herself. So the nurse's uniform has come to stand in all matters relating to health for an authority second only to that of the doctor. Any other home visitor must prove her worth. She may be a marvel of efficiency and possessed of the wisdom of Solomon, but if she is young or unmarried or childless—if all of these, so much the harder—her training will count for little with her clients. She may have the highest theoretical training in child nurture and experience with hundreds of children, but if she is not a mother herself she will be considered infinitely less wise

about the baby's food than Mrs. Cominsky who lives next door. The fact that six out of Mrs. Cominsky's ten children have died in the upbringing will have no weight in deciding the relative value of the advice of the two women. There is danger, too, that the mothers will consider the visitor's advice of little value because she can have experienced none of the hardships through which they themselves have passed. The veteran worker in other lines has the same attitude toward the college-made expert who suggests better ways of doing the job he has been engaged in for years.

And, indeed, the outsider should be sure that she is right before she places her easily gained wisdom above that, however small, which the mother has won through her hard experience. In most cases each has something to give the other. Perhaps no more tactful beginning can be made in the discussion of home problems than to let the housekeeper feel that she has something valuable to contribute—an attitude on the part of the worker that will not go unrewarded.

There is an occasional family that resents any

discussion of household affairs as an intrusion. Fourteen-year-old Carl Pularski, when asked to keep his mother's account book, since she could not write English, replied that he would rather starve than let anyone know what the family ate. Occasionally the mother will reply with some resentment to premature discussion of her household management that "she gets along the best she can and goodness knows she has nothing to waste." Whenever time permits, the establishment of a warm personal relationship should precede discussion of the more intimate details of domestic life. Tact, sympathy, and an earnest desire to understand the mother's difficulties, freedom from personal prejudice, and a clear idea of the ends to be attained, along with a genuine openness of mind and willingness to learn as well as to teach—these are the qualities to bring to the work.

Usually in one of the early interviews with the mother the subject of food needs and dietary standards for the family can be discussed. Perhaps the best general method of approach is through inquiry about the health of the children.

Health needs primarily determine standards of living—standards not only of food, hygiene, and sanitation, but of household management as well. For it is only through efficient household management that healthful living conditions can be bought at the price the women we wish to help are able to pay. This approach can be used not only by the nurse, but to very good advantage by any visitor in the family field. It is entirely natural that the visitor, interested from any of the many possible angles in the welfare of a family, should show a solicitude for the health of its members and the physical and mental development of the children, and that she should discuss the subjects bearing upon these points with the mother. Most important among conditions affecting health are food, eating habits, sleeping arrangements, and the sanitary condition of the home. A natural opening is not far to seek. It is a rare family in which there are not one or more children who are undergrown, under-nourished, tuberculous; anemia and rickets are all too common, bad teeth almost universal.

In personal cleanliness the care of the mouth,

which is the reception room of so many germs, is of first importance. Training for children in the vigorous use of the tooth-brush as well as periodic visits to the dentist cannot be too strongly insisted upon. Dirty hands and nails are esthetically objectionable at all times, but at meal times they become a fertile source of danger.

The easiest point of access the disease germ can find to the body is through the alimentary canal, so it follows that the mother must be taught cleanliness in the care of food stuffs and of drinking water. It is of vastly more importance that dishes and cooking utensils should be clean than that the kitchen floor should be well scrubbed. A tidy sitting-room and a kitchen of neat appearance often accompany cooking utensils whose coat of grease remains undisturbed week after week. Since the nasal passages offer another easy means of access for germs to vulnerable parts of the body, a dusty carpet or curtain is often more objectionable than an unwashed bare floor. If the pantry is sweet-smelling and clean, dust upon the parlor furniture may be forgiven.

This order of importance is too frequently re-

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versed. But even in regard to the care of food, uncleanliness is not of equal importance in all places. For example, milk offers a rare medium for the growth of germs and yet it is to be taken without cooking. It is safe only when handled with the most scrupulous cleanliness, including protection from the air. Raw oatmeal with a dry exterior which offers little food for germs, and which is to be boiled an hour or two before it is eaten, will probably be safe even if it has been left in an open package. The presence of flies and other vermin is serious not only because they act as carriers of germs, but because of the nervous strain resulting when they prey on the body, as is the case with the commonly found bedbugs and head lice and the less common body lice.

We must keep in mind that the mother has very likely never connected her children's ill health with these conditions, with the way in which they have been housed, fed, and cared for. She must be led to make this connection. In order that she may be able to do it, the facts need to be set before her as forcibly as possible, but very simply and concretely.

We must also remember that a child, though to the eye of an outsider woefully under normal appearance, does not necessarily seem so to his mother. He perhaps compares fairly well with the other children whom she has an opportunity of observing. Indeed, the worker herself may find it necessary to call up continually a vivid mental picture of the most robust youngsters she knows in order to keep her own judgment as to normal physical condition from becoming warped by the succession of thin, pale, undergrown children whom her day's work brings before her.

A particular child in the family, obviously less well developed than his brothers, as a rule makes a good starting point for discussion. A comment on his small size, bad color, or nervousness will often start an anxious mother on the full history of her solicitude for him and the means she has already taken to bring him up to normal condition. Her solicitude, of course, will greatly simplify the visitor's task. It is easy to teach one who wishes to learn.

On the other hand, the visitor may get only the careless reply: "Oh, Willie has always been small

like that. His father was a little man and was pale like that, too." To further questions as to whether he eats well or not she may say, "Oh, yes, he eats like anything. You should see how he eats!" Even with this unfavorable opening the visitor may go on to inquire as to the exact content of Willie's breakfast, dinner, and supper, whether he eats between meals, what time he goes to bed, with whom he sleeps, how his bed is placed, etc. When it develops that he has a breakfast of bread or rolls with black coffee or strong tea; a lunch or supper of the same composition; that he does not like vegetables and will not drink milk; that he goes to bed at ten and sleeps with three brothers in a room with one window, opening on a court—a window which is kept tightly closed all night; that he gets up cross and "cranky" and sometimes goes to school with no breakfast at all: it often becomes clear even to a very ignorant and careless mother that these habits are not conducive to the best physical development. She will be probably in the mood to discuss the most obvious defects in Willie's diet with a view to making some change. Perhaps

the sleeping arrangements can be gone over, a plan made which will permit not more than two persons sleeping in the same bed; an earlier bedtime may be started because of the conference. Wherever the question of an open window at night enters into the discussion, the amount and kind of bed-covering must be taken into consideration. A talk, however convincing, on the desirability of ventilation in bedrooms is lost so far as the practical effect is concerned if there are not enough comforters or blankets in the house to keep the family reasonably warm with windows open.

A state of "good health" should be understood to include normal development and functioning of all organs of the body, including sound teeth; normal rate of growth for children; maintenance of normal weight for adults; not only the absence of disease but a high state of vitality which may successfully resist disease. This is a standard difficult for the untrained mother to comprehend. To her health usually means absence of illness sufficiently acute to keep the patient in bed. To solicitous remarks about Tommy, who

is obviously undergrown and under-nourished, she will reply—"Oh, he is fine and healthy. He is not very big, but I have never had a doctor for him in his life." Careful inquiry may draw from the mother herself the information that she must give him a "physic" once or twice a week; that he had a cold last winter that "hung on" well into the spring; and that he never has an appetite for breakfast. A little personal examination will be fairly sure to show teeth in all stages of decay: some rotted down to the gums, others whose small cavities could easily be taken care of.

Nor is it the uneducated alone who hold this attitude of mind toward health conditions. One intelligent well-to-do mother responds habitually in the winter to an inquiry about the health of her family, "We are all quite well, although the children have colds." The children always do have colds from October until May, but the matter receives no attention.

In convincing a mother of her child's need for special attention, the standard of weights and measures of normal children given in Appendix C has been found exceedingly useful.

Mrs. Potter, a widow receiving a mother's pension, had supported herself and children, ten and twelve years old, for the two years preceding the time when aid was granted. A small, frail woman, her own health had broken down under the strain, and the children, left to shift for themselves in her absence, had fallen into the usual dependence on delicatessen and coffee. Their physical condition was very obviously below par, but although Mrs. Potter was above the average intelligence, she was entirely indifferent to the visitor's solicitude for the children's need of better food and care. She was quite sure they were as healthy and well grown as other children and refused to make any radical change in their habits. After several conversations on the subject the visitor showed her a typewritten copy of the list of weights and heights which she always carried in her notebook. The children became interested in getting their own weights and measures and recording them for comparison. The boy was led to join the nearest gymnasium class; the sleeping arrangements and food were modified according to the visitor's suggestions. When after two years

the family again became self-supporting, both children were almost up to average weight and greatly improved in general physical condition.

If the mother's objection to the suggested change in food is that the child will not desire it, the best plan is usually to appeal to the child himself. Every boy or girl has a standard of physical beauty or strength and is willing to forego present pleasure for the sake of attaining it. Touch this ideal and the child can easily be influenced and a radical change in food habits made. A boy's ideal almost always includes great physical strength and prowess. He wants to become a policeman, a soldier, or an aviator. A girl desires physical beauty, red cheeks, a graceful figure. Fortunately, physical strength, a clear complexion, and grace of movement can all quite truthfully be used in an appeal to youngsters to order their food with more regard for the needs of their body than for taste.

A juvenile court officer with only a casual contact with a twelve-year-old boy who was being brought up by his grandmother had entirely forgotten, when she met the old lady two years

later, a conversation she had had with the boy about the use of stimulants. "You are the lady," at once declared the grandmother, "who talked with Harold about drinking coffee. He has not taken it once since."

A dietitian talking with a group of Italian women on the dangers of coffee for children was informed by one mother that all of her children drank coffee "except Angelo. His teacher told him it wasn't good for him and now he won't touch it."

The wife is often quite sure that the husband will never be content with any other than the foods to which he has been accustomed and it is hard to reach him directly. In cases of illness the nurse or doctor has some opportunity for influencing his choice of food. Lecturers who have addressed numbers of workingmen in noon time talks in factories or at their lodge report that they manifest considerable intelligent interest in the subject of proper nutrition and economical expenditure for food.

In cases where the home is clean and well cared for and the family life apparently normal in spite

of failure to measure up to standards of physical health, it is sometimes difficult for the visitor to realize that the choice of a standard of living cannot be left to the family itself. It is often hard to insist upon more milk, vegetables, and fruit in the diet, more beds or better lighted rooms, when the family considers the present arrangement entirely satisfactory. A mother occasionally complains that she is compelled to buy more milk than she needs. An Italian mother and her seven children were found to be sleeping in two beds. On the visitor's remarking that they needed more beds, the twelve-year-old girl who was acting as interpreter exclaimed in amazement, "What for? We just fit now." The family that considers two at the head and two at the foot a fit is not rare.

Some women will remain incredulous about even the simplest point until a personal experience brings it home. The worker has only to persist, however, and her point is sure to be illustrated sooner or later in the experience of the family, though not often in so startling and serious a way as was the case with Mrs. Remski. Mrs. Remski with her four children slept in two

small beds which almost completely filled a bedroom with a single window opening on a narrow outside passage between buildings. The sittingroom was large and excellently lighted. The visitor suggested that a bed for the mother and baby and a cot for seven-year-old Frank, who had tuberculous glands, be set up in this room. But Mrs. Remski said she would not "feel right" with a bed in the parlor, which she wanted to "keep nice," and remained unmoved by the arguments of the visitor who at each visit pointed out the ill effects of insufficient air in bedrooms, enlarging upon the danger of pneumonia. After a few weeks the baby did fall dangerously ill of pneumonia, and the doctor insisted upon hospital care because of home conditions. In mortal fear for her darling's life, Mrs. Remski moved the beds into the parlor, and there they have remained.

In helping the housewife to plan her expenditures intelligently expense accounts are invaluable. It is they alone which give uncolored facts as to how the money has gone and what has been

secured for it. In the writer's experience with several thousands of widowed mothers receiving pensions through the Chicago Juvenile Court not more than two or three had been in the habit of keeping household accounts, but after having kept accounts regularly during the period in which relief was given a large percentage of the more intelligent women announced their intention of continuing them. It is exceedingly desirable in cases where expense accounts are required by a relief-giving organization that the mothers themselves should see their value. This is not difficult for the more intelligent women to grasp and they are often found working out plans to make them of more value. One recipient of a mother's pension keeps a separate account of the shoes so that she may easily refer to it and form a judgment as to the wisdom of her purchases. Such accounts, moreover, often tell a quite different story from that gained through conversation with the mothers. They bring to light not only ways in which money can be laid out to better advantage, but the pitiful makeshifts by which the family are making an inadequate income

"do." When the Strains began to keep them, the charity organization agent, who was trying to safeguard the health of the frail mother, found to her horror that most of the vegetables the family had eaten during the past year had been received free from a market some distance away. In order to get them the mother had gone to the market at four o'clock in the morning and gathered the refuse from the sales of the day before.

It is sometimes found to be most effective to limit instruction at any one visit to one or two points, as this prevents confusion in the mind of the mother. A visitor who has the supervision of sixty families receiving pensions from the state visits each of them at least once a month. She marks a food topic or a point of personal hygiene to be discussed at each round of visits. On one round the subject of milk will be talked over with each mother—how much is being bought, how much each child is taking, etc.—leaving suggestions for additional quantities wherever this is necessary. In speaking of this plan of hers she said: "On the last round I talked about cereals and got it straight just what each family needed

to do in that respect. Next time it will be vegetables and fruit. Very soon I must see after the teeth of all the children, for I am afraid some are being overlooked. In this way none fails to get the instruction on an important point that they all need. I adopted this plan because I often noticed that I let other things, usually whatever was uppermost in the mother's mind at the time, absorb the whole of my visit and we didn't discuss health matters at all."

This plan, if not too rigidly followed so that it reduces itself to a mechanical routine, has the advantage of eliminating the possibility of the busy worker's allowing important matters to drop out of mind. Perhaps an even better plan would be to keep a check list of topics to be covered in each family and mark them off as covered, without attempting to follow the same order for all families. Topics covered once could be rechecked later for the necessary follow-up.

In the cases where intimate guidance of the mother in the care of her children and the administration of her household is necessary, great pains must be taken not to break down her sense of responsibility or the unity of the family.

A friendly visitor to the family of a Bohemian widow had looked very carefully after their needs but had overlooked this one until the mother brought it to her attention. Most of the children's clothing and a great part of the household supplies and furniture had been bought by the visitor, so that little except the purchase of food was left in the mother's hands. The visitor was inclined to feel hurt, therefore, when, without consulting her, Mrs. Rutsiki bought her ten-yearold Bennie a pair of patent leather shoes. The mother had for a while supported the family by her own labor and had laid aside at this time a few dollars of which she had said nothing. When asked why she had spent this treasured reserve for articles which would have been supplied without hesitation as soon as the need was brought to the visitor's attention, she replied, "You buy everything for the children. If I don't buy them something sometimes they will not think of me when they are big. They will think that I have never done anything for them."

Choosing the food for a family by sending in grocery orders may be made to have a definite

educational value in teaching them the use of new food materials or of a well balanced diet. Carried beyond the point where it is needed for this or other justifiable purposes it becomes a factor in the process of devitalizing the family life. A good general rule which applies here as well as in other teaching is never to do anything for the pupil which she can do for herself, whether it be to choose food or clothing or to train her children. If the relative, friend, or neighbor of the house-keeper who cannot bake can teach her, the instruction had perhaps best come in this way.

Sometimes an entirely new environment will have more influence than many weeks of faithful effort in the old environment. A settlement house wrote concerning a widow who spoke almost no English: "Mrs. Storsky is known to us as a very irresponsible woman who kept a very untidy home and allowed the children to stay at home from school for slight reasons. She is quarrelsome and frequently in trouble with her neighbors. For the past ten years she has been drinking to a considerable extent."

In August Mrs. Storsky was moved into four

light, clean, freshly papered rooms with screens or netting at the doors and windows. The location was in the outskirts of the city, miles from the crowded neighborhood in which she had established the reputation described above. At the time, the new rooms were entered the visitor helped arrange the furniture. Each child's clothing was packed away separately and the older ones were made responsible for their own. A new stove was secured instead of the one which had smoked up the former kitchen and would not bake.

The family diet had consisted of a cooked meat at one meal, sausage at another, and in addition chiefly bread and coffee. The mother, through an interpreter, was given simple rules for regulating the diet; the amount of milk necessary was agreed upon and ordered from a reliable dairy. In the April following the removal the children were in good physical condition and their school report showed 100 per cent in cleanliness and deportment. While no expense accounts could be written by the mother, visits at meal time showed well chosen and prepared food and that regular meal times were being observed.

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#### IV

# **DIETARY STANDARDS**

TURNING from the homes with small incomes and from the daily tasks of visitors in such homes, what data, now at our command, are applicable to these tasks? Scientists working on food problems are continually adding facts to our working knowledge on the subject of the nourishment of the human body. It thus becomes increasingly possible each year to formulate standards by which to measure food needs under given conditions. The standards of today are much fuller and in some respects they are different from those of ten years ago. Ten years more will doubtless bring knowledge which will further extend and modify them. Meanwhile what we already know is of enormous help in regulating the daily supply of food in such a way as best to meet the requirements of the body.

Food needs follow laws of cause and effect not all well understood, it is true, but none the

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less inexorable. Nutrition could be an exact science if we knew all of the elements involved. It is not through a dispensation of Providence that one is too thin or too fat or otherwise out of condition from under- or over-nourishment. And most such states can be corrected if one acts upon available dietary knowledge.

The body requires food material for:

- (1) Growth and repair
- (2) Energy
- (3) Regulation of physical processes

# (1) GROWTH AND REPAIR

The baby makes his appearance in the world weighing perhaps seven pounds. If he grows to be a man of average size, he will weigh 154 pounds. Food must provide material for the change of the tiny muscles into large, strong ones, for the growth and hardening of bones, and for every change of tissue required. There is no other source of supply.

So long as nature keeps the matter entirely in her own hands it is well done. Mother's milk,

when the woman is in normal condition, is nicely adjusted to the needs of the baby's body. It contains all the elements required, mixed in the right proportion. But when the food is left to human choice, blunders begin—often through sheer lack of attention to the subject, for it is not alone the children of the poor and uneducated who are under-nourished. A builder planning a permanent building selects his materials carefully. Should he skimp on quality of material the house will fall into decay and be a loss to its owner, and he be counted a foolish or dishonest builder. The poorly built body which has been skimped will also fall prematurely into decay, entailing a loss far more serious than that of a falling house.

Among the building materials needed is one which appears as part of every living cell in the body. It makes up also the greater part of the muscle tissue. It is called protein, and because of its importance in the construction of the body the gravest consequences follow an insufficient supply. Fortunately, it is found in all foods, as it is just as necessary to the life of plant cells and to the body cells of the lower animals as to those

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of man. There is, however, a great difference in the proportion in which it is found in different foods. We get an important part of our supply in what may be called a ready-made form—in lean meat, which is the muscle of an animal; in the milk from the cow or goat secreted to furnish food for her young; in the egg, where everything necessary for forming the body of the chick is stored. But the cow that gives us beef and milk herself eats no meat, fish, milk, or eggs, but only grains and grasses. From their proteins she builds up her muscle.

There are a great many kinds of protein, some of which are known to be incomplete. That is, they alone are not able to furnish all the protein needed for growth. Gelatin is one of these and so is one of the proteins of Indian corn. Since our present knowledge of the function of the different kinds of protein in nourishing the body is imperfect, it seems best to choose each day some animal food—milk, meat, or eggs—along with nuts, dried beans and peas, and a liberal supply of cereals, in order to insure a proper supply of the different kinds of protein.

Standards for Building Material (Protein).— Much controversy has been waged during recent years around the question of the amount of protein needed. The standard is expressed in the number of grams per day which should be included in the food of a man. Chittenden, in his Nutrition of Man,\* published experiments which he believed to show that 60 grams per day are sufficient. This was cutting the old standard of 100 to 125 grams per day in half. Sherman, weighing all of the evidence at the time of the publication of his Chemistry of Food and Nutrition,† suggested 75 grams per man per day where a low protein diet is desired, for either physiological or economical reasons, and this amount is commonly referred to as the modern standard.

For those unaccustomed to measuring in grams and unfamiliar with the composition of foods these figures may be given meaning by the

<sup>\*</sup> Chittenden, Russell Henry: Nutrition of Man, p. 272. New York, F. A. Stokes Co., 1907.

<sup>†</sup> Sherman, Henry Clapp: Chemistry of Food and Nutrition, p. 228. New York, The Macmillan Co., 1912.

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amount of protein found in some of our common articles of food:

ı lb. lean beef	contains	about	88 g	rams	of	protein
ı qt. milk	"	"	32	"	"	"
ı egg	"	"	8	"	"	"
1 12-oz. loaf of bread	d "	"	31	"	"	"
ı lb. navy beans	"	"	102	66	"	"
ı lb. oatmeal	"	"	73	66	"	66
ı lb. cheese	"	"	130	"	"	"
ı lb. peanuts	"	"	41	"	"	66

What are referred to as high protein foods are meat, fish, eggs, milk, and cheese; legumes (dried beans, peas, and peanuts) and nuts are sometimes added to the list, as these also contain a large percentage of protein; cereals also have a considerable percentage, as will be seen from the amount of protein in the bread and oatmeal given above; the amount in vegetables and fruit is very small. Consequently a high protein diet has commonly been understood to mean a high meat diet. Such a diet is not only expensive—we have every reason to believe it will become increasingly so during the next few years—but may also cause an unnecessary strain upon the body. Putrefaction in the intestines and uric acid in the body are

very apt to result if the waste products created by meat digestion are not promptly thrown off. Americans as a whole have been in the habit of eating far too much meat—the scarcity ahead may mean better health for the nation.

Mrs. Rose, in Feeding the Family,\* suggests this plan of meeting the protein requirement in a man's daily diet: one-quarter of a pound of meat daily will furnish one-third of the amount of protein needed; another third can be supplied by an egg, a glass of milk, some cheese, beans, or nuts; while an additional third will easily be made up by the cereals, vegetables, etc., which will form the remainder of the day's food. The same author advises that children under seven years depend for high protein foods on an egg daily and free use of milk. The cereals, vegetables, and fruit needed to make a diet sufficient in quantity will furnish the remaining protein required. The objection to much meat for young children is based on the putrefactive process pointed out above, which is more dangerous to

<sup>\*</sup> Rose, Mary Swartz: Feeding the Family, p. 69. New York, The Macmillan Co., 1916.

the undeveloped digestive system of the child than to that of the adult; on the stimulating effect of meat, which is not desirable for the growing organism; and on the further fact that the high flavoring of the meat makes it difficult to train the child to eat foods with less taste—cereals, milk, and vegetables—which should form the larger part of his diet. The first question asked by the visiting nurse called in because the baby has convulsions is whether he has had meat.

It was formerly believed that hard work tears down muscular tissue so rapidly that a workingman requires a large amount of protein in his food. We still hear many expressions of the view that hard work requires a high meat diet. That there is no foundation for this belief is proved by many experiments; the body is much more durable than it was formerly believed to be. Hard muscular labor can be performed without greatly increasing the wear on the muscles provided enough food is taken to furnish plenty of fuel for the activity needed. Fats, sugars, and starches can be used to furnish this fuel, and a large in-

crease in protein foods is not necessary for an increase in activity. However, a person engaged in active muscular exercise, particularly in out-of-door work, can indulge in a high meat diet with less danger of harmful results than can a sedentary person, because the activity will naturally help to dispose of the dangerous waste products.

Mineral Salts.—These are no less necessary in the building of the body structure than are proteins. Lime (calcium) salts form a large proportion of the teeth and bones, and are also an essential element of the various tissues and fluids of the body; iron is a necessary constituent of the red corpuscles of the blood; phosphorus is necessary to the cells of the body and helps to give rigidity to the bones. Other minerals used in the body do not give us so much concern, as they are needed in amounts which are fairly certain to be present in the food if enough protein, iron, phosphorus, and lime are present. More protein than is required puts an added strain on the organs of nutrition that often cannot be well borne, particularly after youth is passed or in early child-

hood. More fuel foods, such as starch, sugar, etc., than necessary will cause either bodily disorder or excess of weight, which will eventually result in a lessening of efficiency. But a larger allowance of iron, phosphorus, or lime appears to be without harmful consequences and may even tend to better physical condition. Shortage of lime or phosphorus may result in imperfect bone and tooth formation; shortage of iron, in anemia. These deficiencies in the diet, combined with other causes, fill the ranks of the poor with rachitic children, toothless young adults, and anemic individuals of all ages.

These materials are perhaps of greater importance during the period of growth than later, but there is no time at which the construction of the body is a finished process. The same materials which go into its structure during the time of growth go on being required in relatively smaller amounts for purposes of repair, for there is no time at which the body is stationary, and the worn-out tissues must be replaced if it is to maintain its strength. Milk, vegetables, and fruits are the most important sources of mineral

salts and should be used as liberally as income permits. The outer layers of grains are also rich in minerals and can be of great help in low cost dietaries where large amounts of fresh vegetables and fruits cannot be used.

Lime (calcium) is frequently deficient in actual dietaries, particularly in those of low income groups. Its adequate supply is especially important during the growth of bones and teeth. Milk is the best source of supply, although fruits, vegetables, and the outer layer of the grain of cereals contain a considerable amount. One pint of milk contains enough lime so that probably a child who takes this amount of milk daily, together with cereals, vegetables, and fruits, will have a sufficient margin. An adult, taking at least half a pint of milk, with daily use of vegetables, fruit, and whole grain breads, will get the amount needed.

Iron frequently falls too low in the ordinary dietary. An iron tonic is among those commonly administered by physicians. It would be better for the health if people looked after this part of the food requirement more carefully. Nor is all

iron found in food equally well utilized for the nourishment of the body. Lean meat is rich in iron, but of a kind which is not completely used. The egg yolk contains a large percentage of a kind fully used. Fruits and green vegetables, particularly spinach, are valuable sources of iron, as are also the outer layers of grains. Cabbage and the root vegetables, as carrots and onions, have a fairly high percentage of iron. The best way of being certain that enough is obtained in the diet is to allow as liberal a use of vegetables and fruit as possible and to eat whole grain breads and cereals. Although milk itself contains only a small amount of iron, it exerts a strong influence on the power of the body to utilize that supplied by other foods, so that its use is important in bringing up the iron content of the blood.

Phosphorus is less often deficient than lime (calcium) in the dietary which contains enough proteins. But adequate protein does not always insure sufficient phosphorus. Free use of milk, eggs, vegetables, and of cereals and breadstuffs containing part of the outer layers of the grains, will secure an abundance of phosphorus.

# (2) MATERIAL FOR ENERGY

Food must not only provide material for growth and repair, but fuel for the energy that is used up with every movement. The amount of fuel food needed depends upon the degree of muscular activity of the person and the amount of muscle being used. A small engine does not require as much fuel as a large one to keep it at work. If it is worked at high pressure, more fuel is needed than if it need only work at low pressure. Thus a large man doing the same kind of work that a small man does will require in general just about as much larger an amount of food as his weight is greater; a man lying twenty-four hours in bed will use up about half as much energy as he does on the days when he is doing hard muscular work.

Children, with their intense bodily activity and rapid life processes, need in proportion to their size much more fuel than does an adult. Their heart beats are faster, their breathing is quicker, all inner movements are more rapid. It is estimated that a baby asleep uses up two-and-one-half times as much energy in proportion to his

size as his mother lying awake beside him. Taking his day all the way through, with its activities of crying, kicking, and crowing, he uses about twice as much fuel in proportion to his size as his father who is doing hard muscular work. Watch a group of children at play and note the rare occurrence of consecutive moments of quiet, and the needs of the child for large amounts of energy food will be clear.

If the food does not supply all of the fuel needed for the activity of the body, it will burn up its own tissues to meet the deficiency. The reserve store of fat is there for this emergency and no harm will probably result if it is the only part of the body consumed. When, however, the other tissues of the body which cannot be spared begin to be burned up, the lack of fuel becomes dangerous. If a child's food runs day after day even a little below his needs, it means that he must burn up for energy the material meant for growth. Undergrowth necessarily results.

When more food than is needed to sustain the activities of the body is taken, the surplus is stored in the form of fat, provided the digestion

remains normal. This is the reserve of the body and it is well to carry a generous but not a burdensome supply.

The foods on which we depend to furnish fuel are those containing fats and sugars and starches—though protein also may be used for the purpose. Cereal products—bread, flour, and meal, as well as breakfast cereals—and potatoes are our most important source of starch.

Standard for Energy.—The invention of the calorimeter, which measures the amount of heat given off by the body, has made it possible to measure the amount of fuel which needs to be supplied by the food. Given the weight and age of an individual and the kind of work being done, it is possible to calculate with surprising accuracy the number of heat units required. Contrary to public opinion, mental activity does not increase the need for foods yielding energy.

The unit of measurement is a heat unit called the calorie. This word, while familiar to the physicist, is not, unfortunately, in the vocabulary of the average person. As it is the only unit of measurement which we have to express fuel value,

its use is often necessary in discussions of foods and the nutrition of the body. Public education in food matters would be greatly advanced by willingness on the part of educated people to add it to their vocabulary. A strange word should certainly not be a bugbear and there seems no reason for the difficulty experienced in introducing this one, beyond a distaste for allowing an unknown term to be applied to food which is of such universal every-day use. It is not even necessarv to remember that the calorie is the amount of heat required to raise one litre of water one degree centigrade in order to use the word intel-· ligently. Its practical, every-day use is to offer a basis of comparison between the amount of heat a given quantity and kind of food will yield and the amount needed for the body; or a means of comparing the amount of energy yielded by a given quantity of one food with that of another.

A convenient way of using the term is by the 100-calorie portion, as this amount makes an ordinary serving of many common foods. For example, a four-inch slice of bread one inch thick yields 100 calories; so does a medium size

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potato; two level tablespoons of sugar, or one of butter; five-eighths of a cupful of milk; one and one-third eggs of ordinary size; about two ounces of cooked lean meat; one cup of cooked oatmeal; one shredded wheat biscuit; four Uneeda biscuits; one very large orange or apple; four or five prunes or dates; two dozen raisins; one medium size banana.

The energy requirement for adults differs for the two sexes, and varies according to the size of the person and the different degrees of muscular activity. Thus, a working man needs from 3,000 to 4,000 calories a day; a sedentary man (i. e., a professional man or one following such a trade as tailoring or shoe making), from 2,200 to 2,800 calories. An active woman needs from 2,600 to 3,000 calories a day, a sedentary woman from 1,800 to 2,300, and a nursing mother from 3,000 to 3,600 calories. The requirements of boys and girls of different ages are shown in the following table:\*

<sup>\*</sup>Gillett, Lucy H.: A Survey of Evidence Regarding Food Allowances for Healthy Children, p. 8. New York Association for Improving the Condition of the Poor, 1917.

#### CALORIES PER DAY

Age, Years	Boys	Girls
Under 2	900-1200	900-1200
2-3	1000-1300	980-1280
3-4	1100-1400	1060-1360
4-5	1200-1500	1140-1440
5-6	1300-1600	1220-1520
ĕ−7	1400-1700	1300-1600
7-8	1500-1800	1380-1680
8-9	1600-1900	1460-1760
9-10	1700-2000	1550-1850
10-11	1900-2200	1650–1950
11-12	2100-2400	1750-2050
12-13	2300-2700	1850-2150
13-14	2500-2900	1950-2250
14-15	2600-3100	2050-2350
15-16	2700-3300	2150-2450
16-17	2700-3400	2250-2550

In dealing with normal, healthy individuals in the every-day conduct of life, such calculations of caloric needs are seldom called for. But they are invaluable where rations must be measured out, either in food materials or in money with which the food is to be bought, and they are frequently helpful in dealing with abnormal physical conditions, such as obesity or under-weight.

Fortunately we are not reduced to the irksome task of estimating each day the number of calo-

ries we require and calculating the amount of food that will furnish this amount. An adult in normal physical condition will, if his food is reasonably attractive, eat the right amount with no other guidance than the demands of appetite. Ordinary observation of the physical condition will show whether too much or too little is being eaten. If too much is eaten and assimilated, the individual gains in weight. If the excess is not properly cared for by the organs of nutrition, disturbance will follow which usually becomes apparent at once. If, on the other hand, too little is eaten to allow for the activity, the store of body fat is drawn upon and weight is lost. "It is obvious that the proper standard for fuel value of the diet is that which will preserve the desired degree of fatness while sustaining the desired amount of activity," writes Dr. Sherman,\* and in another paragraph adds that the average of healthy men and women keep themselves slightly too thin while young and allow themselves to grow slightly too stout as they grow older.

While the high protein foods will furnish en-

<sup>\*</sup> Chemistry of Food and Nutrition, p. 218.

ergy, starch, sugar, and fat are the articles of diet upon which we rely for making up a large part of the calories needed. To depend upon meat, fish, and eggs for energy as well as for building material would mean an expensive diet, and, as pointed out above, one not conducive to good health. Fruits and green vegetables have only a low energy value. The starchy foods, which are chiefly the cereal products and the white and sweet potato, are perhaps the only high energy foods which can be used in very large amounts. Much fat, except in very cold climates, is likely to result in digestive disturbances. Too much sugar, particularly if taken alone, will also cause disturbances. A concentrated sugar solution is irritating to the stomach, and the amount the kidneys can properly care for is limited. Sugar contains no minerals and furnishes nothing except fuel. Used too freely, it is likely to displace other foods which would furnish both energy and iron. Hutchinson\* sets four ounces

<sup>\*</sup> Hutchinson, Robert: Food and the Principles of Dietetics, p. 281. New York, William Wood and Co., 1917 (4th Ed.).

per day as the limit of the amount which the average man can take. Mrs. Abel, in the United States Agricultural Bulletin,\* Sugar as Food, says that three to four ounces per day may be utilized to advantage by men at hard work. It is perhaps safest to keep well under these upper amounts. In children under-nourishment is so often traced to too much sugar in the diet that it is an ingredient whose amount should always be scrutinized. While two ounces per day will usually be borne without active disturbance by a child, a much lower daily average of consumption is advisable. A safe rule for the family dietary seems to be two ounces for each adult and one ounce for each child. (One rounded tablespoonful weighs an ounce.)

Studies of actual dietaries show that where cereals are not largely used the food is likely to fall too low in the amount of energy furnished. It is, therefore, well to use this class of foods liberally, particularly in the low cost dietary,

<sup>\*</sup> Abel, Mrs. Mary W. H.: Sugar as Food, p. 23 (Farmers' Bulletin). U. S. Department of Agriculture, 1906. Washington, D. C., Superintendent of Documents.

which is often deficient in number of calories furnished.

# (3) MATERIAL FOR REGULATING BODY PROCESSES

The neutrality or slight alkalinity of the blood must be maintained in order that the bodily processes may be carried on normally. On the proper balance of the phosphorus, lime, magnesium, sodium, and potassium in the body depends this alkalinity, and also the elasticity and irritability of the muscles and nerves.

Water helps to regulate the concentration of the mineral elements and to flush the system of waste through the kidneys. While water is to be had freely in almost any civilized country, it is by no means to be taken for granted that people, particularly children, will drink as much as they should without some attention to the subject.

Accessory Factors.—Besides the protein, fuel foods, minerals, and water, other substances called accessory factors or sometimes vitamines, of which little is so far known, seem to play an important part in the nourishment of the body.

These are essential to growth, and if they are not included in a child's food in sufficient quantity, its normal rate of growth cannot be maintained. The absence of vitamines from the diet of an adult is believed to be responsible for such diseases as beri-beri\* and scurvy.

In general, vitamines are present in vegetables, fruits, and milk, and the outer layer of grains, and absent in dried foods and cereals made from the inner part of the grain—polished rice, white flour, etc.

# SIMPLE RULES FOR REGULATING THE DIET

The dietetic standards which have been briefly summarized give the basis for simple rules of diet which even the most unlearned have no difficulty in following, and which will help them to avoid the mistakes most likely to occur when choice of food is restricted because of low income.

<sup>\*</sup> Beri-beri, a disease common in China among people fed largely on polished rice, is cured by the substitution of the unpolished, which contains the vitamines absent in the grain after it is refined.

# For adults:

One-half pint milk daily, more if possible.

Meat or meat substitute daily. Meat substitutes are eggs, fish, cheese, milk, legumes (beans, peas, peanuts), and nuts.

Meat or fish at the rate of about one-quarter of a pound per day for a man.

Two or three eggs, cheese, an extra pint of milk, or a generous service of dried beans, peas, or nuts may be used on the days when no meat is eaten.

Two to four ounces of sugar. (This includes the sugar in molasses, honey, syrups, etc.)

In addition, enough cereal, bread, potatoes, and fat to satisfy the appetite and maintain bodily weight while the necessary muscular labor is performed.

Vegetables or fruit. Use at least once a day, more if possible. It is well to vary the selection of vegetables, cereals, and fruits as much as possible and to choose bread and cereals made from the whole grain.

# For children:

At least a pint of milk daily—a quart wherever possible, particularly for those under seven years.

An egg daily or as often as possible.

Meat or fish, about two ounces for a child over seven, on three to five days of the week.

About one ounce of sugar—best taken in the form of molasses or fruit marmalades or jams.

Some fat—butter or bacon, if possible, but cottonseed or peanut oil, oleomargarine, or other butter substitutes

may be used, particularly if the full amount of milk with its quota of butter fat is taken.

Bread and cereal mushes in liberal amounts and generous variety, in order that consumption of this valuable food material may be encouraged.

Vegetables and fruit daily, of a kind suited to the age and digestive powers of the child\*; as much variety of choice as circumstances permit, in order that the total food consumption may be encouraged and the child trained in eating different food materials.

<sup>\*</sup> See Rose, op. cit., pp. 98-150.

#### V

# CHOICE OF FOODS

Contract to the prevailing impression, the choice of food materials is an even more important function of the homemaker than their preparation for the table. On the choice depends the content of the diet and its fitness to meet the physical needs of those for whom it is intended. Skill in cooking can make food materials more appetizing or even more easily digested, but cannot turn an ill chosen diet into an adequate one if some of the elements necessary to the nourishment of the body are not present in the food. Ill chosen materials, prepared with whatever skill, will not make an adequate diet.

Frequently the mother buys more expensive foods than her income allows. For example, she may choose none of the cheaper cereal products which can be bought in bulk, but only bread, rolls, cakes, and ready-to-eat breakfast cereals. Butter may be the only fat used; loaf or powdered the

only sugar; and the meat the most expensive cut. In this way the money for food may easily be exhausted, even when there is sufficient, without having secured enough milk, vegetables, or fruit. The mother is also likely to attempt solely to please the taste of the children. Not infrequently a widow falls into the habit of sending children as young as eight or ten years with a few pennies to buy a meal at "the store," only telling them to choose what they want.

The food must be chosen so as to meet the dietary standard required by the individual family. The factor which modifies most the choice of food required to meet a dietary standard is the amount of money that can be expended. On this depends the ease or difficulty of the task. Take the simple rules for regulating the diet outlined on page 89. With a generous allowance a wide range of choice would be possible from each division of food materials. The day's supply of high proteins, for example, may be meat, fish, eggs, or cheese—any or all of them, singly or in combination. The meat or fish may be chosen from a dozen different kinds and cuts according to the taste of those for

whom it is intended. The cereal products may include the products of any or all the different cereals prepared in numberless different ways. The various kinds of breakfast cereals on the market, for instance, have probably never been counted. Fats may be cream, butter, oils of various kinds, besides bacon and other meat fats. There are numberless varieties of confections and of fruit conserves, besides sugars and syrups, from which to make up the quota of sweets. To those who need not consider expense, our modern markets, even in the middle of winter, offer an abundance of fresh fruits and vegetables.

If, on the other hand, the income is so low that no more money can be spent for food than the amount actually necessary to secure an adequate diet, the greatest care must be used. The choice within each group of food materials has become greatly narrowed. Feeding a family on a minimum allowance calls for the combined knowledge of the scientist and the practical housekeeper.

One of the most serious difficulties which the visitor to the home encounters in her attempt to educate the housewife to a better choice of foods

is the limitation imposed by the habits of eating which the family has formed. All of us are more or less rigidly bound in the choice of our diet by the food habits which have been growing upon us since the beginning of life. For example, it is difficult to change suddenly from white bread to that made of rye or corn; a sudden change from hot bread to cold, or from cold to hot, creates decided discomfort. Most families keep within a very definite range of food materials. Where the income allows a margin, this range is sufficiently wide to make an adequate diet possible so long as the food supply is in normal condition. With scarcity of a few foods which take an important place in the dietary, say of wheat, meat, potatoes, eggs, even the well-to-do family suffers more or less inconvenience. Few, indeed, in any income group have arrived at a truly scientific attitude in regard to food, considering it primarily as a means of nourishment for the body, only secondly as a source of pleasure.

In the lower income groups experiment is prohibited not only by ignorance of food stuffs but by the fear of loss through the waste of money

spent, so that the range of choice is very narrow indeed. A frequent answer of the mother to the advice to train the children to eat an unaccustomed food material is—"Suppose they won't eat it, then I must throw it away and the money is wasted."

Those who observe for the first time the food habits of the poor are astounded that they refuse so many excellent materials. Knowing them to be badly underfed, they "would have thought they would eat anything." One woman serving at a church dinner given for children from a poverty stricken neighborhood related with astonishment that the children did not even eat the potatoes, which were mashed and served in a fancy shape. Doubtless the children failed to recognize their old friend in this strange guise. The appetite of the poor is not reached through the imagination —moreover, they take no chances. It is a curious fact that a strange-looking vegetable rouses no curiosity as to its flavor or other characteristics. A committee of women canning vegetables from the surplus of the New York markets in the summer of 1917 found that the women in the neigh-

borhood who were assisting would not take home the summer squashes which were offered them. After they had been cooked at the public kitchen and the women had tasted them, they became popular.\* The cooking teachers in the public schools, whose experience has brought them in contact with various classes of children, have learned that those from the poorest homes are the hardest to please in choice of dishes. Popovers, hailed with delighted interest by classes from liberally conducted homes, are often held in scorn by children of the poor.

During the winter of 1916–17, when potatoes rose to 12 cents a pound, onions to 20 cents, and cabbage to 22 cents, food riots broke out on the east side of New York. Indignant mothers attempted to dissuade all buyers, overturned push carts, and formed parades to the City Hall, where they demanded lower prices. The need for relief was very real. The elimination of these three

<sup>\*</sup> It is notorious that in many poor countries where mushrooms are abundant the people will not learn to eat them—and a farmer's vegetable garden is often the scantiest of the whole neighborhood.

vegetables meant a winter diet entirely without fresh vegetables, for these were the only ones many of them knew.

Wheat flour, made into bread and into macaroni and other pastes, forms almost always a large part of the food in a restricted diet. As the money available for food decreases, or as prices rise, an increasingly large proportion is spent for bread. This is because the housewife has learned by experience that, of the foods she is familiar with and which her family will eat in large quantities without protest, bread "stays by" or "gives the most strength" in proportion to money spent.

It is, indeed, quite literally the staff of life in these families. During the winter of 1916–17, with its abnormally high food prices and corresponding suffering among the poor, the amount spent for bread was frequently 50 to 70 per cent of the total expenditure for food—sometimes as much as a daily average of 10 cents' worth of bread for each person. The visitor who received from a family of nine a list of food expenditures that contained \$1.00 per day spent for bread,

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could not believe that the family could possibly eat so much. Yet a calculation of the fuel value of all the food on the list indicated that the diet had contained only about three-fourths enough calories to meet their needs. In many other families no other cereal product than wheat is known, though Irish, Poles, and Germans will eat rye bread, while families from the southern part of the United States will often use cornmeal as the basis of their diet in the same way that wheat breads are used by other groups.

If cereal is suggested for Tommy's breakfast, the mother may reply, "My children won't eat oatmeal." This is the only meaning the word suggests, unless the family has learned, as many have, to eat the prepared breakfast foods, usually corn flakes or puffed wheat, which are likely to gain immediate popularity, and to make the introduction of the cheaper and more substantial cereals difficult.

When Mrs. McGuire's money would no longer provide meat for the entire family, she bought a bit of steak daily for her husband, "for a man cannot work without meat." Chops and steaks

are the most popular cuts of meat, used not so much to save fuel and the housewife's time as because they are demanded by the man. Stews, more or less savory according to the skill of the cook—sometimes very good ones—are well known in practically every family, and not infrequently meat is served in no other way.

Butter is too frequently the only fat used. This means that as the money for food grows less in proportion to its buying power the amount of butter lessens or disappears and nothing takes its place. When the family is reduced to the fat eaten with the meat, which is often decreased in quantity at the same time, a diet too low in fat results.

Sugar and the various syrups are the most common form of sweets, though molasses, which is far preferable because of its mineral content, is commonly used in the southern part of the United States.

Breakfast and one other meal in the day are all too likely to consist of bread or rolls, or sweet cake alone, with coffee. This breakfast is the same for children of all ages as well as for adults.

Eggs, bacon, or steak may be added in a period of prosperity. The typical dinner is meat, potatoes, bread, and coffee. Onions are used chiefly for flavoring, but cabbage is frequently added as an extra vegetable. Additional money to spend for food frequently goes into more expensive cuts of meat, sweets and pastry from the bakery, pickles and catsup, raising somewhat the fuel value of the diet, but leaving it hardly less inadequate in most respects than before.

Milk is looked upon as a beverage and is a less popular one than coffee or tea. It is considered by the family to be desirable for very young children, but no longer really necessary after the second year. "The children are all old enough to do without milk," said one mother of children aged four, six, eight, and ten years. One of the first cuts to be made when retrenchment is necessary is to reduce the amount of milk or leave it out entirely. Frequently, canned milk only is used. The mother considers this cheaper because she can make it go further. She reasons that a 12-cent quart of milk will ordinarily be used at one meal, while the 14-cent can of con-

densed milk will serve in the coffee for a whole day. Its keeping qualities also recommend it, as in smaller families one can will last for several days. It is difficult for the untrained mother to believe that the canned milk is really more expensive than the fresh in proportion to its actual food value.

Coffee and tea are universally used and almost universally given to the children, frequently in unlimited quantities. Each child old enough to accomplish it helps himself at will at any time during the day to the contents of the coffee pot that stands all day on the stove. During an early morning visit to a Polish widow with three young children a four-quart coffee pot full of coffee and a two-quart metal pitcher of tea stood on the stove. It was the day's supply made in advance. A German woman was found by an infant welfare nurse feeding coffee to her three-day-old baby from the nursing bottle. A twelve-yearold ward of the Chicago Juvenile Court was in the habit of drinking nine to twelve cups of coffee daily. It is well to remember that such food habits may have their part in causing juvenile delin-

quency. Dr. William Healy, in The Individual Delinquent,\* says: "It is perfectly clear that the unsettling of the nervous system which occurs in young people by the excessive use of these stimulants [coffee and tea] is a direct factor making in many environments for delinquency." Also, "disgust with school work or with steady employment follows naturally from bodily weakness caused by inadequate food."

Beer is, almost universally, a part of the workingman's daily consumption and meets with no reproach. A "drinking man" is applied only to one who sometimes gets drunk. "A workingman must have his pint" is an expression which can be stretched to two or even three pints without his wife or his acquaintances considering him a drinking man. The workingwoman may also consider the pint her right. Not infrequently beer or light wines are given to children. Teachers report cases in which the children have come to school distinctly under the influence of liquor, but these cases are comparatively rare.

<sup>\*</sup> Healy, William: The Individual Delinquent, p. 280. Boston, Little, Brown and Co., 1915.

So much for the characteristics of a restricted diet more or less common to all the various nationalities which the home visitor is likely to encounter. There are, however, distinctive preferences and prejudices peculiar to each of the foreign groups which should be understood by any worker who aims to influence their habits and choices.

The woman who comes an immigrant from a foreign country has heavy handicaps in her ignorance of the language and customs of the country. Bewildered by the difference between her peasant cottage and the city tenement in which she finds herself, she clings desperately to such remnants of her old life as she can. If she can buy, from shops kept by her own countrymen, food materials imported from her native country across the sea, she is willing to pay the heavy additional cost necessary. If she can live in a settlement of her own people and not venture out into the perplexing unknown world around her, she is content to learn nothing of the English language. We find Italian or Slavic women who have been twelve years or more in America who

speak no English and have profited nothing by such opportunities as were open to them. They have lost much in leaving their old life, and it is hard to see that so far they have gained anything to replace the loss.

Of the foreign groups found in large numbers in the United States, the Italians have the most distinctive diet, since not only are the methods of preparation peculiar, but many of the food materials are different from those used by other peoples. Wheat bread, macaroni, and other pastes, with farina—all wheat products—are used in large quantities. Rye bread is eaten by some families, and cornmeal is known to those from the southern part of Italy, but the latter seems to be employed only in small amounts, and frequently to have fallen entirely into disuse. Other cereal grains, such as oats, are considered food for animals, not for human beings.

The Italian family is content with very little meat, sometimes none at all. The cheaper cuts of beef chiefly are used, although pork chops are popular. Instead of meat, dry Roman cheese was eaten almost daily in most families before war

prices became prohibitive. Fish and eggs are popular, but milk is used in even smaller amounts than in most other families. One pint daily for a family of five or six children is not unusual. This peculiarity is ascribed by some workers to the difference between the cow's milk available here and the goat's milk to which they are accustomed in Italy. Some families are said to pride themselves on the fact that they have never bought milk in America because it is so inferior to that to which they are accustomed.

Their diet is, however, rich in vegetables, including many varieties of greens peculiar to themselves as well as those found in other markets. It is surprising that they know carrots only as flavoring, parsnip and rhubarb not at all, while artichokes are used at least occasionally even by the poorest families, as is also cauliflower. However, the family in the Italian district does not pay the fancy prices for these luxuries that are customarily paid. The dealer has usually bought them at bargain prices. The proprietor of a small grocery in the neighborhood of Hull House may be seen late each day returning from his trip to the

wholesale market at South Water Street with a load of green vegetables whose first freshness is obviously gone. When they are displayed on the pavement the next morning, however, they make a brave showing in the renewed crispness his process of freshening has given. He lives in the rear rooms of the building, and his wife takes care of his business in his absence. There are no deliveries. He can easily sell much cheaper than the American grocery a few blocks away. He will sell you imported olive oil also, either in a can or loose from the barrel, at about 20 per cent less than you can buy it elsewhere. This oil is the chief form of fat used by the Italian families, though lard is employed in cooking, and they sometimes buy butter.

To the Italian also fruit means little else than oranges, bananas, and apples, although his shop will contain figs—to be eaten raw—and dates. Prunes are the only other dried fruit commonly used, but the dried black olive makes a valuable addition to the diet.

The dietary of the Italian laborer when at its best is rich in variety. Because of his fondness

for vegetables and fruits, it is high in mineral salts other than lime, which the small amount of milk he consumes probably leaves deficient. If there is sufficient food to meet the requirements for energy, there will also be enough protein to meet the modern dietetic standard, as the bread and macaroni are made from the hard flours with a high protein content, and the cheese contains a large proportion.

At its worst, however, as it has become in many families of low paid workingmen since war prices have prevailed, the Italian family dietary is decidedly deficient. When the price of Roman cheese became prohibitive at \$1.35 per pound, especially after most grocers refused to sell less than 25 cents' worth, it was simply left out in most cases, with no substitute provided, as the families had not learned to use American or store cheese, which was selling at 30 cents per pound. The customary diet became in many families, during the winter of 1916–17, two meals of bread and coffee, with macaroni and white beans for the third meal, and meat and vegetables for only very occasional use. A diet as restricted as this

is practically certain to result in too little food being taken, even though the supply were sufficient. Who could go on eating bread, beans, and macaroni day after day and take enough to meet the needs of the body? Even if this were accomplished, there would still be a deficiency in mineral salts, a lack of vitamines, and an excess of acid-producing foods.

Although the Italian dietary at its best is reasonably well adapted to adults, it is even then woefully ill adapted to the needs of the little ones, who so often, in this as in other foreign groups, are given exactly the same food as their parents. Little Louisa, referred as a case of under-nourishment by the school authorities to a society which furnishes dietetic instruction in the homes, was found to belong to a family of six with an aggregate income (from the father and two working children) of over \$30 per week. The home had a comfortable appearance and there was no apparent effort to save unduly on food expenditure. During the first interview the mother seemed interested in the child's need for special diet, which was emphasized by the dietitian, and

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promised to add an egg to her breakfast. The child herself agreed to drink two cups of milk daily despite her professed dislike for it. Before the next visit, however, a decision had been reached by family council or parental decree which caused the mother, in spite of an obvious reluctance to appear discourteous, to settle the whole matter with "Louisa eats what the family eats," and Louisa excused herself from performing her promise about the milk, "I eat what my family eats." In this and other cases observed there even seemed to be in the minds of the parents a principle involved. The children must not be spoiled by the undue indulgence of having any dietary concession made to them.

The Polish diet differs from the American less than the Italian, as its differences lie chiefly in the manner of preparation of food. When some cooking demonstrations for Polish women were being planned, a Polish woman interested said, "Whatever you do, make it taste Polish. Put cabbage in."

They are perhaps the heaviest meat eaters of all the groups. It is not unusual for the Polish

laborer to order his landlady, who gives him a bed, does his washing, buys and cooks his meals—all for \$2.00, \$3.00, or \$4.00 per month—to buy a pound of meat for his dinner. Meat also probably figures in both of his other meals, frequently in the form of sausage. The bread is partly rye and partly wheat, and some macaroni is used, but almost no other grain product. Vegetables and fruits are little eaten, and as Poles do not care for several foods cooked together, even stews are likely to be free from vegetables.

The following three days' expense account from a Polish family consisting of man, woman, and four children, is typical in its restricted variety and high meat content of the food habits of many families:

Friday		Saturday		Sunday	
2 breads	.15	2 breads	.15	bread	.10
1½ biscuits	.18	1½ biscuits	.18	pie	.14
2 quarts milk	.16	2 cakes	.13	cakes	.30
½ doz. eggs	.15	½ lb. butter	.18	spaghetti	.10
½ lb. cheese	.15	2 quarts milk	.16	bacon	.IO
6 herrings	.30	$2\frac{1}{2}$ lbs. sau-		pork roast	1.19
ı pk. pota-		sage	.38	pork sausage	.30
toes	.36	pork chops	.30	tomatoes	OI.
2 lbs. coffee	.60		.15	cucumbers	.15
		pickles	.10		

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It is evident from the foregoing pages that whatever may be the national or individual peculiarities of the family whose standards the home visitor is seeking to improve, in almost all cases such mistakes as the following will need to be corrected:

- 1. The diet too restricted in variety.
- 2. Not enough milk.
- 3. Too much tea and coffee—the children sharing in it.
- 4. Too much meat, or at any rate more than is necessary.
  - 5. Too much sugar.
- 6. Too few vegetables and fruits, their places often being taken by pickles and relishes.
  - 7. Too little fat.

To the correction of these errors, then, the home visitor should especially address herself. The primary need will be to enlarge the variety of the diet. In cheap dietaries this is the more necessary because the choice is greatly limited. There are, however, several possibilities for enlarging the variety without increasing, sometimes even as a means of decreasing, the cost. This

principle of increasing variety should be applied to the choices within each group of food products—the high protein group, the fuel group, and the group whose special importance is in the salts, vitamines, etc., which they furnish.

It is well to provide first of all for the quantity of milk considered desirable, as this is the most important article of food in the diet of growing children. As suggested on page 89, at least one pint of milk should be provided for each child daily, and one-half pint for an adult. The choice in other high protein foods will be limited to the cheaper cuts of beef, mutton, and pork, cheaper kinds of fish and cheese, with eggs, except for children and invalids, only occasionally save in the seasons when the price falls as low in proportion as the cheaper cuts of meat. One-half dozen eggs are counted as the nutritive equivalent of one pound of meat. The legumes, dried beans, peas, and peanuts, can be depended upon to furnish the high protein food one or more days in the week. It is important that these be chosen in as great variety as possible in order to help break the monotony of the diet. All of the kinds avail-

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able in the locality should be used occasionally. This not only gives variety to the diet but enables the housekeeper to choose those which happen to be cheapest at the time she is buying. Instead of always using navy beans, for instance, the mother should teach her family to eat kidney, lima, black, and Brazilian beans, and green and yellow split and whole peas, with such additional kinds as are available.

Cereal products must, in a cheap dietary, be depended upon to furnish a large proportion of the energy value of the diet, as these give the highest number of calories in proportion to cost. Instead of bread, rolls, and other delicatessen products alone, there are usually at least a half dozen cereal products on the market which can be bought in bulk at about one-half to one-fourth the price of the foods they displace. Studies of low cost dietaries have shown that failure to meet the energy requirements of the family is very frequently associated with scanty use of cereals. It is, therefore, wise to urge their consumption in as large and varied a quantity as possible for families which show signs of under-

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nourishment. But even here the choice must be more or less limited. All of the cereal grains wheat, corn, rye, barley, and rice—are within the reach of the woman who wishes to feed her family on a minimum allowance. She must, however, forego elaborations of these materials. Most of the breakfast cereals, particularly the prepared ready-to-eat kinds, "package goods," furnish far less for the money than those sold by the pound. In most cases these latter will be oatmeal, cornmeal, hominy, farina, barley, rice, and cracked wheat, to be used in soups, stews, and puddings, as well as in the morning's porridge or mush to be served with milk or syrup. Graham flour also makes an acceptable mush. The cost of fuel needed in cooking these cereals as mush will add somewhat to the cost during the time of the year when a separate fire is necessary for the purpose. During eight or nine months of the year, however, this need not be considered, as the same fire which warms the flat can be utilized for cooking.

In fats the difference in cost between different kinds of approximately the same energy value is

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very great. One pound of butter or of oleomargarine yields about 3,000 calories, but the oleomargarine costs about half as much. One pound of lard or of suet yields about 4,000 calories and costs one-half to one-third as much as butter. Olive oil at customary prices is about equal in price per calorie to butter, while cottonseed oil may be compared with oleomargarine. Butter contains, however, a part of the vitamines of the milk from which it is made, so that other fats are not "just as good," particularly for the growing child. If his diet contains one pint to one quart of milk, with its proportion of butter fat, butter may be replaced by the cheaper fats, enough of which are better than an insufficient amount of butter.

The restriction in the choice of vegetables and fruits is perhaps greater than in any one division of food stuffs. During the winter months the only vegetables that usually can be added to the cheap dietary are the root vegetables—carrots, parsnips, ruta-baga, turnips, cabbage, onions—besides the potato and sweet potato. These may be supplemented by dried vegetables which no

doubt will come into more general use during the next few years and be more generally available at a low cost. Canned vegetables are usually prohibitive at regular price, with perhaps the exception of the tomato. During the summer months this list may, of course, be enlarged by a number of fresh vegetables in each season. In most localities lettuce, spinach, kale, and other greens, string beans, green peas, come within reach for several months during the year. Rhubarb is very valuable during the spring and summer months. In the winter the fruits must be largely dried fruits, except during the fortunate years when apples remain cheap until late in the winter. "An apple a day for every child" is an excellent health rule and can be followed by the housewife on low income so long as apples can be bought at 35 cents a peck or less. Above that the dried fruits are preferable for regular use. A variety of these are available besides the commonly known prune. Dried apples, apricots, raisins, currants, figs, dates, all give fairly good value in energy in proportion to the money spent, besides adding mineral salts to the diet.

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During the summer there are frequently periods when the supply of berries, plums, peaches, grapes, or other perishable fruits bring them within the reach of the lowliest buyer. Bananas at the price at which they are commonly sold, about 5 cents per pound, are a fairly good investment as an energy producing food. They have a fairly high caloric value because of the starch and sugar, but the mineral content is not so great as that of most other fruit. In the diet they should perhaps be considered as a substitute for potatoes rather than for apples, a pound of bananas yielding 290 calories, while a pound of potatoes contains 300.

Many attractive forms of sweets cannot enter into the choice of the woman who has only a minimum allowance for food. Sugar gives a large number of calories in proportion to the money expended, and if it were not for the tendency pointed out on page 85 to let it displace foods furnishing iron and other minerals, it would be one of the chief articles of the cheap dietary. Where molasses can be obtained at a low price, it can be used with less danger than refined sugar.

One of the safest and best ways of including sugar in the diet is through home-made jams and marmalades made from the whole of the fruit.

In the matter of choice of food, then, the chief functions of the visitor to the home may be thus briefly summed up. She should teach:

# From the Standpoint of Nutrition

- 1. The importance of extending the variety of foods purchased, in each class of products, to the utmost extent possible, as a means of increasing the attractiveness and healthfulness of the diet.
- 2. The place of milk in the diet, bringing up its consumption to at least the minimum standard suggested on page 89.
- 3. The effect of stimulants on the growing organism, breaking the habit of coffee and tea drinking for children.
- 4. The place of meat and the foods that can be substituted for it. Where there are young children, the amount of meat can usually be reduced and that of milk and eggs increased. In localities where fish is cheaper than meat, its use may be increased.
- 5. The place of sugar and the dangers of its overuse. How to reduce the amount used by substituting in part molasses and combinations of sugar with fruit in jam and marmalade.
- 6. The importance of fruits and vegetables in the diet and the necessity of augmenting the quantities used.
  - 7. The importance of an adequate amount of fat, in-

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creasing the quantity where necessary by the substitution of cheaper kinds for the butter or olive oil being used.

8. The importance of training children while young in good food habits and the responsibility of the mother for this important part of her work.

# From the Standpoint of Economy

- 1. Cereal products are the foods which give the largest returns for money spent. The different kinds—raw—are about equal to one another, pound for pound.
- 2. The housekeeper pays well for every bit of work done on the food she buys. The baker or the manufacturer of cooked and otherwise elaborated food stuffs gets his pay for the work and the advertising done by raising the price of his product. Examples: ready-to-eat cereals, boiled ham, jelly, loaf sugar, canned goods. The cheapest way in which to buy food materials is in their simplest form, raw, for home preparation.
- 3. Food stuffs in packages cost more, not only because of the cost of the package, but almost always for advertising as well. Many foods sold in packages can safely be bought in bulk from a reliable dealer. Examples: cereals which require prolonged cooking, dried fruits which can be washed before cooking.
- 4. In choosing meats for economy the amount of refuse must be considered as well as the cost per pound. The cheapest is that which gives the most lean meat in proportion to money spent, as a pound of lean from one cut is approximately equal in food value to a pound from any other.

5. What is called "quality" by food dealers is often based upon flavor, beauty, or other elements of attractiveness, instead of on nutritive value. Examples: small grain or broken rice is equal in food value to an equal weight of rice with large, even grains; expensive cheeses, valued for their flavor, are not superior in food value to cheaper ones; olive oil is not higher in nutritive value than cottonseed or peanut oil.

#### VI

# PURCHASE, PREPARATION, AND SERVING

### PURCHASE OF SUPPLIES

THE mother is frequently found buying supplies, not only food and fuel, but household supplies as well, each day in amounts to last for the day only. She is paying in this way a much higher rate for her staples than would be necessary if they were bought in larger amounts. Coal by the pail has been found on weighing to cost one and one-half to two times as much as when bought by the ton. It is desirable not only to establish the habit of choosing suitable food material within the scope of the amount of money to be spent, but to buy in the most advantageous manner. This practically always means buying in as large amounts as storage facilities and the nature of the material permit. The beginning can usually be made in a weekly bill of staples sugar, flour, rice, cereals, etc.—when the money

comes in; later, plans can be laid for longer periods. Even when the money comes in at short intervals, with more or less irregularity, as when the mother does day's work, it is possible to plan purchases for the week or month. In normal times the winter's coal, wherever there are storage facilities, can be bought during the summer when living expenses as well as the price of coal are lower.

It is often necessary to work out with the mother careful and far-reaching plans for extricating her from the clutches of the corner grocer from whom she has long bought "on the book" and to whom she may be deeply in debt. If the grocer is an Italian or Pole, probably the only account he gives his customers, many of whom are completely ignorant of arithmetic, is a row of figures in a blank book. Thus,

.69 .85 1.20

.28

The prices charged are necessarily high, as many of these accounts are never paid in full and it is

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not unusual for the grocer to carry a family from three to six months during a period of unemployment or illness, expecting to get his money in bits after the man goes back to work. Moreover, too often the grocer in the poorest neighborhood has nothing in stock that his customers can really afford to buy. His shelves are covered with canned and highly advertised package goods, mostly in the smallest sizes, whose price is comparatively highest. In one such store the writer was told by the proprietress that this was the only type of goods she could sell, but that she herself could not afford to use it even at wholesale prices. There is often within walking distance, though entirely unknown to the mother, a cash market where prices are lower and choice is better.

## PREPARATION OF FOOD

While, as was said in the preceding chapter, the right choice of food materials is even more vital to the welfare of a family than skill in their preparation for the table, it nevertheless remains true that the observance of certain elementary rules

of cooking is essential. An inadequate or ill balanced assortment of materials cannot be made into an adequate, well balanced diet by any degree of skill on the part of the housewife; but it is also true that a well chosen assortment may be rendered not only unattractive but positively injurious by the manner of its preparation.

It is essential that the preparation of food render it wholesome, which it will be if clean, well cooked, and sufficiently attractive so that enough will be eaten to meet the needs of the body. Unnecessary elaboration of materials is not only a doubtful disposal of time and effort, but often serves to defeat the object of their preparation by making them indigestible and unattractive.

In the preparation of food the errors most commonly made result in bread that is sour, soggy, or underdone; cereal only partially cooked; meat and eggs toughened in the cooking; potatoes soggy; green vegetables prepared so that the juices are lost.

The instruction needed to correct the mistakes listed will cover a reliable process of bread-making if it is thought best to continue home baking.

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The desirability of this depends upon the mother's physical strength, the extent of her time at home, and the standard of cleanliness she is able to maintain. Where she is not earning but is kept at home by the care of her family and is capable of baking wholesome bread, it will pay her to do it, as the raw materials usually cost considerably less than the baker's loaf. Arrangements may need to be made for a stove that will bake before this is possible.

Directions for cooking processes may be given orally, or by means of printed or typed recipes. Sometimes a demonstration is necessary.

Application of Heat to Food Materials.—Milk is best taken raw—cooking it destroys part of its vitamines, causes a small loss of its nutrients, and renders it slightly less easy to digest. Heating it is desirable only when bacteria must be destroyed. If it were possible always to have milk sufficiently clean so that it would be safe to use raw, as is the case with certified milk, it would be much more desirable.

Cereal products contain starch surrounded by

hard cellulose walls. These cell walls must be softened and the starch thoroughly cooked in order that they may be easily digested. In cooking cereal mushes the length of time of cooking is the important part of the process.\* In bread, care must be taken that it is light and well done and the process managed in short enough time so that the dough will not sour before it is baked.

High protein foods derived from animal sources—meats, fish, eggs, and cheese—contain proteins which are rendered tough and difficult of digestion by a high degree of heat. Therefore, the temperature at which these food materials are cooked is the most important point involved. The temperature for cooking eggs and cheese should always be low enough to prevent toughening. In broiling and baking meat and fish a high heat is used to harden the outer crust in order to preserve the juices that might otherwise be lost. In treatment of tough meat, where the hard fibres must be softened, a low temperature must be applied for a long time, so we have long

<sup>\*</sup> See Appendix B for list of cooking periods required for different cereals.

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cooking for tough meats and short cooking for tender meats. The success in each case depends chiefly upon keeping the temperature from running too high.

Legumes, like cereals, must be cooked long enough to soften the cellulose walls and cook the starch which forms a large proportion of their content.

Sugar needs no heat.

Fats should not be subjected to a heat high enough to bring about decomposition in which acids irritating to the stomach will be formed. This happens when the fat in a pan smokes and browns.

Vegetables vary in the toughness of the cell walls and in the proportion of starch. The ones which contain no starch and whose cell walls are sufficiently tender to be easily masticated and digested without cooking are best taken raw, as this preserves the vitamines and minerals complete. Lettuce, celery, cabbage, cress, and other vegetables of this class—even tender young turnips and carrots—can be dressed with salad oil and served without any application of heat.

Where it must be applied in order to soften the wall of cellulose or cook the starch, as in the case of potatoes, parsnips, green beans, etc., care should be taken to avoid the loss of the juices which contain the valuable minerals. Baking and steaming are excellent processes, as they reduce this loss to a minimum.

Fruits in general need no cooking, but when dried the water needs to be replaced and the tissues softened by long soaking or slow cooking.

Necessary Cooking Operations.—A woman who understands these fundamental principles of food preparation and the use of one or more leavening agents for making bread, and who can handle food materials and a stove, will be able to supply the family dependent upon her with the food necessary to keep them in good health, for she will know how:

- (1) To turn out a light, sweet loaf of bread thoroughly baked.
- (2) To cook cereal mushes until they are thoroughly done.
- (3) To broil, roast, stew, or braise meat and fish so as not to toughen the protein or waste the juices, but to

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soften the tough fibres where this is necessary; that is,

- (a) To cook tender cuts without toughening.
- (b) To cook tough cuts and make them tender.
- (4) To cook an egg without toughening.
- (5) To bake, boil, or steam vegetables without losing their juices.
- (6) To bake or boil a potato so that it will be tender, dry, and mealy.
- (7) To cook dried vegetables or fruit so that the water will be replaced and the hardened tissues softened.

If the family insist upon use of coffee and tea, she will need to know how to prepare these without an excess of caffein or tannic acid.

With the aid of the food materials that can be used without cooking—milk, butter or butter substitutes, fruit, green vegetables, nuts, and cheese—a considerable number of menus is possible, using no more than the cooking operations listed above. However desirable additional culinary skill may be, the above processes will, under ordinary circumstances, furnish the food necessary for preserving the health of a family in normal physical condition.

#### ESSENTIALS IN SERVING FOOD

The regularity of meals and the eating of them in common are perhaps the most essential elements of food service. Probably no one other custom influences so greatly the development of the social life of the family as that of sitting down together at meals. This is usually the one time in the day that all members of the family, with minds free from outside disturbances, can devote to social intercourse with one another. It is by no means a universal custom for families to sit at meals together. Mr. Minor comes home from work at noon carrying a paper sack full of bologna sausage and another one with a loaf of bread. He sits down and cuts off a "hunk" of sausage with his pen-knife and hands it to the child nearest him. The child breaks for himself a piece of bread from the loaf and goes wherever his fancy dictates to consume the food. At the Lenskys the children coming home from school at noon pour for themselves a cup of black coffee and rummage through the pantry to see what they can find to eat with it. In many homes there is

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not even the equipment for sitting at a family meal.

Regularity of meal time is recognized as being one of the most important assets to good digestion. Almost all physicians who specialize in infant feeding insist upon the strictest regularity of feeding times. Yet Mrs. Smith reassures all who inquire about the food of her undergrown anemic children: "Why, they have awful appetites, they eat all the time." This is literally true. The children are seldom seen without a piece of bread or a sweet roll in their hands. Consequently, no full meal is ever eaten and the food consumption of the day is probably lower than the child's real requirement.

#### VII

# HOUSING AND HOMEMAKING

WHILE health and dietary standards, and the principles of choice and preparation of foods based upon them, have been given a prominent place in these pages, it must not be supposed that it is with them alone that the home visitor is concerned. Indeed, many of the examples already cited will have made clear that her relation to the life of the family she is called upon to visit is an all-round one. No feature of their environment, no phase of their common life which seems to be working against the upward movement she is seeking to encourage, should be regarded by her as outside her province.

Oftentimes it will be obvious that the housing conditions to which the family are subjected are dangerous to health or render a wholesome home life impossible. Fortunately, campaigns for better housing and better sanitary conditions have

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given us a basis of concrete fact to aid us in formulating our housing standards.

## STANDARDS OF HOUSING

All the legal standards in American cities are compromises with abuses which have been allowed to grow unendurable. We cannot yet hope from them the formulation of a standard which we can accept as entirely satisfactory. The housing codes of New York and Chicago abolish the totally dark bedroom common before they were adopted, but permit use of the same room after an opening has been cut into it from one adjoining, which contains a window. Though the last state of such a room is far better than its first, it cannot yet be considered a sleeping place conducive to good health. These codes forbid the former yard privy, but leave the watercloset used by two families, with its opportunity for spread of disease; they permit so large a part of the lot to be covered by buildings that only the street is left as a playground for children; and a long, tortuous, ill lighted passageway, with its

possibilities for unwholesome moral conditions, is still possible.

An experienced case work supervisor gives this excellent suggestion to workers inspecting rooms with a view to deciding on their desirability for a family dwelling. "Do not accept rooms in which you yourself would not take the responsibility of bringing up these children. If you could not make them healthful and home-like, do not expect it of a woman presumably less capable than yourself."

From this point of view we should probably agree that the rooms must be above ground, and well lighted and ventilated by windows that open into the outdoors—not on a court or shaft—and that admit sunlight as well as air; that freedom from vermin be possible (it is not if there are cracks in the plastering and around the doors and windows where they can breed in hiding); that the rooms be in a good state of repair, well provided with good water, and with toilet facilities for the family alone; that the approach to the rooms be light, clean, and free from interference by others; that there be play space for children,

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either on the premises, where the mother can overlook their play, or in a supervised playground. It is safe to say that not less than four rooms will answer the requirements of the family of average size and this only when the children are small. Dr. Oskar Pfister, in the Psychoanalytic Method,\* warns parents against the danger of mental disturbance in allowing a child to share the sleeping room of his parents after his first year. Three bedrooms, if there are children of both sexes, will be required even in a small family. For the living room a combination of kitchen and sitting-room may meet the needs of a family with very young children, but the natural expansion of social life as the boys and girls grow older may make a fifth room necessary. A pleasant sitting-room is a potent factor in preventing adolescent boys and girls from seeking all their pleasure on the street, or in the dance hall and pool room. It may also prevent the father from seeking his at the corner saloon.

<sup>\*</sup> Pfister, Oskar: Psychoanalytic Method. Authorized translation by Dr. Charles Rockwell Payne, p. 562. New York, Moffatt, Yard, and Co., 1917.

So important are the home conditions, particularly the sleeping arrangements, that in cases of juvenile delinquency or where a boy or girl is staying out late at night, it will be well to take careful note of them. A widowed mother complained to the Juvenile Court that her two sons of thirteen and eleven were staying away from home nights. The boys were found in the sleeping-room furnished by one of the daily papers for the newsboys who went out with the early morning edition. The bed on which the boys slept when at home had no springs and the thin, ragged mattress was supported by four slats lying across the bed. The time when the springs on the bed had broken down coincided with the beginning of their sleeping away from home. Another mother complained to the agent of a charity organization society that her twelve-year-old boy was becoming unmanageable and staying out at night. He had always slept with the grandmother, and this arrangement had not been changed as the boy grew older.

In Slavic families particularly, boys and girls as old as twelve will sometimes be found sleep-

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ing together. A boy who has sisters only will frequently not be given a room of his own even after he starts to work, but will share that of his sister or his parents.

Nor must we forget, in passing on the fitness of a dwelling, the clothes closets which make proper care of the clothing and order in the rooms possible; wherever possible the well ventilated pantry for the preservation of food and household supplies; the shed in which fuel can be stored in order that the family may not be confined to the financially disastrous custom of buying coal by the bucket.

The removal of a family from a dark, ill smelling basement to clean, well ventilated rooms is frequently the work of months. The mothers' pension department of the Chicago Juvenile Court, which insists upon clean, bright rooms above ground for its wards, frequently receives protests from friends, aldermen, and judges, as well as interested landlords, against its cruelty in insisting upon the removal of a family from rooms in which they have lived contentedly for years. The moving once accomplished, the de-

light of the family in a sunny kitchen or in a yard knows no bounds.

## STANDARDS OF HOUSEHOLD EQUIPMENT

The modern well-to-do housekeeper who is in touch with the educational facilities which mean easier ways of meeting her daily problems has been for some years in the habit of demanding good tools for her work. But while hardware shops are piled with labor-saving household machinery, the home of the workingwoman is often bare of the most primitive tools. Some of these women are extraordinarily clever at making things "do."

A floor can be swept clean with the stub of a worn-out broom; but with infinite pains. Many of us have seen a shining whiteness of table and floor achieved with much labor, a very little soap, and a worn-out brush; but no way has been devised of making cracked and chipped dishes and battered cooking utensils sanitary, particularly with a scanty supply of soap and hot water, a leaky dish-pan, and no towel. Restful sleep cannot be obtained when the bed must be shared by

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three other human beings, even though they be one's own children. If springs are broken and the mattress worn into knots, if there are no sheets, and only one thin comforter, supplemented by coats and wraps for the coldest nights, the chances for rest are still less. A family meal cannot be arranged if there are not enough chairs or plates or knives to go around, or if there is no table large enough for all to sit down to at once.

For the home conducted in the simplest possible manner at least the following list of household furnishings and furniture will be needed:

# For Cooking and Eating

- (1) A cooking stove or range in good condition.
- (2) A table large enough to accommodate the whole family and a chair for each person. The shining cleanness of a bare wooden table or a white oil-cloth covering may make it pleasant to eat at, if the use of a cloth seems impracticable, but a doily, even if only of coarse muslin, will heighten its attractiveness.
- (3) Utensils in good condition for simple cooking operations: often one large kettle for soups and stews; two or three smaller ones for vegetables, cereals, etc.; a baking dish; a baking pan; a muffin tin; frying pan; coffee pot; and a few knives, forks, and spoons, can be made to answer all purposes, if more is impossible.

(4) Dishes—unchipped and uncracked—enough for individual use: plates, cups, knives, forks, and spoons. Also a few bowls, some vegetable dishes, a platter, pitchers, drinking glasses, and sugar bowl.

# For Sleeping

There need be beds enough so that no more than two persons share the same bed. Each bed should be furnished with a good mattress, two pillows, linen enough for cleanliness, and coverings enough to permit open windows at night. This means at least three sheets, four pillow cases, a comforter, a double blanket—more in some climates—for each bed. The sheets and pillow cases can be made at home of unbleached muslin.

# For Laundry Work

Two zinc wash-tubs, if stationary ones are not furnished; one wash-boiler; one wash-board; one wringer; two or three smoothing irons or a gas one; ironing board; clothesline and pins.

If no more space than a shelf or two in the pantry is available for storage of food materials, enough flour, sugar, rice, cereals, and other staples for a week or more can be stored in a dozen glass jars with tight lids. A tin box or crockery jar is needed for bread, and a larger one

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for flour, if baking can be done at home. A wash-boiler is often used as a bread-box tin. The pantry shelves should be within easy arm's reach and should be made as attractive as possible as it is of the greatest importance that they be kept clean and free from vermin. Decorative pantry paper, if it appeals to the family's sense of beauty and fitness, is sometimes a wise expenditure out of even a slender income. From a sanitary standpoint a clean shelf of wood, bare or painted, or one with oil cloth tacked on, may be preferable.

A window refrigerator may be made of any kind of wooden or metal box fastened to the outside of a window, arranged with the open side toward the house. A paper lining will make it dust-proof, and it will keep milk, fats, and similar foods at a suitable temperature except in hot or very cold weather. In hot weather if there is a young child whose milk must be kept cold some provision for the use of ice is necessary. This may be a tight wooden box with paper used for packing if a refrigerator is impossible. Cooling by evaporation can be used in dry climates by

keeping a wet cloth around the bottle of milk or water set in a shaded place.

A sewing machine, even if bought on the installment plan with weekly payments of 25 cents, is an economy for almost any woman of average ability bringing up a family of children. The use of the machine will save more than this amount in clothing for the family and in keeping up the household furnishing.

Windows must be provided with blinds or curtains, as the location makes necessary, in order to preserve the privacy of the family.

# EQUIPMENT FOR THE CARE OF CLOTHING AND PERSON

Friction in the home life is often caused by lack of sufficient equipment for caring for the clothing. Sixteen-year-old James Means left home because of quarrels which had their origin in his hopeless attempts to keep his clean shirts unrumpled and his ties in a place where his young brother could not find and wear them. Closets and wardrobes, chests or bureau drawers sufficient to allow for the separate care of the clothing

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of each member of the family and of household linen, may well be considered a necessity.

Wherever the equipment is so poor as to prevent orderly carrying on of the physical operations necessary for the family life—eating, sleeping, dressing, the housekeeping operations—and of its social life, it must be considered as inadequate for the family welfare.

As has been pointed out before, what to one individual is unendurable disorder is harmony to another, so that so far as comfort of the individual is concerned we might conceivably have as many standards as there are individuals involved. It is not safe to assume, however, that the degree of order prevailing in a home is that which is best fitted to the development of the individuals of the family. It is frequently true that the housekeeper is in a continual state of nervous fatigue because of her inability to reach her own ideal of an orderly home. Nervous Mrs. Burnheim complained that her whole house was never straight at one time and that it worried her so she could not sleep. That this disorder was the real cause of her nervousness became appar-

ent through the calmer state that she enjoyed after the visitor had formed a plan of housework with her in which the older children helped, so that the home at last became habitually somewhat nearer the mother's ideal. In some cases it is the children and not the mother who are rendered nervous and irritable by the inability to keep the house orderly. Rose Dambrowsky was so bad tempered, according to her mother's version, that the family had difficulty in enduring life with her. Rose herself complained that she had no place for her clothes and never could find them; that when she came into the kitchen and saw everything upside down, it made her feel like "tearing up the house."

Each member of the family of suitable age should share in bringing order and harmony into the family life, but the assignment of definite places for their clothing and other personal property, as well as for household furnishings, will be a necessary part of this work. The Thompson children had been very disorderly about their personal belongings, to the distress of their mother, who, though herself daintily clean and

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exquisitely orderly, found the task of training the children in good personal habits quite beyond her. The friendly visitor helped her to divide her available closet and drawer space and put up hooks suited to the height of each child, who pasted his own name above the space allotted to him and took complete charge of his own clothing. The shelves for household linen were divided in the same way, "towels" pasted on one shelf and "sheets" on another. It became the responsibility of twelve-year-old Annie to put this part of the washing away and to see that the shelves were kept clean and orderly. Under this plan, with space to put things in, the children rapidly developed a sense of personal responsibility about the care of their possessions. In the crowded confines of a three- or four-room flat the few personal articles each child possesses can so easily lose their identity that a sense of responsibility and respect for property rights does not develop normally.

For making personal cleanliness and neatness possible a looking-glass and wash-basin are unquestioned necessities. Whether or not the bath-

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tub is indispensable may be left an open question. For many careful mothers the wash-tub by the kitchen fire answers for bathtub as well. A bath for each member of the family once a week is as much as can usually be achieved in this way. It means not only much lifting and heating of water, but special arrangements for securing the necessary privacy in the crowded home each time a bath is taken. Wash-cloths and hand and bath towels are needed; no less than one of each for each member of the family is essential. Comb and hair-brush may with frequent cleaning be a common family possession, though personal ones may be a psychological necessity for older children. It would seem unnecessary to mention individual tooth-brushes if so many families had not been known to point with pride to the common tooth-brush.

# EQUIPMENT FOR HEATING AND LIGHTING

In many homes the only means for heating the house is the kitchen range. This means that during the winter, fall, and early spring months, cooking, eating, the family washing, bathing, and

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social life will all be confined to the kitchen. Just when in the development of the family this becomes an undesirable arrangement is largely an individual matter. In general a father, mother, and two or three small children may find this arrangement satisfactory if the danger to the young children of steam from the washing can be overcome by good ventilation. As the children grow older or as the number increases the health of the family and the development of their social life may require more rooms in cold weather. In this case a second stove will be necessary.

Kerosene is used for lighting by many families even in our larger cities, where gas and electricity are used by their more fortunate neighbors, in which case kerosene lamps are needed.

# ADDITIONAL FURNITURE

The aforementioned articles or their equivalents, used for carrying on the fundamental activities of family life, are necessary to all alike, but there are unquestionably many others whose utility is not so unmistakable but which may play an important part in the family development.

In the opinion of the friendly visitor of the Retz family the ragged and dirty sitting-room carpet was not an asset but instead a serious liability from a sanitary standpoint. She felt that a clean, bare floor would be suitable for this family, which consisted of a widow and five children all under nine years of age. But Mrs. Retz could not be induced to give up the shreds of carpet which seemed somehow to stand in her mind as a symbol of respectability. Finally the visitor arranged for a new carpet, which came to the family as unexpectedly as a gift from Heaven. Not even the youngest child slept that night, but all sat up to gloat over the new possession, saying over and over, "Mother, we are rich now, aren't we?"

An Italian family went without meat for a month that they might buy a picture of the Madonna in a large gilt frame. A mother with adolescent boys and girls often endures the most incredible hardships in order to secure or hold the piano which she fondly hopes will keep the children home at night. Who can be sure that it is

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not as real a need as the soup kettle or the sewing machine?

## **CLOTHING**

The matter of clothing, too, one might well say, affects the family welfare both physically and æsthetically. If the function of clothing were confined to the protection of the body from cold, rain, heat, and harmful contact with material objects, definite standards of clothing would doubtless long ago have been worked out: for example, shoes that would keep the feet dry and warm in winter, cool and unwounded in summer. It would be easy to establish the number and cost that would furnish this protection for a year to a pair of feet under given conditions. But, alas! there are shoes and shoes, the primary thought behind their structure being to please an individual and sometimes a fantastic taste. Thus each article of clothing has the double service of utility and of expression of taste. Who can say that one function is of more intrinsic importance than the other? In the very young and the very old utility holds perhaps an unques-

tioned first place. Through adolescence and youth dress is regarded largely as an opportunity to express taste. That this point of view emerges early is evidenced by the instance of a four-year-old girl who wore rompers with entire lack of self-consciousness in a neighborhood where this style of dress was universal. When her family moved to another street where the little ones all wore dresses and where she was called a boy, wearing the rompers became a punishment to which her mother was unwilling to subject her, although they gave her the freedom of running and climbing, which she loved.

When Mrs. Lindsky received her first monthly installment of \$20 on her mother's pension the first purchase was of white shoes and stockings for her ten- and twelve-year-old daughters, and a new suit for Walter, her fifteen-year-old son, whose wages furnished the remainder of the support for the family. For years the children had been clothed chiefly in second-hand garments. The girls' winter dresses of that year had been made with long, irregular stitches by the mother's rheumatic fingers—there was no machine—from

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dun-colored outing flannel, a large quantity of which had been given to the society caring for them. They knew that this purchase of clothing meant a whole month in which the diet would consist chiefly of bread and coffee.

A mother's lack of care for her personal appearance is often a serious weakness in her control of the family situation. On a hot day a round of visits among the poorer Polish and Slavic families will reveal many of the mothers clothed in underwear only—often ragged and dirty. In winter their house dress is apt to be an equally ragged and dirty sweater worn directly over the underwear. If the immigrant mother fails to discard her headshawl for the American hat, the gulf between the foreign parent and her American children is thereby widened.

Mrs. Consillo, fat, good-natured, and shiftless, was left a widow with eight children. She found herself unable to manage the young boys and girls, even with the aid of the twenty-one-year-old son and eighteen-year-old daughter who were dependable young people and added greatly to the home. Twelve-year-old Stella was impertinent

and stayed out late at night. The younger boys were in the habit of ignoring the mother's commands. Mrs. Consillo was advised to spend a part of her scanty income on a neat wash dress and aprons for housework, and a hat for herself. With these additions to her wardrobe she found it much easier to maintain her authority in the home than when dressed in the underwear and sweater in which she had been in the habit of appearing not only in the presence of her children but in that of callers of both sexes.

Thus an adequate standard of clothing not only must furnish protection for the body—particularly the feet from cold and wet—but must be such as to furnish a much needed vehicle of individual expression, for which it is the most universal of all means.

# THE HIGHER LIFE

If it is difficult to reduce the self-expression of the individual by means of dress to minimum terms, how much more difficult to measure and standardize, as it were, numberless other forms of expression! What are the minimum facilities

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needed in order that the play spirit be developed in the young, or be kept from being crushed out in the adult; that sex attraction have such means of wholesome expression as is needed to lay the foundation of a normal home life? What is the effect upon character and citizenship of the sense of security and self-respect which comes from having erected a barrier against misfortune, though the protection be no stronger than the industrial insurance with its 5- or 10-cent weekly payment? How much is it necessary to spend for newspapers and magazines that one may be an intelligent part of the state?

And as to education—the time one may give, the price one may pay? The standard for children is being slowly forced upward, but not fast enough for many parents who are making untold sacrifices to give their sons and daughters opportunities which they themselves never had. Mrs. Oblonski, who can speak no word of English, sews far into every night, though the doctor warns her that she is developing tuberculosis, that Stanley, who might be earning, may "graduate" from public school. He is two years re-

tarded and does not study well, so that the society which kept him in school last year explains carefully to the mother that it is useless for him to go on, with his present attitude toward learning. She only shakes her head, weeping, and says that Stanley must "graduate."

Even in a book upon the matter-of-fact subject of household management, these imponderables, these hopes and ambitions, cannot be wholly ignored. Still less can they be ignored by the social worker in the home, who, however enthusiastic about a desired standard of living, is dealing not only with an abstract standard but with living people, who have had a past and are striving to be true to certain ideals of their own future.

## APPENDIX A

# SUGGESTIONS FOR A TALK ON MILK

If THE increase in the quantity of milk consumed by the family appears to be, as it is in many instances, the most important change necessary in the diet, it may be accomplished in some such manner as the following outline suggests. The points selected for discussion are those which have been found comprehensible to uneducated women or to children. Not only is the amount of milk of the greatest possible importance, but the dietetic instruction incident to a discussion of its place in the diet makes a splendid ground work for future talks on standards of food.

Milk is a food which contains some of all the elements needed for a child's growth. The young calf gets nothing else for a time and grows very rapidly. Milk must then contain what is needed to make muscles and bone. Bones and teeth are largely made of lime and no other food contains so much lime as milk. There is as much lime in one pint of milk as is needed by a child for a day's growth of bones and teeth, besides that needed for other things. If this necessary amount is not supplied, the bones may be soft, as in rickets, and the teeth not strong so that they will easily decay.

Milk contains also a large proportion of the food needed to build muscle. It is the same kind of food in this respect as lean meat. This means that when there is plenty of milk less meat or none at all need be taken. Many people

who study foods believe that young children, at least up to seven years, are better off with very little meat, and that we should depend upon milk, eggs, and cereals for the material to make their muscles grow. Milk is easily digested and is not likely to cause disturbance in the intestine in the way that meat does.

Milk has besides another quality which makes it valuable in children's food. It influences the growth of children and other young animals in a way which we do not entirely understand. Scientists have tried experiments on rats and other young animals. When they are fed on food which has been refined, they do not grow. When milk is added to that food they immediately begin to grow.

We sometimes think of milk as being an expensive food, but this is because we do not realize how valuable it is. We think of it as being something to drink and not as a real food. It is not an expensive food but a cheap one, when we consider all its qualities. One quart of milk which costs from 10 to 14 cents is equal in food value to a pound of steak which costs from 20 to 35 cents, to six eggs which cost from 15 to 30 cents. It is not so cheap as bread or cereals, but we cannot live on bread and cereals alone and milk is the best thing to add to them when we must have a cheap diet.

Three quarts of milk contain enough butter-fat to make one-fourth of a pound of butter. If we cannot buy both butter and milk, it is much better to put the money into milk. In this way we get not only the butter-fat but all of the other qualities the milk gives. If a child is having a full pint of milk with the cream which belongs on it every day, he can get along without butter by having oleomargarine, meat fats, or oils instead.

When the child drinks milk he will not ask for coffee. Coffee contains no food, so that the money spent for it is

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wasted—worse than wasted if given to children, for it does them harm. It works on their nerves and makes them nervous and hard to manage, at home and at school. It stimulates them and makes them feel strong, as it does all of us, so that they do not feel that they need food, and do not eat enough to make them grow properly.

If a child is used to hot cocoa occasionally, the mother should be told that cocoa contains some of the same stimulant that coffee and tea have, and should be made very weak for children—one level teaspoonful to a large cup. Cereal coffee is better still; set barley or wheat grains in the oven and leave them all day to brown slowly. Grind or crush the grains and boil until the water is well colored.

The housekeeper will be very likely to say that she cannot afford to spend the money for the milk. This gives a natural opening for discussion of the other items of expenditure in order to find a place where a cut can be made without injury to supply the money for the milk advised. In view of the above facts about the relationship between meat and milk, the most natural place to suggest the reduction will be in the amount spent for meat. If in a family of five 35 cents per day has been spent for meat and only one quart of milk per day bought, at least one additional quart can be had from the meat money without danger of this running too low. It may be desirable to suggest dishes to the mother which she can make in order to reduce the amount of meat served at a meal. Stews can be made with very little meat used with plenty of cereals, beans, or peas, and fresh vegetables. For example, to enough lima or kidney beans to serve six persons add half a pound of chopped meat shortly before serving. Chopped meat may also be added to a dish of hominy, rice, or barley, about one-half pound being sufficient to

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lend flavor to enough of the cereal to serve six or seven persons. Many useful recipes for "meat extending" dishes are being issued in the National Food Administration bulletins and elsewhere, since the necessity for conserving meat has become pressing.

Another natural source of money for milk is found in the amount expended for butter. Many families with very small food allowances habitually buy one-fourth of a pound of butter every day. This amount of butter-fat, as pointed out above, will be secured for the family by the purchase of three quarts of milk. This may not, however, mean that sufficient fat is contained in the diet. A part of the money spent for butter may need to be used for a cheaper form of fat. The same money will buy at least twice as much oleomargarine, lard, suet, or cottonseed oil as butter.

## APPENDIX B

## SPECIAL DIET LISTS

SOMETIMES a typed copy of dietary instructions such as the following can be put into the hands of the mother with good results.

## DIET FOR GROWING CHILDREN

#### I. Milk

Every growing child needs at least one pint of milk daily. This is for building bone and teeth and providing for the growth of muscle and stimulating general development.

#### 2. Cereals

Cereals are the next most important food for the growing child. One or two meals a day can be made mostly of cereal mush and milk. This is the cheapest as well as the best food that can be obtained. Be sure that it is well cooked. The following kinds can be bought all the year around at from 5 to 8 cents a pound. Try all of them and change often:

Oatmeal, cook two hours or more
Cornmeal, cook three hours or more
Hominy, cook four hours or more
Barley, cook two to four hours or more
Cracked wheat, cook six hours or more
Farina, cook one-half to one hour or more
Rice, boil one-half hour or steam fifty minutes.

Cereals bought by the pound in a clean store and kept in covered jars at home are just as good as the package

ones. They are much cheaper because no money goes into advertising.

The time for cooking may be cut in half by soaking over night and boiling directly over the fire, but the longer cooking gives a better flavor.

# 3. Meats, Eggs, etc.

Meat need not be given more than three times a week in small amounts, if eggs, which are better for the growing child, can be given on the other days of the week, and if there is at least a pint of milk for each one. Fish may be used instead of the meat or the eggs.

# 4. Fat

Fats are very important for the growing child. When butter is impossible because of the price, oleomargarine and other butter substitutes, cottonseed oil, peanut oil, and meat fats can be used. Bacon strips or bacon brisket is cheaper than butter and is an easily digested fat and is usually bought for less than 30 cents a pound.\*

# 5. Vegetables

In order to keep the blood supplied with iron and the body in good condition, vegetables should be used every day. Teach the children to eat all kinds. At each season there are some that are cheaper than others, although a number are likely to be cheap all the year around, e.g., carrots, which are one of the most valuable since they contain a large amount of iron. Turnips, beets, parsnips, all kinds of greens, green peas and beans, lettuce, etc., are all valuable. Dried beans, peas, etc., can take the place of meat once or twice a week. Use all the different kinds and particularly that cheapest

<sup>\*</sup> This is no longer true since the need of the army for bacon has increased the price.

## APPENDIX B

at the moment. Lima beans, kidney, navy, Brazilian, and black-eyed beans, and yellow and green split peas, can be found in most places. For children under three they should be cooked to a pulp or put through a strainer or colander.

# 6. Fruit

Fruit is needed every day. When fresh fruits are too expensive, try the dried ones. Dried apples, peaches, prunes, apricots, figs, etc., are all valuable and cheap.

# 7. Tea and Coffee

Never give a growing child coffee, tea, or any other stimulant. They will stunt its growth and make it nervous and hard to manage.

# 8. Sugar

Let children have candy only after meals. Then they will not be likely to eat too much. Do not let them pile sugar thickly on their cereal. Children, as a rule, should not take more than an ounce (one rounded tablespoonful) during the day. Better still is it for them to get their sugar through home-made fruit jams and marmalades or through molasses.

Keep regular hours for eating and do not let children eat between meals.

# DIET FOR AN UNDER-NOURISHED PERSON

# I. Milk

At least one-half pint daily for an adult, one pint for a growing child. This may be used partly or wholly in combination with cereals, soup, etc., if it cannot be taken as a drink.

# 2. Cereals

At least one meal, preferably breakfast, should include

a bowl of cereal mush with milk. The following cereals are desirable in the order given:

Cracked wheat, cook six hours

Oatmeal, "two hours

Farina, " one-half hour

Cornmeal, "three hours

Only bread made of whole grain flours, graham, rye, and whole wheat (preferably home-made), should be used.

# 3. Fats

All easily digested fats are good; oleomargarine and other butter substitutes, when butter is too expensive. Peanut or cottonseed oil makes an excellent dressing for the lettuce and green vegetables that should be eaten in good amounts.

# 4. Sugar

Too much sugar or other sweets may aggravate anemia. No child should take more than one to two ounces daily, and this allowance includes the amount in candy, cake, and all forms of sweets. An ounce is about one rounded tablespoonful. Under-nourished children may be having too much sugar.

# 5. Meat and Eggs

Egg yolk is very rich in iron, and the diet should include, if possible, an egg every day; lean meat, preferably beef, three to five times per week in small amounts.

# 6. Coffee and Tea

Coffee and tea should be given up absolutely always by children and often by adults. A hot drink made of parched barley or wheat may be substituted.

# 7. Fruits and Vegetables

Fruits and vegetables are the most important iron-

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bearing foods, and their daily use is imperative. If they can be obtained fresh, the canned products should not be bought. The following are desirable for the undernourished person: carrots, spinach, dandelion greens, beets, lettuce, onion, green beans, green and dried peas, parsnips, tomatoes, celery, ruta-baga, rhubarb; prunes, oranges, dried figs, dried apricots, dried peaches, raisins, dried and fresh apples.

Rest and good air are almost as important as food. The under-nourished person should sleep well covered near an open window eight to ten hours.

APPENDIX C

AVERAGE WEIGHTS AND HEIGHTS OF NORMAL

CHILDREN\*

Age	Weight—Pounds		Height—Inches	
	Boys	Girls	Boys	Girls
I 2	20.5 26.5	19.8 25.5	29.0 32.5	28.7 32.5
3	31.2 35.0	30.0	35.0 38.0	35.0 38.0
4 5 6	41.2 45.1	39.8 43.8	41.7 44.1	41.4 43.6
7 8 9	49.5 54.5 60.0	48.0 52.9 57.5	46.2 48.2 50.1	45.9 48.0 49.6
10	66.6	64.1 70.3	52.2 54.0	51.8 53.8
12	79.8	81.4 91.2	55.8 58.2	57.I 58.7
14	99.3	100.3	61.0 63.0	60.3 61.4

<sup>\*</sup> Whitman, Royal: A Treatise on Orthopedic Surgery, p. 242. Philadelphia and New York. Lea and Febiger, 1917 (5th ed.).

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