domestic economy
or housekeeping
making beds dressing
domestic science arts
at first cooking and
sewing on a householdie
basis later
domestic science or home
hold science use I
scientific principles
homelike economies
symmetry of order
significance which
led to
home economies.
The experiment which entitled was given in the call lent by the trustees of the Lake Placid Club in Sept., 1899, to those most interested in home science or household economics. In the list of topics there appear besides these terms: domestic economy, home science, homekeeping.

The Conference decided on Home Economics as the title preferable in the more general subject.
Henry contraception.

There was a notice

filed that Mr. John in 199
 laundering for the year 1999.

If you hear from Mr. John.

When I saw some

include for social service

Hindustan is heavy education

Downloaded by account upload.

Home committee can be

deemed from mutual fund.

Emphasize earning for

something earning for
"How we came to have the name "Home Economics" is indicated by this: A general name, simple yet comprehensive enough to cover sanitation, cookery and kindred household arts, and instruction in the art or science of living from the kindergarten to the college, was not an easy thing to find. After a full discussion there was agreement on the name 'Home Economics' as the title preferable for the whole general subject, and it was determined to consider it as a distinct section of the general subject of economics, so that it should find a logical place in the college and university course and not be confused with the mere 'Household Arts' often taught under larger names. The latter, however important practically for the general public, could never expect to be recognized as a part of the university curriculum. While home economics was taken as a general term, it may be wise to use other phrases for its sub-divisions; domestic economy might be appropriate for lessons for the younger pupils; domestic science might be applied in high schools where foods and house sanitation can be studied by scientific
methods, while household or home economics would be suitable for college courses."

From Lake Placid Conference on Home Economics, 1909, p. 4.

February Journal of Home Economics
At the University of Chicago, Mrs. Beechman, my wife and I, on many occasions, had the opportunity to study French courses. Occasionally, they were not administered as they were before, at that time, we were not prepared to work out the exercises in the book. We did not think it would be possible to continue, and we perhaps added confusion to an already confused situation.
Mrs. Richards herself followed so rather guided these developments and often expressed - re- gret that so much time had been wasted on em- phasizing the subject in its narrower aspects. She assumed much of the responsibility for she ap- proached the subject just as a chemist. It was very interesting to watch her as I had the privilege of doing and see the economic and social implications of the home and the family take form in her mind.
until finally he urged the use of the larger term the coined "euthenics."

not seeing much.
Oct 7, 1914

2. I appeared for the first time in the official record of the U.S. Dept of Ag.

provided for corporative agricultural extension work to consist of the joint effort of instruction and practical demonstrations in Agri & H. E. to persons not attending my non resident in the Agri Col.
1917

Emmitt Hughes

Vocational Educational Act

"That form of vocational education which has for its controlling purpose the preparation of girls and women for useful employment as homemakers and as homemakers engaged in the occupations and management of the home."
With these historical statements as a back- 
ground, I raise the 
question of vocational 
or personal home economics 
home economics during 
what it should be the 
betterment of the home 
as an institution, which 
A writer in last week's 
New Republic asks "What's 
wrong with the Home?" and 
answers it from the point 
view of the Juvenile 
Court officers. Charity 
workers economists, 
psychologists, workers 
in many fields are
askin the same qnestion
and trying to fwind the
answer. Whare are the
home economists peple?
Doin very lttle it seems
here, whereas they
ought to be the recognised
authorités, leadin, guidin,
drawing from their fields
those principles and facts
which should make of the
home a worthy institution.
Mrs Richards described domestic service as the keystone in the arch of all the sciences — chemistry, physics, physiology, bacteriology, etc.

It seems to me that some economies in these sciences, which do not come to their best fruition until expressed through the organized life of the family and through the family of the community.
For example, the science of nutrition is not a subdivision of the, but it is a subject which, the

is to draw from and apply to the feeding

of human beings within the home so that family life may achieve results which may truly be called successful.

And so with clothing and textiles or with budget-making or with hygiene and sanitation.
All of these subjects concern people as individuals. Home economics should treat them in their relation to family life and in addition deal with many other factors which are essential if the home is to be truly successful.

Health, beauty, recreation, social relations, civic responsibilities are all to be considered as finding expression in home life. We all know Miss Barnes characterization of the successful home.
What do we find are the facts

43 cows

19 clothing
9 food + milk
nearly 1/2

Cornell 2 30 cows,
7 clothing
10 food
more than 1/2

24 42 cows
12 clothing
17 food +
70%

24 34 cows
9 clothing
17 food
70%

omitting teachers' cows
Advertising in last
Journal of W. E.

Total pages: 24

Homestudy Lectures 1 1/2
Teachers' agencies 2 1/4
Equipment 6 3/4
Articles and photos 12 1/2
Miscellaneous - everything else 1 1/2

Total: 24
and to a very considerable extent all this subject matter is used as an end not as means tending. This interpretation as factors in sound family is too often wholly lacking.

I am going to turn to medical education to illustrate what I have in mind.
Sat. Dec 26

Mat is the arms. I W Koch
of the receive part of medicine
4 means to restore health,
safeguard life

to alleviate suffering

1) Ability to diagnose

2) Treat

(means)

preventive, supportive, corrective,
physical, hydrotherapeutic,
medicinal, mechanical, opera
tive etc.

Every doctor shall be a hu-
mankind being, namely, trained
by education, training 1) to
determine by diagnosis what
means are means are im-
dicated and 2) to faithfully
carry out such treatment, or if he
cannot do it himself he will arrange
that another qualified shall do
it for him.
J M W 0 3 7 0

Would it not be well then to
emphasize, more especially, to the
students' attention, the
importance of
focus sharply on the
problems that
confront the practitioners
that is after all the
way of
everyday life. There are jobs
that are easy and some
that are difficult to
be done. Only when one realizes what is to be done
can one plan and perform
effectively.

To do one's
duty well, one must first
see where it lies.
It seems to me that this is a challenge to home economics which must be met. In my work in sanitation I give my students the line from the Latin poet, Martial:

Nom est vivere, sed valere vitæ

Clothing should not be taught simply to keep the body decently or beautifully or cheaply clad but to enable it to serve the wearer as a means of fulfilling...
his highest capabilities
and responsibilities. So
it is with nutrition or
dietetics or design, or
budget making.

These arms were sug-
fested as far back as the
1903 Lake Placid Con. by Mrs
Abel, who said.
"But we have still to define for the many just what is meant by home economics. It stands for the application to life in the home of the results of exact knowledge in many fields; it seeks to establish standards in hygienic living, to decide what is the cleanly and orderly and beautiful house, what is healthful in dress and in food; to find, in short, what are the material conditions that afford the proper setting for ideal home life where the adult worker is rested and refreshed, where the child is prepared for effective citizenship and where hospitality may exert its cheering and refining influence. In season and out of season we must present this high aim as ennobling the homely and practical details of much of our work."

From -
I think we have not gone as far as we should in these two decades. I have not time to give very specific illustrations of how nature, time in garment making, or clothing or housekeeping, may be given to them the larger implications. I have tried to point out. You may think me too unpractical, too idealist. But after all, as has been said, "ideals with men men want to ward them," and "home economies must have ideals toward which to work."
Both reviews.

It is with something of a thrill that one re-ads the page devoted to the Home Makers section and learns that home makers and the A.A.S. feel the need for a closer relationship. And further it seemed unfortunate that the women whose training and professional interest had been in the field of home economics should not be continuing that interest when their home economics work was merely diverted into another part of the field—a part in which the A.A.S. is most fundamentally interested. I wonder if my old friend Mildred Wiegley knows how that Wiegley
The Opportunity of the Household.

More than twenty-three hundred years ago, centuries before the dawn of the Christian era, the Greek historian Xenophon wrote a dialogue in which Socrates declares that "the ordination of the house is the name of a service and that service means the order and increase of the household."

He goes on to say "in my
opinion a wife who manages her share in the household matters well has as much influence as her husband in their prosperity, for as a rule it is the labor of the husband that brings in the money of the family, but the judgment of the wife that regulates the spending of most of it, and whilst houses in which these matters are well-managed increase there in which they are ill-managed decrease in prosperity.
Before discussing the place of the household in the community and the obligations of the householder to society and his family, it is fitting to point out the real meaning and scope of the term prosperity as it applies to the house.

We are very apt in these days to go astray in our true notions of what prosperity is. We lose ourselves in a maze of abstract conceptions and
terms. We are puzzled and discouraged by the prevailing discussions in regard to socialism, communism, and nationalism. We seek to find in these magic words a means of securing the prosperity that all are seeking. It is only when we realize individual responsibility that we begin to see the way to reach our goal. If we study the ideas underlying the current phrases, we cannot fail
to see how prosperity, to be truly national, must first of all rest in the homes. If we see this clearly, we must go a step further and then we cannot fail to accept Socrates' statement in regard to the responsibility of those who administer the house in securing its prosperity.
If we accept the conclusions of the thoughtful students of human evolution and assume that what is represented by the term "home" is the term of Anglo-Saxon civilization, the unit of social progress, that no community rises above the average of its individual homes in intelligence, courage, honesty, industry, thrift, patriotism or any other individual or civic virtue, that the home is the nursery of the
citizen; that nothing which church, school or state can do will quite make up for the lack in the home; then we must acknowledge that no subject can be of greater importance than a discussion of the standards involved in home life.

Mrs. E H Richards
Cost of living $5
The degree of intelligence brought to bear upon the administra-
tion of the household will be a factor of no mean value in determining the
progress and prosperity of the individual, the family, and the nation. The efforts
expended when viewed in this light, can no longer be considered as unending.
end weary round of drudgery, but a most efficient means of contributing to general social progress.
What are some of the qualities upon which success in fulfilling the opportunities and duties of the household will depend? Every thoughtful observer must say that the highest qualities of mind and heart not only find scope, but are actually essential for the highest and best edition of the house. Depth of thought, clearness of idea, a wide range of knowledge are needed to cope with
the problems which arise.

Judgment, moderation, and decisions find ample play in household emergencies. The faculty of administration and government is essential. Accurate methods of observation and logical habits of generalization are needed at every turn.
The training for the duties of a householder presupposes the best mental and moral discipline on broad general lines. This is a truism as regards many other vocations, even though they affect human comfort and happiness only incidentally and to a slight degree. Householders are beginning to recognize its truth in their own calling and are claiming and using opportunities for broader education and broader culture.
In addition to this general basis of knowledge and discipline which is more and more emphasized as a preliminary to activity of every high order, there should be a more special training for the work in hand. [It is not necessary to discuss in detail what this training should be.] There is a long step between the notion, unfortunately not yet exact, that there is an efficient and all-sufficient inherent instinct, which will
In household administration, all women and the plea made by Prof. E. M. Salmon for "a professional school where all the historical and scientific aspects of the household can be investigated in the same earnest spirit as are those other occupations, called, but with no more reason, 'the learned professions'"
As Mrs. Mary Hume Abel suggests: "Every house should be an experiment station. In the question of house service the housekeeper takes part in the struggle between capital and labor; in mastering the plumbing of her bath-room she is studying hygiene and sanitary science; in studying methods of cooking, she is grappling with problems in chemistry unexcelled in interest or value by the experiments in any laboratory."
The reasons for the growth
of the idea that there is a field
for special training and study
are interesting to study, but
the causes which led to the brief
success which has met some
of the methods employed in
the past cannot be con-
considered in this place.

In the routine of daily
life, it is easy to forget
that the conditions of
household management
have changed rapidly dur-

recent years. Decades ago, the knitting needles, the distaff, and the spinning wheel were banished from the household. Even the busy needle has had for some years an insecure tenure. In the great centres of life and activity, in the cities, the towns, the villages, and even on the farms, foreign hands do the work at the wash tub and the range. Many industries which were formerly in the hands of women in their homes have
now become trades followed almost entirely by men. Hand in hand with these changes in the condition of labor have come equally great advances in human knowledge and skill. As Mrs. E. H. Richards well says: - the properly educated housekeeper has all the forces of nature at her command, the lightning harnessed to give the light and power; the stored energy of the past ages at her command by turning a stopcock; swift steamships
and railways bring her fruits and vegetables from all climates; the vast prairies furnish meat, game and flour. Mechanical skill gives her all kinds of labor-saving devices; the general prosperity and increasing taste of the country admit of tasteful decoration of the rooms."

Moreover, in every department of intellectual activity, advances are constantly made which bear directly upon
household interests and pro-
sp.ity. Physicists, chemists,
physiologists, biologists, san-
tarians, political economists
and other specialists are
day by day discovering truths
of science fitted to contribute
to the welfare of human beings.
If householders would but
reach out and grasp them
and put them to practical use
instead of blindly accept me-
chanically following old
time-hallowed and worn-out
customs.
Indeed it is curious and almost painful to see how long even those directly responsible for the administration of the household remain in ignorance of the scientific progress which has a direct bearing on their field. There are but few who are masters in their chosen realm, fewer still who are alive with the true spirit of progress and very few indeed who can be leaders in giving household administration the place of honor it deserves.
For example,

There is no department in the administration of the house, hold which demands and receives more time and attention than the purchase, preparation and serving of food, and yet there is none which is carried on with so much routine and so little conception of its real interest and significance.
Mr. Edward Atkinson states that "There is yet no popular service of cooking; there is now widespread ignorance on the whole subject, resulting in a waste which is not only unprofitable, but mischief in its influence on the general health of the community. The art of cooking as now practised is wholly empirical and to a great extent bad. Almost all rapid or quick cooking is bad cooking. The essence of cooking consists
in the regulated application of the right degree of heat for a suitable time to work the true conversion of the raw food materials into nutritious food.
Although many women pride themselves on their housekeeping, meaning by that the food they supply to their families and friends, very few are aware of the great advances which men are making in the study of dietetics, thus giving to the nutrition of the human being some part of the attention which has been heretofore devoted chiefly to the feeding of horses, cattle and other domestic animals. Investigators are...
rapidly gaining an exact knowledge of the energy and nutritive value in the different food-stuffs, as well as of their differences in digestibility and of the kinds, amounts and pro.
portions of food necessary for the best nourishment of the body under varying conditions of work and rest, climate, age, and sex.

Education. Preparation

S.P. Bo article Home Beautiful p. 35
M.T.'s
Household - a group of people living under the same roof constituting a family and bound by moral and legal not by contractual ties.
A statement which recently appeared in print to the effect that the term "cooking" has given place to "domestic science" conveys a world of meaning whose full force should be more generally understood, particularly by those who intend to become special teachers.

There are two points which should be made clear: first, cooking is not "domestic science," no matter what肼meum may be made by those who lead for its introduction into courses of study; second, the training of special teachers must understand this distinction, before undertaking to prepare themselves for the work.

This confusion in terms is the source of much misunderstanding. When courses of study are under discussion and to it may be traced much of the disagreement which exists as to the fitness of the
The Woman’s Union
of The University of Chicago

The Woman’s Union proposes a series of social afternoons for the purpose of giving the women students an opportunity to become acquainted in an informal way with each other and with members of the faculties and their wives. The headquarters of the Union, 15 Lexington Hall, will be open for this purpose daily from October 12 to November 20, from 4:00 to 6:00 P.M. The days of the week will be assigned to the departments as follows:

**Mondays**—October 12, 19, 26; November 2, 9, 16—Philosophy and Education.

**Tuesdays**—October 13, 20, 27; November 3, 10, 17—Political Economy, Political Science, History, and Sociology.

**Wednesdays**—October 14, 21, 28; November 4, 11, 18—German, French, English, and Public Speaking.

**Thursdays**—October 15, 22, 29; November 5, 12, 19; Mathematics and Sciences.

**Fridays**—October 16, 23, 30; November 6, 13, 20—Ancient Languages.

You are cordially invited to be present on the afternoons assigned to the department in which you are working.

**Marion Talbot,**
President.

**Mildred Richardson,**
Secretary.
subject for introduction into school curriculum.

The number of taxpayers and even of friends of the public school system is still large who are ready to assent to the notion that the preparation of foods according to fixed recipes, in other words "cooking" reduced to its simplest terms, is a subject which the schools should teach. It is their idea that little girls would thus be made much more useful at home and would be better prepared when and some even go so far as to look upon this kind of instruction as the only available way of solving the domestic service problem. There is a corresponding large number of women who have failed in some vocation
or coming face to face suddenly
with the necessity of earning their
livelihood, it would seem that, by brushing
up their memory of the way
their mothers used to cook and
by careful use of a cook-book,
they will become competent teachers
of "domestic science." But no
matter what the practical man of
affairs may think of it or the
social worker may hope
from it as a means of uplifting
family life among the poor, the
idea makes no real progress
and, in fact, in almost every
community where it has been
put in practice, has utterly
failed.
Mothers who teach their daughters,
cooking at home demand
that the time in school
shall be spent to better advan-
tage. Mothers who look upon
cooking as a menial occupa-
tion—and there are unfortu-
nately many of them—are not
willing to have their little
girls degraded in such fashion.
Accordingly
the old-fashioned notion of cooking as a mechanical process is extinct as far as it touches any modern system of education. And with it must I necessarily lose the class of women who would enter upon the teaching of cooking as a makeshift and without any preliminary training.

It may be pointed out that cooking in itself has no place in the schools; neither has carpentry. Cook and carpenter alike must prove up any claim that their skill fits them for the duties of a teacher.

Is the situation bettered by using the larger and more pretentious term "domestic science"? By no means unless a corresponding change is made in subject matter and method. Carpentry as a trade is no more entitled to recognition when it is termed manual training than that of name merely.
The question then arises, what is the real domestic science, in which so many good people are interested and for which so much is clamored? It is easier to say what it is not than what it is. In the first place it is not cooking nor is it serving. In the second as some English authors have assumed, place it is not that the principles of science, such as may be applied or adapted to household needs and activities. In so far as the term may be justified at all, it is the combination of both ideas or the application of the fundamental principles of different branches of science to different household activities such as cooking and serving. But this is not all. Such instruction to be worthy of
see a school system must be given in such a way as to develop to the fullest possible extent all of the child's powers and enable him to be master of himself and his environment. It is not enough that the child shall be able to make light and palatable baking powder crescent, nor on the other hand does it suffice for him to know about the expansion of gases or the nature of chemicals. He must have his interest aroused in the larger aspects of his activity.

The pecuniary of these suggestions and the real end to be accomplished can be brought out more fully by describing briefly the qualifications, mental and acquired, while the teacher should possess and whose importance she should keep constantly in mind.
it is difficult to draw a hard and fast line between those qualifications which are natural and those which are acquired. It may be clearly seen however that the attempt to distinguish these two is necessary. A complete survey of the most important traits will serve the present purpose.

First there must be due appreciation of the value of order and system as time savers. "A place for everything and everything in its place" suggests a method of activity which leads to quick results. Unfortunately it suggests a method where the system is given the first place. There must then be an understanding of the distinction between the essential and the non-essential, the real and the trivial, in order and system. The teacher must show in all his activities that he works through system to results.
The undersigned, having completed a course of study at ___________________________ and received the degree of ___________________________ in 18__, desires to become a member of the Association of Collegiate Alumnae

Name,

Home,

Post-office address,

18__
Closely allied with this trait is the fine sense of neatness and cleanliness. Here too it is not the thing in itself that is the end in view, but the result which can be reached only by this means. Not only do these qualities contribute largely to the maintenance of physical health and sanitary conditions, but they are important factors in securing satisfactory results in the different household activities. The real significance of cleanliness has been learned by the managers of great industrial concerns which have to do with the preparation of food supplies. But its function as a saver of time, money, and effort in the household is not yet fully appreciated. The teacher must strive to make her pupils understand at the same time maintaining high standards of cleanliness for oneself and her family.

Another quality that is too frequently ignored is the aesthetic sense. How often a thing fails to be adequately done because it has no element of beauty in it! And whenever we see
The undersigned, having completed a course of study at __________ and received the degree of __________ in 18__, desires to become a member of the Association of Col- legiate Alumnae.

Name, __________

Home, __________

Post-office address, __________

18__
A person with the gift of introducing a touch of beauty into the most commonplace activity, how the whole meaning of an act is revealed. This point needs special emphasis in these days when the so-called "practical" value of things has led to ignoring in large measure finer and higher tests. How to combine the useful with the beautiful is the problem which every teacher should be impelled by her own personal needs to help solve.

Another trait, or possibly it should be called an attitude of mind, which is of importance, is joy in doing. Mastery over the material world, bending natural forces to the accomplishment of a purpose, power of self-expression through work — these are motives which lighten drudgery and give little place for the "menial" service even if they do not make them entirely vanish. The teacher who is not willing to turn her hand to anything, who must have a subordinate to wash up the dishes or erase the chalks because it is beneath her dignity, will fail to enter upon her task in the right spirit, unless her pupils see that she has helped merely because she had to; she will also fail to teach that lesson which every American child must needs and often misses in home life, respect for honest work.

These traits while more or less a gift of nature may be largely cultivated and developed.
any natural deficiency by conscious training.

Another desirable trait is the domestic in-

strict taken in its large sense. This is a fondness
for the arts which contribute to the welfare of the
family, a sense of satisfaction in the promotion
of household comfort, a joy in realizing that
the home is the center and source of the best
sensibilities of society. Domesticity is too often
taken to mean a certain stupid and stereotyping
fellowship of a round of household duties, a slavery
to the inanimate world, a blindness to interests
outside the home. When this is the case it is not
strange that it does not prove attractive to those
of brain power and executive ability nor hold
women of tried efficiency. The time has come
when we addition to the willingness to use the
home as a channel for the expression of all the
topmost powers, there shall be study and attention
paid to the significance of family and home.

The day has passed when a woman
may be made to feel that if she uses a woman
out clothing for a scrubbing cloth instead
of darning it, or buys a loaf of bread
instead of using the last of her limited
rice of strength to make it at home, she is
proud of undermining the foundations of
human society.

This leads further to a study of the
social, economic and historic forces
which affect the home and its place
in society. It may be true that there is
the possibility of becoming lost in vague personalities and losing sight of the practical details which make up the daily round of domestic activity, just as it is possible to be as absorbed in the mechanical performance of household duties as to fail to see their significance and fulfill them with a sense of proportion or a right standard of values. But the latter is an error more frequently made as well as a delusion often ranked as a virtue. There is very little danger that the teacher will be the to deny household activities of the home will live with the general march of human progress will have to endure a knowledge of the lessons of history, the teachings of economics, or the programs of social students of society.

Finally, the teacher must give himself the best possible training in those sciences which contribute to the sum of knowledge needed in the administration of the household or the control of its activities. Chemistry, physics, botany, physiology, bacteriology are all sciences which find their highest and best expression in household life. As learning comes among many of the simplest processes of the household
are still not fully understood and the proper role of teachers and administrators must be clarified in close touch with all the advances of science.

This survey of the needed qualifications of the teacher is not intended to strike terror into the hearts of all who are looking forward to entering this field of service nor yet to induce those who have already started on their preparation to turn back. Its real purpose is far different. It should arouse fresh enthusiasm, new courage and untiring effort to prove worthy of a work which offers such boundless opportunities for personal attainment and social service.
Manual dexterity or facility in the use of the hands is a quality which must be acquired if it is not natural. Not only does clumsiness a great drawback, but every motion made by the teacher should serve a definite end. The child should see that the body can be the skilful servant of the mind. Mindless movements and nervous futilities are as much out of place as awkwardness. Many a kitchen is wrecked on the stygma of clumsiness, but the Charybdis of ineffectual stir and pottering is almost as dangerous.
A Practical Experiment in Household Administration and its Results

A family of two women and a servant kept house for seven weeks in the mountains and entertained several guests. The total number of meals served was 525, or the equivalent of three meals a day for 175 days for one person. The food groceries were obtained from the city, but other provisions were supplied by the local dealer. Although care was used in purchasing, no special attempt was made to economize, except that no beef was bought because of its very high price. The cost of the raw material of food was 45½ cents a day, a person. Calculations were made of the food actually consumed, and it was found that each person had been provided daily with 87 grams of
proteins, 144 grams of fats, and 400 grams of carbohydrates, making a total of 3,250 Calories, while the proportion of nitrogenous to non-nitrogenous food was 1.03.

This study showed that there were several errors in the dietary according to approved teachings. Too little protein or nitrogenous food was supplied. More lean meat, fish, cheese, beans, and macaroni would be an improvement. The amount of fat should be reduced by about one-quarter. An examination of the bills of fare shows that this could be accomplished by furnishing less butter and olive oil and by having less deep-fat frying done. A larger amount of fruits and vegetables would serve to keep the bulk of the food large while decreasing the amount of nutrient which was above the normal. Under the circumstances, however, a specially nouris
ing bill of fare seemed admirable, although it could doubtless have proved unwholesome if provided for a considerable period of time or if the person concerned had led a less active life.

The labor involved in such a study is not great. The U.S. Dep. of Agriculture publishes bulletins (Numbers 28 and 142), which give the necessary help. In view of the scientific and gain in taking study which farmers are giving to the feeding of stock, it would seem desirable for house keepers to study more carefully the feeding of their families, with a view to obtaining the greatest efficiency and the highest standard of health.
Donelley
Parker
& Beach

Sal 12
Sanitary Science and its Place in the University by Marion Talbot

It is a fact worth my notice that the work which is offered under the term Sanitary Science, is included in the department of sociology. This arrangement implies a recognition of the principle that a very close relationship exists between sanitary conditions and social progress. Sanitation and sociology must go hand in hand in their effort to improve the race. The instruction offered in the sciences proceeds on the assumption that "life is not to exist merely, but to be well." As the individual is the essential element of society, so his social value depends largely on his health, while in turn, this health is partly determined by the conditions which society imposes. Further, it is believed that although the deplorable status of mankind today is undoubtedly the result of the sanitary and social conditions of past ages, yet their effects are not necessarily lasting. The influences under which men of the present generation place themselves are assumed to be more or less within their control and may be made to work for both present and future good. It is then the duty of sanitation to show what steps must be taken by society, collectively and individually, to secure the best conditions of living not only for today but for coming centuries.

The error is not infrequently made that the sole object of sanitation is the prolongation of life. Many sanitationists seem to be satisfied with diminishing the death rate. Such results should undoubtedly be immediate
work of each term would be approximately two-thirds of the normal. Similar arrangements may be made for graduates of the courses in Chemical Engineering and Naval Architecture.

It is expected that the large number of possible cases will in practice group themselves somewhat as follows:

(a) Transfers between the engineering courses, Civil, Mechanical, Mining, Electrical, Chemical, and Sanitary Engineering, and Naval Architecture.

(b) Transfers between the non-mathematical science courses, Chemistry, Biology, and Geology.

(c) Transfers from professional courses to the course in General Studies. It is expected, also, that in particular departments from which such transfer is not in general so easy or so desirable students will, as in the past, work for the degree of Master of Science along the same lines they have previously followed. Graduates in Architecture or Chemistry, for example, will probably prefer to continue their undergraduate work; and this may be equally true of the courses in Biology, Geology, and Physics. In all cases the Master's degree will be conferred without specification of the department of study.

In awarding the five graduate scholarships, preference will be given, as heretofore, to candidates for the higher degree.

H. W. TYLER,

Secretary.

Boston, May, 1896.
fruits of sanitary reform, but the sanitary
should conscientiously and persistently regard
his special field of work in relation to the higher
activities of mankind, and recognize that in his
mind, at least, every principle studied, every re-
form advocated, every plea made, should be
considered in the light of its role as a part of the
foundation for the highest and best expression of
all life, whether it be physical, intellectual, moral or
spiritual; for the normal body is of little use save
as it can help in the manifestation of sound mental
and spiritual activities.

It follows from these principles that the
foundations of sanitary
subject is not presented solely from the prac-
tical or material side, as it might be in a
technical school, but an effort is made to
furnish an intellectual and ethical standpoint
as regards a subject given a place in a remaining
curriculum. The facts which are discussed, altho
drawn largely from a purely physical sphere,
are constantly correlated to the broadest in-
terests of mankind.

An introductory course in Practical Hy-
sanitary science is open to students in the
Colleges and may be taken by students in
Arts and Philosophy, as one of the required
courses in science. There are no pre-requi-
tles. The general elements of the subject
are presented and no attempt is made at
specializations. Few formal lectures are
given. A text book is used as a guide
but much stress is put upon collateral
work of each term would be approximately two-thirds of the normal. Similar arrangements may be made for graduates of the courses in Chemical Engineering and Naval Architecture.

It is expected that the large number of possible cases will in practice group themselves somewhat as follows:

(a) Transfers between the engineering courses, Civil, Mechanical, Mining, Electrical, Chemical, and Sanitary Engineering, and Naval Architecture.

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reading. This is especially necessary in a subject whose progress from day to day, as
announced by scientific journals, is most noteworthy. Great stress also is laid upon
the semi-weekly written group which is designed to give in a few words a helpful review or
resume of the subject as it is developed. The occasional exercise in the laboratory serves
to emphasize and make clear practical
points which, if presented in theory only, lose
much of their force and significance. But
the method of instruction which is considered
of greatest importance and upon which the
real life of the course depends is the open
discussion, for only in this way can sugges-
tions of more than technical value be brought
out and the true relation of the study to other
interests be shown.

Following this elementary course, but
not necessarily dependent upon it, comes
a course in home sanitation which
includes a study of the sanitation of the
dwelling as the unit of public health.
Among the topics treated are situation,
arrangement, ventilation, heating, draining,
plumbing, lighting and furnishing.
Special attention is given to the considera-
tion of modern problems in sanitation
practice in the laboratory and the study
of actual conditions reinforce the
work of each term would be approximately two-thirds of the normal. Similar arrangements may be made for graduates of the courses in Chemical Engineering and Naval Architecture.

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Secretary.

Boston, May, 1896.
more theoretical work done in the classroom.

In the winter and spring quarters, courses are offered in the study of foods and household economies. Special study is given to the physical, chemical and chemical principles of water and foods, including food analysis; food adulterations and delinquencies with a discussion of the scientific principles of the application of heat to food materials, the chemistry of cleaning, domestic service and other related problems included in household administration.

In view of the fact that such work as this has been given us yet in a small place in university curricula, it has not been deemed advisable to lay down any strict prerequisites, yet it must be plain that the ground covered makes a large knowledge of other sciences almost essential. In fact the chief work is done in coordinating the results obtained in many branches of science to the problems of practical living.

A seminar in sanitary science is offered in the graduate school. The work is designed only for students capable of carrying on independent investigations. It deals with new and unsettled problems whose solution will help place the subject of public health on a more
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Boston, May, 1896.
secure scientific tests. The topics assigned are chemical, physiological, bacteriological, economic or agronomical, according to the preferences and training of the individual student.

The present laboratory is one of very few in this country which provide opportunity for practical instruction and investigation in sanitary matters. Its resources will be further enlarged when it is removed to its new quarters in the Hull Physiological Laboratory.

It is a common fact that it is not the women of the country but the men who are most actively engaged in applying the results of scientific investigation to domestic administration. The assertion is frequently made and seldom challenged that men are better housekeepers than women.

It certainly seems true that not only do men have a better knowledge of right sanitary conditions than women have but the proper feeding of soldiers, athletes, prisoners, the sick and the insane is receiving more study from men than the food of children and families is receiving from women, in spite of the fact that this has long been considered women's special sphere.

It is right that the University of Chicago, which is leading in so many new activities
work of each term would be approximately two-thirds of the normal. Similar arrangements may be made for graduates of the courses in Chemical Engineering and Naval Architecture.

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H. W. TYLER,
Secretary.

Boston, May, 1896.
should offer an opportunity to both men and women to receive instruction and carry on investigation which lie at the foundation of social progress. The recent munificent gifts of Miss Culver will afford advantages in many respects unparalleled in the world and the work which the University has already undertaken will be steadily developed in the future.
work of each term would be approximately two-thirds of the nor-
mal. Similar arrangements may be made for graduates of the
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BOSTON, May, 1896.
Popular Fallacies about Food and Sanitation III

Defective Plumbing and Bad Odors as Causes of Disease.

by Marion Talbot

It is a great many foes which lie in the pathway of the housekeeper. No weapon suffices to guard against some of them, so powerful are they, when they have once gained entrance to the household. The only defense that is adequate should be set up at the outposts of the home. Among such foes may be counted the germs of typhoid fever, tuberculosis and typhus. These germs must gain access to the alimentary canal in order to do their hostile work. So they are conveyed chiefly through the medium of water. The chief means of protection is an un-polluted water supply and the use of milk and food which has not come in contact with water.
containing the germs.

There are other harmful agencies which the housekeeper may properly dread, but in these days of sanitary enthusiasm and fads, she is often misled as to their real significance and the proper and effective means to choose as safeguards. Among these may be named defective plumbing, broken drains, and offensive smells. Many a householder has been taught that these conditions are the direct cause of typhoid and dysentery, diphtheria, tuberculosis, and the like. The most conservative and sound scientific opinion of the present day declares that there is no evidence to support this belief. Unless the germ is actually present, the disease
cannot exist and the presence of moisture, decaying matter, and foul smells does not necessarily mean the presence of any specific disease germs.

The truth is that these germs, microscopic particles of living matter, cannot escape from water or moist surfaces any more than any other particles of matter. The housekeeper knows very well that if she wants to keep dust from escaping into the air she moistens her dust cloth or sprinkles her floor with wet tea leaves or dampened paper before sweeping. If any of these diseases defy the watchfulness of the housekeeper and gain an entrance into the householder, the precautions
to be followed are in accordance with this fact that the germi
dling to moist surfaces and
are only free to more about in
the air when they are in the
form of dry dust. In other
words the disease germis es-
ce from the body of the
sick person only in the wet
discharges or excretions and
collect if care is taken to disinfect
and destroy these matters before
they become dry, the disease
can be wholly controlled.
There need be no fear of the
spread of typhoid fever from
one person to another if every
bowel discharge from the body is at
once treated with a disinfectant
like chloride of lime or mercuric
chloride. Tuberculous of the
lungs and diptheria cannot be
transmitted from one person to another if the discharges from the mouth are collected on cloths or paper and at once burned.

It is proper, however, to ask the question why it is that the idea is so prevalent that dampness, decaying matter and offensive odors are the cause of disease. The answer gives the key to modern sanitation. It is that there are similar conditions such as "bad air," in some way still imperfectly understood, tend to lower the power which the body has of resisting disease. In other words, when a body has
been subjected to such influences it becomes more susceptible to the attack of a disease germ if one appears.

Modern sanitation says therefore to the housekeeper, do not give all your strength to fighting contagion or your dread to heredity which may from a mere bogy.—See that the members of your family have an adequate supply of wholesome, nourishing food, a plenty of fresh, pure, not over heated air, an abundance of pure water for drinking and cleansing purposes, vigorous exercise, interesting occupation, quiet sleep, and above all the sunshine and light that a rather groundyng climate
will dole out and their dos.
tors and disinfectants will.
all the worse little work to do
for you.
The Control of the Householder in Sanitary Matters. I
by Marion Talbot.

Every housekeeper should be familiar with the sanitary laws of the community in which she lives both in order that she may conform to them intelligently and that she may supplement them with such further measures as will secure the highest possible standard of health in her family. There is an immense
mass of sanitary legislation in the United States, chiefly state and local. In some places there is so much that no extensive developments are to be expected.
The reform most needed is in the direction of improved administration, for the reason that legislation has frequently been in advance of public opinion and there is consequent difficulty in having the laws enforced. Inadequate appropriations are made and sanitary officers are not infrequently appointed.
for political reasons rather than for professional ability.

The enforcement of much of the sanitary legislation is limited to the departments of police, public works, building, but the chief responsibility usually rests with the Board of Health. Although it is only a little over thirty years since the first State Board of Health was fully organized, nearly every State and territory now has its Board, as a rule their function is advisory; their executive power, if they have any being limited to supervision of river pollution, food adulterations, dairy inspections,
and the like. Various sanitary associations are doing good work in educating public opinion and in upholding the enforcement of the laws. The influence of women in this direction has been exercised several times to a notable degree, and the results have been beneficent and far-reaching.

The chief responsibility, however, of directing the conditions which affect the public health rests with local Boards of Health. These are constituted in various ways. Sometimes they are made up of...
recent citizens, sometimes a physician is included in the number, sometimes a competent sanitary officer is put in charge of the work. The standards are fortunately improving whenever public intelligence on the subject of public hygiene is growing. But, as Dr. Price says in his "Handbook on Sanitation," while conditions remain as they are, while the sanitary inspector is in danger of losing his place by the frequent political party upheavals, while the tenure of office is insecure, and while the fitness of the candida.
date is political instead of scientific, educated, intelligent and trained men will neither seek nor get sanitary positions.

Local Boards of Health have varied powers. Some are authorized to make ordinances as well as to enforce them; some are merely advisory. The sanitary matters which come directly under the jurisdiction of municipal Boards of Health are chiefly water supply, sewerage, street cleaning, building and construction, plumbing, local and specific nuisances, supervision of foods, milk, meat, etc., control of infections.
dairies, school, factory, tenement houses and other inspections. In some large cities the work is so great that it is sub-divided and, aside New York, there are special municipal departments on water supply, sewers, buildings, tenement houses, etc.

Very few householders in a large city realize how varied the activities of the health officers are. Aside the exceptions of the joint of organization in Chicago will show somewhat the range of the responsibility and control entrusted to
the Department of Health, which is made up of a Commissioner of Health, the City Physician, the Superintendent of Police, and such other officers as the City Council may from time to time direct. The Commissioner of Health exercises general supervision over the sanitary condition of the city. In addition to the services of clerks, messengers and stenographers, he has the assistance of inspectors for various departments, medical officers, a statistician, an attorney, a chemist, and a bacteriologist with assistants.
Each young lady is required to spend a portion of time in domestic employments, either in sweeping, dusting, setting and clearing tables, washing and ironing, or other household concerns.

Let not the unteachable mother and daughter express their dislike of such an arrangement, till they can learn how well it succeeds. Let them walk, as the water has done, through the large airy halls, kept clean and in order by their fair occupants, to the washing and ironing rooms there they will see a long hall conveniently fitted up with some thirty neatly painted cubits, with
a clean floor, and water conducted so as to save both labor and chopping. Let them all come thirty or forty. Many girls, superintended by a motherly lady, chatting and singing, washing and starching, while every convenience is at hand and everything around is clean and comfortable. Two hours thus employed, enable each young lady to wash the articles she used during the previous week, which is all that is demanded, while thus they are all practically initiated into the arts and mysteries of the wash tub. The Superintendent remarked to the writer that after a few weeks of probation, most of her young washers succeeded quite as well.
as those whom she could hire and who made it their business. Adjacent to the washing room, is the ironing establishment; where another class are arranged on the ironing-day around long extended tables, with heating furnaces, clothes frames, and all needful appliances.

By a systematic arrangement of school and domestic duties, a moderate portion of time, not exceeding two hours a day, form each of the pupils, accomplished all the domestic labor of a family of ninety, except the ironing which was done by two hired domestics.

Geocology, Cynology, Beeloria, Technology, Barn's Acherology.
1. 'Domestic economy' will be taught theoretically, through text-book and lectures, by a competent instructress.

2. Visible illustrations of the principles under discussion will be furnished, to the utmost practicable extent, in the college kitchen, larder, dining-room, laundry, etc., with reference, e.g., to the selection of meats, vegetables, and other articles of food; their preparation for the table; the arrangement of a pantry; the setting and serving of the table; carving; care of silver and cutlery; distribution of domestic's work; washing, ironing, etc., etc.

3. Personal instruction will be given to every one who needs it, as to the care of her own clothing and her own room, with particular directions respecting the best treatment of carpet, bed, bureau, and other furniture; and the laws of order, neatness, and taste will be systematically enforced on all. No servants' work will be exacted of the young ladies; yet they should be taught to superintend the work of servants in their own apartments, and to do with their own hands there whatever a lady ought to know how to do.

4. Regular hours for sewing will be allotted to all the students, first, for the necessary repair of their wardrobes, and then for ornamental or benevolent objects, of their own selection. In these sewing groups, which will be placed under the direction of competent teachers, opportunity will be afforded for many useful suggestions; and, to some extent, regular instruction may be given in plain and ornamental needle-work.

In the words of one of the early graduates,

So rapidly did the idea of college education for women change that, three years later, the only vestige of this programme left was the sewing hour. The steward's department and the laundry were forbidden ground, and the only "domestic economy" taught was based on the making of the bed after due airing, and the dusting of the few articles which the parlor contained. No supervision of servants was hinted at.
Domestic science in a college course has been talked about a good deal for some years; in fact, it was once considered as quite as important a part of a college education as the study of Greek or mathematics. Witness the following statement from the prospectus of Vassar College, issued in 1865:—

"The household is, by common consent, woman's peculiar province. In the majority of cases, it is the only one in which she performs an independent and dominant part. The art of administering its various economies, therefore, is among the least dispensable of her acquisitions; nor can any one hope to be recognized as a thoroughly accomplished woman who is not an accomplished house-keeper.

"But home is the proper school for this art,—the only school in which the house-keeper can be thoroughly trained and accomplished. The young lady at school is not placed in the proper condition for successful practice; nor can anything more than an approximation to those conditions be effected amidst the complex arrangement and crowded occupations of the college life, all looking to a widely different object. The trustees are satisfied that a full course in the arts of domestic economy cannot be successfully incorporated in a system of liberal or college education, without a far larger demand on the time of the students than would be either practicable or wise. The result of experiments already made in this direction is not such as to encourage a repetition.

"On the other hand, it is not forgotten that the young lady who takes the college course is withdrawn from home for years during the formative period of her life; placed in an artificial community, surrounded by influences and engaged in pursuits which, however exalted and salutary in themselves, are foreign to those with which her future life must be most conversant. In such circumstances, she is in danger of forming tastes and habits tending to unfit her for her allotted sphere, and to render its duties perhaps positively distasteful. Whatever the college can do, consistently with its special work, it will do, to guard against such tendencies; to maintain a just appreciation of the dignity of woman's home sphere; to foster a womanly interest in its affairs; to teach a correct theory, at least, of the household and its management, and to give some practical training in such domestic duties as admit of illustration in college life."
The Vocational and Secular Value of Domestic Science

By Marion Talbot, Professor of Domestic Science, University of Illinois, and David W. Jones, Professor of Domestic Science, University of Illinois.

A strong movement in favor of what is called vocational education.

Many people assert that present educational methods are not sufficiently directed toward the future needs of children and young people and that there must be a radical change of methods if the future workers of the world are to be effective producers. On the other hand it is as strongly maintained that making a child immediately productive is not the whole object of an educational system, that life means something more for most people and should, for all people mean more than just physical
existence, that there are social, intellectual, and spiritual qualities to be learned and made useful and that consequently the vocational idea must be made more broadly inclusive than some of its advocates have the vision to see is necessary.

In this situation the teacher of domestic science has a great opportunity and a real privilege for it is within her power to realize both aims of education and to develop efficiency in the activities of living and to train in ideals of character as well as in power to contribute to the larger social well-being of the community. Indeed a teacher who is not only proficient in the technical aspects of her subject, but
realizes the larger implications, it contains so we a position to make an exceptionally large contribution towards the solution of the problem.

A brief survey will show what the domestic science teacher should consciously have in mind as results to be attained.

1. In all forms of education, the requirement of information is naturally one of the first ends. It is doubtful if any one line of training affords an opportunity for a wider range of knowledge than does domestic science. Study every field of useful facts and theories.
be drawn upon to serve as subject matter: Chemistry, physics, botany, physiology, bacteriology, language, history, economics and curves all may serve as sources of knowledge which come to full fruition value when they find expression in the development of human life. The experience of the domestic science teacher need be very brief to show her that every department of knowledge may contribute to the realization of her ends. As has been said by Mrs. E. H. Richards, “Domestic science is the keystone in the
I. Of all the sciences.

2. Whatever path the child may follow in the future there will be need of giving the mind control over the body. Domestic science furnishes an admirable means of securing manual dexterity, of skill in manipulation, in coordination of body and mind and the acts of seeing and hearing are properly coordinated.

3. The children need to be trained in habits of order and system. The careful and thrifty use of appliances and materials, the planning of resources, economy in making steps may well be shown in the Temple.
There are also many opportuni-
ties for teaching the prin-
ciples of sanitation as for ex-
ample securing proper ven-
lation, the right use of plum-
ing and effective methods
of cleaning dishes and
utensils as well as ef-
caring for food so that
it will not undergo un-
wholesome changes or
be subject to infection from
insects.
5. Domestic science should also seek to develop the sense of beauty and fitness. The crude tastes of the child may be care.
fully directed through the agency of different household activities. Elaboration of food, cloth, work and housework.
furnishing, may easily be shown to be in poor taste, while standards of beauty may be slowly revealed to the child through opportunity to make aesthetic judgments and to combine the useful and the beautiful.

6. One purpose of education should certainly be to strengthen the power of observation. Domestic science deals primarily with facts and processes that are an intimate part of the child’s experience. So intimate in fact that they are often passed unobserved. Using them as a starting point, a skillful teacher may accomplish a great deal in awakening the
child's power to observe what is going on about him and to seek the reasons for what he observes. He will then gain in power to control his environment and in self-expression and as well as to experience that joy in thinking and a problem which leads to the still greater joy of doing with intelligence and efficiency.

7. Throughout all the training the value of expending time, money and strength may be constantly pointed
out or learned from well-directed efforts. There are diminished chances to impress upon the child the importance of living human life in the best and worthiest ends of acting with and for others.

In brief, training in domestic science should be informational, disciplinary, hygienic, aesthetic, observational, ethical, and socializing; or in still broader terms it should be awakening and cultural as well as vocational.

The object of training for household management
may be otherwise expressed.

The education of every girl should secure her development as a human being with individual powers and aspirations, as a good citizen prepared to do her part in promoting the common weal and as a trained worker competent to perform useful service as will justify her existence as a member of the social group in which she is placed.

Domestic service should keep all these ends in view in training the child. Vocational education will make
several demands. The service which the girl will render in the future must be professional and lasting in its nature. In other words, it must be of value. As housekeeper or manager, she may be paid in money. As housewife or philanthropist, her work must be worthy of payment. She must be expert or able to control rather than be controlled. She must know how to grapple with problems and deal effectively with unexpected situations. In other words, she must have executive ability treated by intelligence.
and knowledge.

She must be familiar with the materials which are under her direction such as food, clothing, and furniture as well as with the principles of sanitation, dietary and buying. A knowledge of aesthetic principles of art and design and color will add to her efficiency.

Whether married or single, she is likely to have the oversight of children or to be responsible for these. Here physiology, child hygiene, psychology and the principles of education are greatly needed.
Whether she is a householder or not she needs to have the elementary principles of civics and law at her command and also be familiar with the simpler transactions of business and money matters.

It is interesting for one who is working with young students to notice how the so-called drudgery of the home takes on a new aspect when the activities of the home are shown to be far-reaching in their effects and demanding a high order of ability and training if they are to be worthily performed. A clergyman
about to leave this situation in a clergyman's family to attempt to become a dress maker. Her employer said, 'Don't you realize how important what you do is?' My husband is engaged in all these difficult matters that come up in the church and the city. Workpeople call upon him to help settle strikes, he organizes aid for the needy and other good works, and when he comes home tired and worn out you have good food ready for his refreshment and thus help enable him to carry on his work.' This was a new view of the
cosh, and fortwith she'd
saw up all ideas Great their
tasks were menial and
insignificant.

Many a young woman
today is fretted by the
prospect of a meaningless
round of duty washing,
cooking, and serving,
but she would easily
carry on these routine
measures if somebody
would show her how
they may be interpreted
as necessary steps in the
expressing the highest so-
cial virtues. As the
old English poet, George
Herbert, well says:
"A servant with this clause
makes drudgery divine;
It sweeps a room as softly as
makes that and the action fine."

Domestic service has suffered too long from confiming itself to the mechanical operations of cooking and serving. Young people have instinctively known that these are belated industries and have cleared against retaining them in the home by force of tradition against all the modern appliances which are driving them out. The process for the sake of the process does not allure
the young person and yet too often it is all that the domestic science teacher has in view or can offer.

The suggestions which have been made in this paper may seem too remote and idealistic in the near future. Undoubtedly they are for those teachers of domestic science who make a great deal of cooking and serving and who teach the training and insight to realize that in these household arts selves they are useful or society of little educational value.
Moreover, but by placing a false estimate upon their importance, results instigating true reassessment, their true relation to the real values of life. It is only when the cultural and vocational value of domestic science and all its implications can be appreciated and interpreted will this important branch of study fulfill its proper mission.

Finally, it is apparent that such a view of the scope of domestic science implies a much broader and more thorough training than most teachers at present receive. There
is a growing recognition of the need for thorough and broad knowledge of the so-called natural sciences. It has not yet been adequately recognized that the social sciences have a large part to play in the proper equipment of a teacher who is to direct the young for life in its fullest sense. Standards are advancing rapidly, opportunities are likewise increasing and such conferences as this will aid in giving dignity and the
real approval to a
vocation which will not
fail to reach out and
even help the conscious
when its function is
recognized to be one
of interpreting the values
of life to those of high
station as well
Vocational + Cultural Value of D.S.

Movement for vocational ed.
Reason: Productive
Not viable + education
Not only physical + moral + intellectual
D.S. line has great opportunity to
realize different aspects of education
combine cult + vocational
Several aspects in mind viz.

- Informational + physical discipline
- Observational
- Aesthetics + ethical
- Socializing + cultural
- Vocational

Object of training for household manag-
ment may be otherwise expressed.

Education: Every young person must
secure best development as woman as in-
dividual + as good citizen + able to
perform some service. The service
which the job is to render must be pro-
fessional not casual as housekeeper
paid or not. Need, executive ability, will
range of knowledge, aesthetic training
care of children, care of law, business
activities of home far reached. real
routine of drudgery. D.S. suffers
from being limited to mechanical work.
The Housekeeper and her Opportunity.

More than twenty three hundred years ago, centuries before the dawn of the Christian era, Xenophon wrote a dialogue in which Socrates declares that "the ordination of the house is the name of a science, and that science means the order and increase of the household". He goes on to describe the relation of women to this science by saying, "in my opinion a wife who manages her share in the household matters well has much influence as her husband in their prosperity, for, as a rule, it is the labor of the husband that brings in the money of the family, but the judgment of the wife that regulates the spending of most of it; and whilst houses in which these matters are well-managed increase, those in which they are ill-managed decrease in prosperity".

It is fitting to point out that we are very apt to go astray in our notions of the real meaning and scope of prosperity. We are apt in these days to generalize about social and national prosperity; we lose ourselves in a maze of abstract conceptions and terms. We are puz-
zled and discouraged by the prevailing discussions in regard to socialism, communism, and nationalism. We seek to find in these magic terms a means of securing the prosperity all are seeking. It is only when we realize individual and responsibility that we begin to see the way to reach our goal. If we study the ideas underlying the current phrases we cannot fail to see how prosperity, to be truly national, must first of all rest in the homes. And if we see this clearly, we must go a step further and then we cannot fail to accept Socrates' statement in regard to the responsibility of women in securing the prosperity of the home.

We have further evidence of its truth in our own day. After showing how the prosperity of a nation will depend, in some measure at least, on its advance in the application of the laws of sanitary science, an eminent British sanitary has declared that the future of this science rests for execution and permanent support upon the women of the land. He indirectly indicates the way in which they will best fulfil this trust by paraphrasing the saying of the financier "Take care of the
pence and the pennies pounds will take care of themselves", in this way," take care of the houses and the towns will take care of themselves."

What are some of the qualities upon which woman's success in fulfilling this duty and opportunity will depend? Every thoughtful observer must say that the highest qualities of mind and heart not only find scope, but are actually essential in the administration of the home. Depth of thought, clearness of idea, a wide range of knowledge are needed to cope with household problems. Judgment, moderation, and decision find ample play in household emergencies. The faculty of administration and government is essential in the performance of home duties. Accurate methods of observation and logical habits of generalization are needed at every turn. These requirements cannot be considered too severe when it is remembered that the home is assumed to be the basis of personal and national prosperity, not the abode of dreary drudging alone.

The question next arises what shall be the training
of women for their work? In the first place, the best mental and moral discipline on broad general lines should serve as the foundation of any special training. This is a truism among men of any special calling, even if it affects human comfort and happiness only incidentally and briefly. Women are beginning to recognize its truth in their own calling, and claiming and using opportunities for sounder education and broader culture. In addition to this general basis of knowledge and discipline, which is more and more emphasized as a preliminary to activity of every high order, there should be a more special training for the particular work in hand.

Among the methods of special training for her work, on which womankind has for the most part hereto fore relied, the natural method is the chief. A mechanic, even of a low order, expects to serve an apprenticeship before assuming responsibility in his trade. On the other hand, a woman frequently assumes that a knowledge of domestic handicraft will come by nature. There is supposed to be an inherent instinct which will lead her in the right way.
One by one the theoretical objections based on physical weakness and mental incapacity have been met and refuted; one by one the barriers of custom and tradition have fallen and now, in our own land at least, women are given the best opportunities for education and culture and day by day
when the test comes. Then follow, in too many cases, experiment, failure, mismanagement, tired nerves, physical and moral chaos. There is little wonder that domestic affairs do not always fascinate when conducted in such a hap-hazard fashion. If universal natural proficiency cannot secure happier results, is it strange that girls look outside the home for some calling in which strenuous effort is needed to attain skill? They see little to prove to them that "good housekeeping may be an expression of all the principles of science, ethics and sociology."

Fortunately some mothers realize from experience or observation that instinct is not always a competent guide, and seek to save their daughters from the disastrous results which are likely to follow from placing too implicit confidence in it. They supplement any natural taste their girls may show with object lessons in housewifery. Recipes are copied from the mother's manuscript cook-book; family traditions in regard to Monday's washing or Friday's sweeping are zealously treasured, and the girl is fortunate indeed who has such resources as these even at
There is little reason that your country's economy should suffer and your society change. There is little evidence that economic and social cohesion is harmed.

In our previous letter, we challenged you to reflect on the nature of your current situation and to consider what actions you might take to improve it. We hope that you have given this matter some consideration.

We encourage you to explore alternative strategies that could be implemented to address the challenges you face. It is important to consider the long-term implications of any actions you take, and to ensure that they are sustainable and effective.

We appreciate your interest in this matter and remain available to provide further assistance if you need it.
her command, though she hardly gets more grasp of her subject than the traveller gets of a foreign tongue by combining a phrase-book.

But this method does not always prove adequate and we turn next to the schools. More than fifty years ago, when Catherine Beecher wrote her "Treatise on Domestic Economy," she made a plea for this training and gave it a practical turn by describing a course carried on in a school which was considered a model in those days.

When Vassar College was organized, the idea of a special course in domestic economy was adopted and outlined in the prospectus issued in 1865. But so rapidly did the meaning of college education for women change that three years later hardly a vestige of the elaborately detailed programme was left. The plan was taken up by Wellesley College twenty five years later and placed on a more scientific basis.

Of late the principle of special training has grown greatly in public favor, as is shown by the success of the courses in domestic economy offered by different indus-
The American Woman of the Present Day

As a result of the great war, the American woman has come into her own. She has proved her worth in industry, commerce, and politics. She has shown her ability to take responsibility for her own life and to make important decisions. She has demonstrated her intelligence and her capacity for leadership.

The American woman is no longer content to live in the shadow of men. She is determined to have a voice in the decisions that affect her life and the life of her country. She is fighting for equal rights and equal opportunities. She is working to create a society where women are valued and respected.

The American woman is not only a wife and mother, but she is also a worker, a voter, and a citizen. She is a force for change and progress. She is a vital part of the American community. She is a symbol of hope and optimism. She is aexample of what can be achieved through hard work and determination.

The American woman of the Present Day is a force to be reckoned with. She is a powerful voice for change and progress. She is a vital part of the American community. She is a symbol of hope and optimism. She is aexample of what can be achieved through hard work and determination.
trial schools. A still more significant change is indicated by the plea which is occasionally made with growing vigor that education in household affairs should be extended to include an opportunity for special research. Miss L.M. Salmon pleads for "a professional school where all the historical and scientific aspects of the household can be investigated in the same earnest spirit as are those other occupations called, but with no more reason, 'the learned professions'."

The reasons for the growth of this idea, as well as for the brief success which has met some of the methods employed in schools, are interesting to study. We are apt to forget in the routine of our daily life that the conditions of household management have rapidly changed rapidly during recent years. Decades ago the knitting needles, the distaff, and the spinning wheel were banished from our homes. Even the busy needles has had for some time an insecure tenure. In the great centres of life and activity, in the cities, the towns, the villages, foreign hands do the work at the wash tub and the range. Many
industries which were formerly in the hands of women in their homes have now become trades followed almost entirely by men. Hand in hand with these changes in the condition of labor have come equally great advances in human knowledge and skill. As Mrs. E.H. Richards well says:

"the properly educated housekeeper has all the forces of nature at her command, - the lightning harnessed to give the light and power; the stored up energy of the past ages at her command by turning a stop-cock; swift steamships and railways bring her fruits and vegetables from all climes; the vast prairies furnish meat, game and flour; mechanical skill gives her all kinds of labor saving devices; the general prosperity and improving taste of the country admit of tasteful decoration of the rooms."

Moreover, in every department of intellectual activity, advances are made which bear directly upon household interests and prosperity. Physicists, chemists, physiologists, biologists, sanitarians, political economists and other specialists are day by day discovering truths of science fitted to contribute to the welfare of human
An M.I. Engineer will soon publish a complete and detailed description of the improvements and the methods used to achieve the desired results. The improvements include an efficient system for water supply, a new drainage system, and the construction of a new road leading to the area. The work has been carried out in a manner that will ensure the long-term stability and efficiency of the new system.

The improvements are expected to significantly enhance the area's infrastructure, improving access to the town and facilitating economic development. The project has been closely monitored by local authorities and has met all the required standards for environmental and safety regulations.

The results of the project have been positively received by the community, with many expressing their gratitude to the engineers and the local government for their hard work. The improvements are expected to benefit not only the residents of the area but also the broader community, enhancing the region's economic potential and quality of life.
homes, if women would but reach out and grasp them and put them to practical use.

It is curious and indeed almost painful to note how long womankind remain in ignorance of the scientific advances which have a direct bearing on the practical administration of the house. In spite of the prevailing theory, which has been urged at times with clamor, that "the home is woman's sphere", there are but few women who are masters in their professed realms; fewer still who are alive with the true spirit of progress, and very few, alas! who can be leaders in making domestic science the keystone in the arch of all the sciences which have a bearing on human welfare.

Let us ask now how we can bring the general disciplinary studies and the special training of the college into relation with domestic life. What are some of the subjects in which scientific investigation and the practical aid of the trained housekeeper should go hand in hand?

The control of the milk supply is a subject of vital importance and the efforts of sanitarians, boards of health, dairymen's associations, and medical soci-
eties to protect the community should be seconded by the in-
telligent and determined cooperation of women. Housekeepers,
moreover, have it in their power not only to help secure
and enforce wise legislation on this point, but also to put it into practice the recent discoveries in regard to the
sterilization of milk. They can thus aid in removing one great cause of infant disease and mortality and there are none to whom this beneficent task more rightfully belongs.

The interesting studies in regard to the nature and prevention of consumption, which have been presented to the general public in popular yet scientific form by several writers and notably by Dr/ T. M. Prudden, are worthy of careful observation. The Society for the Prevention of Tuberculosis says: "While science does not yet offer a certain cure, it has demonstrated that the disease can be avoided and prevented. It is now believed that tuberculosis can be exterminated among civilized people". A very little study of the measures proposed will lead to a change in some methods of household care. The feather duster, for instance, will be banished and the broom will be given a place of less
honor and importance than it now holds.

Recent studies in regard to the examination and purification of the water supply, particularly those conducted by the Massachusetts State Board of Health, should be watched by all intelligent housekeepers and their results put into practice as directly as possible, both in the control of the private water supply and in the effort to maintain right public opinion. The dangers to health from polluted water are more far-reaching and insidious than is commonly supposed, and at the same time there are few subjects concerning which popular judgment is so poor a guide or in which domestic management may play so important a part. The need of more intelligence in regard to the nature and characteristics of impurities found in water and concerning possible methods of purification is evident from the surprising ease with which vendors of so-called water "purifiers" and filters impose on an innocent and ignorant public.

The investigations recently carried on in Germany relating to the movement of air in a house are of importance.
Surely every one who learns that under ordinary conditions and in a given period of time the whole volume of air, which at first filled the cellar, is found in the upper part of the house (one half, roughly speaking, in the first story, one third in the second, and one fifth in the third) will learn to look on the cellar as the reservoir of air for the house, and will grant that as such it needs at least as much of her care as the parlor. How many know of the experiments by scientists which prove that no current of air can by ordinary means be made strong enough to remove germs or bacteria from the surfaces of furniture or carpet or draperies where they may have lodged? Surely everyone who does appreciates the comparative inefficiency of "airing out" a room when cleansing is the end sought. How many of us have followed the inquiry of Professor Lucy M. Salmon into the problems of domestic service has opened a new field for study. Surely everyone who has must be impressed with the fact that relief for existing difficulties is not to be found in off-hand theories, but that the subject deserves more
scientific study than it has yet received, and recognition of its place in the industrial field by housekeepers, as well as by statisticians and economic specialists.

There is no department of housekeeping which demands and receives more time and attention than the purchase, preparation and serving of food, and yet there is none which is carried on with so much routine and so little conception of its real interest and significance. Although many women pride themselves on their housekeeping, meaning by that the food they supply to their families and friends—very few are aware of the great advances which men are making in the study of dietetics, thus giving to the nutrition of the human being some part of the attention which has been heretofore devoted chiefly to the feeding of horses, cattle, and other domestic animals.

Investigators are rapidly gaining an exact knowledge of the energy and nutritive value of the different food-stuffs, as well as of their differences in digestibility and the kinds, amounts and proportions of food necessary for the best nourishment of the body under varying conditions of work and repose, climate, age, and sex.
In a recent article Mr. Edward Atkinson advocates the establishment of food laboratories for the study of the economical nutrition of man and the art of preparing food.

He states that there is yet no popular science of cooking; there is yet no common art of cooking; there is now widespread ignorance on the whole subject, resulting in a waste which is not only unprofitable, but noxious in its influence on the general health of the community. The art of cooking as now practised is wholly empirical, and to a great extent bad. Almost all rapid or quick cooking is bad cooking.

The science of cooking, as I have stated, consists in the regulated application of the right degree of heat for a suitable time to work the true conversion of the raw food materials into nutritious food. The importance of these suggestions is self-evident. Is there any better work for women to do than to give practical aid in such researches by studying the preparation and economical use of foods in their own households? All who engage in it will surely find
a large part of what seems like drudgery transformed into an intellectual occupation of a high order.

The plea cannot be urged too strenuously or constantly that the relation of women to conditions in household life should be that of students. As Mrs. Mary Hinman Abel suggests:—"Every house should be an experiment station. In the question of house service the housekeeper takes part in the struggle between capital and labor; in mastering the plumbing of her bathroom she is studying hygiene and sanitary science; in studying methods of cooking she is grappling with problems in chemistry unequalled in interest or value by the experiments in any laboratory"

Such opportunities as these should not daunt the courage of the housekeeper of today. Many of her voluntarily assumed duties are as difficult and yet do not bring satisfaction to herself or benefit to the community comm-
the text will be met

resonate with the labor and

thought they involve. On the other

hand she will find that the

home afford her an oppor-
tunity to use her collegiate

training in such a way that

she may directly cooperate

with the thinkers and in-

vestigators of the world and

may no less than they, make

distinct contributions to the

improvement of conditions in

household life and thereby

to our national prosperity

as well.
Conditions affecting Standards of Cleanliness

by Marion Talbot

The object of the following suggestions is to secure cleanliness which is an essential element in any intelligent effort to preserve and maintain health. Dirt, filth, or pollution may be in the form of gases or solid particles. Gases may come from the lungs and body, from fires and lights, from leaking gas pipes, or from decaying matter in drains and garbage heaps or from factories and marshes. They may vary greatly in their effects, some being
Poisons and all harmful in so far as they replace the oxygen of the air which is one of the necessities of life.

Solid impurities are of two general classes, (1) dead matter, (2) living forms. The former may simply irritate the lungs and throat, the latter may produce decay or disease and are the more serious in their effects. Darkness and dampness are generally favorable to their growth. Sunlight and dry air are therefore very helpful sanitary agents and must be secured in the fullest possible measure.

Every large town has building laws which necessitate
the construction of buildings
in such a way as to prevent
to greater or less degree
the admission and accumu-
lation of impurities and to
maintain real cleanliness,
but there remain many points
which must be settled accord-
ing to the discretion, judgment,
and intelligence of the house-
keeper. Among these perhaps
the most important are
ventilation, lighting, plum-
ing, house furnishing and care.

It must be remembered
that the cardinal principle
of ventilation is circulation,
though draughts should be
avoided. It is by ventilation
that nauseous impurities
are removed. An outlet for
Foul air is generally more important than an inlet for pure air, as air will inevitably be drawn in through cracks in windows and doors, if foul air is given a chance to escape. The air in a room will frequently be renewed more effectively by opening a door in such a way that the air can join the general current and ascend, rather than by only opening a window. If the wind is blowing in a room that is shut up it is very illly ventilated by merely opening a window at the bottom. The windows should be constructed so that they may be opened easily at both the top and the bottom. A piece of cotton...
Cloth or a board may be placed over the opening of a window to break the force of the current of air. When there is a great difference between the temperature indoors and out, a change of air takes place quickly and consequently the windows need not be opened so wide as under other circumstances. An opening of an inch will be as effective when the weather is very cold as the full opening if the windows will be open when the weather is warm. It is nevertheless better to err on the side of letting in more air than is necessary than to give an inadequate amount.

The treatment for tuberculosis consists in providing a free supply of fresh, cold air to the patient.
and people was think them
selves well are made more re.
constantly and
existed to disease by respi.
of pure air.

Lighting is an important
factor in effecting household
cleanliness. Sunlight is one of
the most efficient inactivating
agents. Besides revealing the
cleanliness in general, it is ef-
fective in destroying germs
and might well be substituted
for some of the more costly
and less effective disinfectants.
Its moral effect moreover is of
great value to the Housekeeper.
It is much easier to keep a
light place clean than a dark
one. The need of good light
should therefore be constantly
borne in mind and every
effort, such as cleaning windows
and preventing draperies from
obstructing light, should be
made to secure it.

Artificial lighting should
be carefully considered as it
is a considerable factor in af-
flecting the cleanliness of air.
A kerosene lamp of ordinary
size vitilates as much air as
do
three to five persons
and a gas jet as much as four
persons. This should be remem-
bred when ventilating a room.
Kerosene lamps should always
be kept full, both to lessen the
danger of explosion and be-
cause, while no more oil is
burned, the flame is larger.
Some of the cheaper brands of
kerosene give off inflammable
vapors at a low temperature.
Special pains should be taken not to allow any gas to escape and always to light it as soon as it is turned on. One of the components of illuminating gas is one of the most poisonous gases and as it has no odor it is especially dangerous. No time should be lost in locating and repairing a leakage. Many obscure illnesses may be traced to this source.

Plumbing affects cleanliness in two ways. If it is improperly constructed, injurious gases may escape from it or possibly disease germs may make their way into the house through it. Where sanitary plumbing is regulated by law, an appeal can
be made to the Department of
Health if leaks in pipes or in-
sufficient traps or flushing
are suspected. The plumbing
work should all be exposed
to view or concealed behind
panels that can be easily re-
moved in order that leaks
and imperfections may be
quickly detected and remedied
without the expense and
trouble of calling in carpen-
ters and masons, the dread
of which often leads to a fatal
neglect. The points to be
practiced are few and com-
paratively simple when one
has mastered the principle
underlying the system of
plumbing. The house drain
pipes should be not more
than four miles in diameter
so that they may be thoroughly washed by the rush of water.

There should be a trap or bend in the house drain near the cellar wall to prevent the entrance of air from the sewer. The drain should not be buried beneath the cellar floor and should be protected from the settling of the cellar walls by a supported opening where it passes through them. The soil pipe which runs vertically through the house should be four inches in diameter and should be carried above the roof about two feet. Each water closet, sink, and tub should have a separate trap. Water closets should discharge two or three gallons of water.
at each flushing. Pan closets are altogether objectionable. All objects which would be likely to obstruct the pipes, such as hair, matches, etc., should be excluded from the pipes and careful instructions to this effect be given as well as proper places provided for receiving waste.

If flushing is not provided in the house, the following precautions should be taken to secure cleanliness. The contents of the out house should be frequently removed or drained. A box of dried coals should be placed conveniently near and a quantity be thrown in after each use to keep the contents dry. Stop water and other fluid wastes should
not be forced in as the efficacy of the earth as a disinfectant is destroyed when it is very wet. Stop water may be thrown on the ground, not too much or too frequently in one spot. The ordinary cess-pool, with loosely laid brick or stone walls, is intolerable near the house. The fluids soak into the ground, permeate it and the fumes arising from their decomposition may work back under the house and pollute the cellar air. The best device is an absolutely tight receptacle whose contents may be emptied by means of pipes extending under the surface of the ground, but whose construction cannot here be described.
Home furnishing and care afford a wide field for varying standards of cleanliness. Every article of furniture should be of such material and shape as will permit of constant cleanliness with the amount of service available. The effort necessary to keep some articles of upholstery and bric-a-brac clean is frequently more than is justified by the beauty or comfort they afford. This is especially true of the furnishings of bedroom, whose absolute simplicity and neatness should prevail. Care should be given to the bedding, which not only should be of wash materials, but should be exposed to the air and sun for several hours every week.
Unmerchandised manufacturers and dealers often impose on the credulity of customers by advertising cleaning agents for which unusual powers are claimed. They are all made of the time-honored substances which under their own name can be procured at much less cost. A well-made solution of washing soda for laundry purposes is as good as any washing powder and much cheaper. Nothing is better than eye for cleaning greasy dishes or sinks or cleaning out pipes and two cents' worth will often save a large plumber's bill. It is better to use a standard soap of well-established reputation.
than to experiment with new
fangled soaps, which have
been more thoroughly adver-
tised than tested.

It should be remembered
finally that a high standard
of cleanliness is not syn-
onymous with fussiness.
A fixed day for cleaning
a given room is not the
foundation rock for
family well being, as
would be supposed from
the rigid routine which
prevails in some house-
holds. The first essential
is to have only such elabora-
tion of structure plumbing.
furnishing, ornament, and clothing as can be cared for by the service which is at command; the second is to maintain constantly a proper standard of cleanliness which will not involve onerous effort if the work is directed with a sense of intelligent adaptation. It is not too much to assert that under standards do not involve of necessity the woful experience, to many a sufferer as the spring-cleaning.
Household Expenses

Marion Talbot

The American woman's notion of good financial methods seems to be summed up in her pet phrase: — "It is such a bother to keep accounts. I know what I have to spend and I only spend for what is necessary." This method may do well enough where only her individual welfare and interest are directly involved. When the prosperity and progress of a household are concerned, it is a very shiftless and unintelligent method.

Very few housekeepers have any definite knowledge of the relative amounts they expend on different classes of household
needs. They know as little of
Engels laws and their practical
application as they do of Hebrew.
These laws have been formulated
as the result of a careful study
of a great many expense account
of households with a moderate
income. They show:

1. The higher the income, the
smaller is the percentage spent
on food.

2. The amount spent for clothing
remains and keeps a distinctly
constant proportion in the ratio.

3. Lodging, warming, and lighting
have an invariable proportion
whatever the income.

4. The more the income in-
creases, the greater is the propor-
tion of the different expenses
which express the degree of well being.
It has been shown repeatedly by statistics that, on the average, half
the income of wage earners is spent and, one might almost say, has to be spent on food,
leaving the other half for all the other household expenses. As the
income increases, the amount spent for food does not increase
in the same proportion and there is accordingly more left
to be spent on what is involved in the term "well being," such as
pictures, travel, amusement, and the like.

Mr. E. H. Richards, in "The
Cost of Living," says "The twentieth-century household demands
of its managers, first of all a scientific understanding of the sanitary requirements of a
human habitation; second, a knowledge of the values, absolute and relative, of the various articles which are used in the house, including food; third, a system of account-keeping that shall make possible a close watch upon expenses; fourth, an ability to secure from others the best they have to give and to maintain a high standard of honest work.

These suggestions surely indicate that the careful study of household expenses does not mean a wearisome, irritating, useless piece of drudgery, as many housekeepers seem to think. It is not merely a balancing of accounts, income and expenditures, up to the last cent. It means that
the full purpose of the different expenditures shall be understood and that they shall be adjusted to bring about the best good of the family. If the income is very small and practically half of it must go for food, then it is particularly important that not a cent shall be wasted.

It has been stated that in many families, where half the income is spent on food, ten per cent of the total income is frequently squandered in needlessly expensive materials, often providing little nourishment, bad preparation, needless waste and other ways.

If the householder remembers that the proper nourishment of her family
is an essential and that the more carefully she studies the problem the larger will be the amount of income available for the higher life of the family she will feel it truly worth while to give considerable attention to this form of household activity.
Popular Notions of Home Economics

At the recent Home Economics Exhibit of the Chicago Association of Collegiate Alumnae an attempt was made to show how science can be applied to daily living, as to raise the standard of health, to lessen drudgery, and to secure the greatest satisfaction for the time, money, and effort expended in home keeping. It was naturally impossible to have a complete ex-
hibit of a subject which has recently attracted co-operative study, but the hope seems reasonable that this beginning will be aug-
gmented by lines for future in-
vestigation.

The visitors to the Exhibit
for the most part showed an intelli
gent realization of its aim and its limitations. A few false im-
pressions, however, have reached the public through the press and there misconceptions have been circulated with some show of authority. The bills of fare ex-
hibited were not intended to serve as models but to show the way in which students might be expected to approach the problem of a properly balanced diet at a
moderate cost. Moreover, although one of the charts indi-
cated that a bill of fare might be devised costing no more than
ten cents a day for each person, it was not intended to convey the impression that everybody should be limited to that
amount because some people are through force of circumstances. Such conclusions are of more use to the "fussy man" than to the housekeeper and student.

As an illustration of how the cost of providing food might be studied a table was shown giving the items for which the money paid by students at the University of Chicago for table board is expended. The price of food is 3.50 a week and all the expenses have to be met from the income. The following is the division:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food (students)</td>
<td>$1.87</td>
</tr>
<tr>
<td>&quot; (servants)</td>
<td>.37</td>
</tr>
<tr>
<td>Service</td>
<td>.68</td>
</tr>
<tr>
<td>Fuel</td>
<td>.07</td>
</tr>
<tr>
<td>Laundry</td>
<td>.04</td>
</tr>
<tr>
<td>Furniture and repairs</td>
<td>.11</td>
</tr>
<tr>
<td>Rent and miscellaneus</td>
<td>.18</td>
</tr>
<tr>
<td>Ice</td>
<td>.06</td>
</tr>
<tr>
<td>Scavenger</td>
<td>.03</td>
</tr>
<tr>
<td>Tea and coffee</td>
<td>.09</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$3.50</td>
</tr>
</tbody>
</table>
One observer remarked that the allowance for servants' food was very small in proportion to the student's allowance, failing to see that each student had to help pay for only a part of each servant's food, as there are five or six students to each servant. Most of the visitors however could see that the value of such a study lay in ascertaining which items of expense could best be modified in order to secure better results.

Public interest in such studies is rapidly growing and the modest beginning made by this exhibit will surely develop into an educational force of permanent value.
Home-Making is a

This term suggests practically
unlimited phases of activity
for the modern housewife; all
aiming for their adequate
realization not merely the
so-called "domestic virtues";
but trained intelligence,
dense of values, power of
leadership, grouped with ability
to coordinate and cooperate
in fact many qualities of a
high order. It has been
pointed out that scientific
household management must
include not merely the proper
device of shelter and the
maintenance of right physical
conditions but that shelter
but the directions of this life
which the shelter serves in
such a way as to prove very
for its fullest and richest expression. This function [which] may be called home-making [may be viewed from two aspects: the subjective and the objective] or the activities which go on within the home and affect chiefly and primarily the members of the family and those activities which relate the household to the community as a whole and which in turn reflect the activities of the community in the home. In actual fact it is not possible to draw a sharp line between them. The modern household is not an independent unit. The most intimate and personal doings within its four walls are allied at every stage with the complexity of the great social
organization of which it is a part and these demands in turn help create the atmosphere and mold the conditions which determine what the community as a whole is to be. No one can live unto himself alone in a reality or true of the family group as of any individual within it.

There are however certain typical interests of the family which may be taken as representing one group or the other. Happiness and health, for example, are largely determined from within the home. Education and economic and social well-being from without.
The pressure of those duties which provide for physical well-being is often so great as to blind the housekeeper to the fact that material comfort is not an end in itself, but should be made to serve as the basis for the expression of the higher qualities of the family. Many a housewife known for her "immaculate" housekeeping makes her family miserable in the process. Some house cleaning is a trifle of tribulation, a burned loaf of bread or a heavy cake may spoil the whole day for the family, and the making of preserves may throw all personal interest into the shade and call for the sacrifice of all
independent plans for family well-being. The chief problem of the housewife is therefore to adjust the relations of the mechanical processes of housekeeping, with the individual and communal activities of the family so to make the house and its maintenance seem constantly and solely for the higher satisfactions of life. Much is written about wisely and the sweetness of maternal affection in household life, and the comfort and satisfaction there is in having all the business of the household permeated with its spirit. The danger comes when the more intimate and personal needs of the family are unsatisfied, because of the exaggerated importance
which is ascended to the actual participation by the wife and mother in the daily tasks. There can be no exaggeration of the importance of the mother making the bread or pie with her own hands to achieve a higher degree of satisfaction for her family, but if the process exhausts a scanty supply of nerve strength and leaves her unfit to give sympathy, comfort and appreciation when she is turned to as the heart of the home, then she has chosen an unwise method of expressing her nature. The "mother love" is not missed in the flavor of the bread, but there is peril to the family security if it fails when it is sought.
in time of perplexity, sorrow or happiness.

The housekeeper must in many cases must perform her household tasks without aid. The problem is to simplify them to such an extent as to leave time, strength, and opportunity for contributing to the higher welfare of the family. Fewer kinds of food, less elaborate clothing, simpler furnishing may mean more time for the rose, the flowers, the fire in the hearth, the story telling, the chat about the next day lessons or the birthday party, the family singing the reading aloud, the helping with the doll.
dress or the carpenter's tools
the surprise party or the
candy pull, the sympathetic
hearing of the difficulty
with the neighbor's child
of the misunderstanding
with the teacher. Such
stamps as these are the
real factors in home-making
and no house-keeping how-
ever excellent can take
their place or bring the
family life to its fullest
achievement or permanence.

Another typical activity
which has to do with home-
making is the exercise of
hospitality. Here modern
standards have gone sadly
astray. False ideas of the
purpose of hospitality have
taken the place of the true
The payment of social debts.
and the display of social power or pecuniary resources threatened to crowd out or place in an ab- and object the impulses of friendliness and generosity which are at the basis of that feminine desire to extend hos- pitality which characterizes nearly every human being.

Here again comes the conflict in the home life as to the mo- nama adjustment of his re- sources in order to secure her end and not be lost in the purely mechanical and material process. The problem is made more dif- ficult by the transfer of social convention by the temptation to seek to imitate the customs which prevail in a different social group. Very often the result is far
from satisfactory. Not only is the housewife worn out and fagged by her efforts, and the family ill at ease with the unmainted display, but the guests whom she tries to please or impress are tired, fatigued or a-
mired with these attempts. Even children are too often and too frequently made to participate in forms of hos-
pitality which have nothing to commend them. Plans for using social resources for pleasurable ends should be a part of all real home making and a firm stand should be taken against undue expenditure of time, strength, and money and against meaningless formalities and absurd pretensions.
The home should be entirely independent of outside pressure and influence in furnishing expression to those motives of generosity and in gratifying those social needs which are important factors in family life.
Further illustrations of the function of home making where the home is practically an inside student unit cannot be given in this place. It remains to point out, although necessarily with brevity, some of the features of real home making in which the home is largely influenced by its environment and the social group of which it is a part. Because of this influence it is clear that the home maker should possess qualities and direct activities which will not merely prevent the home from being subordinated to the community but will result in a positive contribution to the well-being of both home and community.

Education was formerly a chief concern of the household, a "domestic industry" as it has
been called. Such formal education as there was came largely through learning to read at the mother's knee or studying under the family lamp during the long winter evenings. But there was in addition the development of physical vigor and manual dexterity through participation in the labor of the house or the farm, the training of the moral virtues through the somewhat stern discipline of the domestic life of the time. Conditions have changed greatly, and the home has been turned over to the school and to the influences of the social and economic environment most of its educational functions. It is true that an undue amount of educational influence has left the home.

An attempt should be made
to use every opportunity which the home affords for training in power to cooperate and to carry responsibilities. The obligations and privileges implied in membership of clothes, books, toys and other articles should be used to develop moral power and the chances to participate in the household activities and to contribute to the family welfare through the regular and faithful performance of menial tasks should be fully utilized as a means of character building and training for the larger duties of citizenship.
Even though the home maker may lay proper emphasis on these methods of utilizing the resources of the household for the good family, there is a whole realm of education which has passed beyond the walls of the house and which in the popular judgment has passed also out of the hands of the householder. The school seems to have no relation to the home, at least in that it is dependent on the home for its organizing, administrative methods.

The fact is ignored that in truth the school belongs to the home. It is not a plaything for the politician, a job for the ward heeler's daughter or a source of profit for the book vendor. That home making fails in one of its chief duties which does not make itself felt.
as the paramount power in the school system and contribute
toward satisfying the demand
that it shall serve fruit and
foremost the child in its home.
This means that for true
home making the woman
must leave her four walls
and her so-called "sacred
hearth stone" and take an active part in determining
the scope and methods of the
school system and in devising
more effective ways of making
it contribute to the efficiency
of the home and its product.

Education, however, is by
no means limited to the school.
Influences of many kinds
reach upon the individuals
in the home from the society
of which they form a part.
The street, the shop, the
playground, and the place of
amusement contribute
constantly, though often imperceptibly, to the sum of forces at work in determining the quality of family life. In the popular mind what these influences shall be is thought to be beyond the province of home making. They are fixed by the public taste, will or judgment. If they are objectionable or offensive, the home maker has but to resort to exclusion or prohibition in order to prevent their entrance into the life of her family. The fallacy here lies in supposing that the public exists independently of the units which go to make it up. It is of course quite possible to accept as purely temporary determinations by the more aggressive and dominating members of the group, but that does not
mean that the individual family is utterly helpless. Influences of a higher order can be initiated by any family of judgment, discernment, and tact. "Public" opinion can be molded without great difficulty and the social environment can be shown to be largely under control provided it is considered in the light of its relation to the home and active participation in it. Very much to be a genuine function of home making.
A few determined, patient, and intelligent people can set forces in motion which will result in the supervision of children in play grounds, the elimination of objectionable pictures and bill board posters from public view, the control of disorder and nuisances in public grounds and vacant lots, high standards of cleanliness in streets, shops, markets, and public places generally, and other ways of determining social activities so that they will contribute toward the welfare rather than the deterioration of family life.

Another field which the housewife must enter if she is to fulfill her duties of home maker is that of public health. Here again
the term "public" is misleading. It is easy to shift responsibility on to a vague indefinite something which is called "the public" whereas the truth is that there is no abstract "public." But only that group of factors to which every individual and every household belongs. In the same way there is no "public health" apart from the health of each individual and each household. Partly because of the ignorance of the different units and partly because of the greater efficiency and economy which results from cooperation under expert direction, many matters pertaining to health have been organized and placed under the control of special
officers. This fact, however, does not imply that the individuals and the separate households which cooperate thereby lose all connection with the problem. The reverse is true, and every woman interested in securing a better physical condition as a basis for the best house life should actively and intelligently cooperate in this work so that no harm to the health of others comes from her own home, but that the organized supervision of these homes and individuals shall be efficiently, wisely and economically administered. Protection of water supplies from pollution, proper disposal of wastes,
inspection of foods so that wholesome nourishment can be assured, control of infections disease and maintenance of cleanliness in streets, workshops, markets and other places where people congregate or from which supplies for the household are procured are matters in which the housewife should take an active and responsible part. She should not only help determine the standards to be maintained, select the administrative officers and constantly give her moral support to the best efforts which are put forth by those whom she has chosen to do this important service for her home.
The use of so-called communal pleasures, such as the theatre, the cinema, the art gallery, the museum, etc., is such a way as to encurage and invite the family to leave the home life, rather than to draw the members of the family together. An important phase of home making, no matter how superficial, cooperation in social betterment and in organized religious and civic work is a means of developing the best spirit in home life. Finally, no home making reaches its highest form of expression unless it is made to serve those who are weaker or less fortunate.
The odd form making 28
this alleged to account
for why only the
benefit of the
rhythm and the
suffering is
realized.
The management of the house is sometimes called the most difficult of all professions. It is described as the foundation stone of national prosperity and of social progress. It is said to call for powers and knowledge of a high order. Women are urged to look upon it as their "sphere" offering them scope for all their ability and aspiration. Within the home are started and guided those forces which chiefly make for human weal or woe. The appeal goes forth from the pulpit and the legislative hall, from the school and the press that women shall not be turned aside from this high duty by the new interests and vocations which are opening before them, or seek contentment and happiness in other forms of service.

There is, however, another side to the picture. It is one that many women know only too well. Drudgery, routine and monotony, economic dependence, financial stress, intellectual and spiritual starvation, self-immolation, these are the features of house management which impress many women. They do not have any chance to experience the glory that is said to be in it. The aim of this article will be to harmonize in some degree these two points of view.

Early in the seventeenth century Cervase Markham in his "Country Contentments" included in the requirements of the English housewife that she be "generally skilful in the worthy knowledge which do belong to her vocation". A study of social and domestic history shows that in all times the education or training of women has been in essential respects adapted to the vocation which was by common consent assigned to her. The present age may be said to form an exception to this statement. The training usually given to the housewife of this generation consists for the most part of cut-worn traditions
and leads to a blind following of custom. She attempts to fulfill her duties by carrying on a round of small economies, petty details and unenlightening routine. She thus makes a fetish of those features of the household life of former times which were then subordinated to the large interests characteristic of the household in which industries and crafts of various kinds demanded intelligent skill and business and executive ability. She is for the most part ignorant of the immense changes which have gone on in society.

This is not the place to trace the history of the industrial changes which have occurred. It may be briefly noted however that during the first half of the nineteenth century, spinning and weaving, the manufacture of candles and soap and other similar household arts were transferred from the home to the factory. During the latter part of the century the preparation of food became in many instances a factory process, as is seen in the development of the great packing houses, the increased use of methods for the preservation of fruit and vegetables and the establishment of milling on an international basis. The manufacture of clothing is now being finally developed and bread-making is carried on largely through the work of men in factories. In place of deciding what she should make, as her grandmother decided, the housekeeper today must chiefly decide what and where she will buy. The change has come gradually upon her. So closely were the older processes knitted into the very fibre of her domestic life that she has failed to take notice of the change and she goes on blindly struggling to retain processes in her home which no longer have a real place there and believing that by her efforts she is conscientiously, if not very satisfactorily, maintaining the housewifely standards of her grandmothers.
The consideration of these general principles naturally leads to a study of those practical measures which will embody the latest conclusions of applied science and of social economy as well as recognize the importance of the relation of the home on the one hand to the individual members of the family and on the other hand to the community as a whole.

Household management implies three different factors which are often disastrously confused. They are housing, housekeeping and home making. It is true that although each has a separate meaning, they all go together to make up one whole. The human body may be used as an analogy. There is first its structure or its anatomy, then its physical activities or its physiology, and finally its spiritual life or its soul. Housing is the material form which shelter takes; housekeeping is the direction or maintenance of the physical aspects of the house, while home making is the crown of all, the nurture and development of that spirit which finds expression in the popular phrase, "There's no place like home." It will be convenient to follow this grouping in a presentation of the more detailed divisions of the subject.

The topic of housing may be conveniently discussed under the following heads, viz., economic aspects, sanitary features

A study of modern social and industrial conditions shows conclusively that the old time homestead is an institution which has practically disappeared. It presented many advantages, but even though it may be granted that the flight of time has not given these advantages a fictitious value, it is useless to repine at their loss. Great forces have led to the grouping of people in cities and even these centres of population are subject to fluctuation. Business and trade carry men
from one town to another often for only brief periods of time. Even in a single town there are many exigencies in addition to business, such as schools and social relations, which may make removal from one part to another not only desirable but imperative. Such conditions interfere not only with permanence, but often result in making ownership of the house of doubtful good. Instead then of vainly lamenting the passing of conditions which were highly advantageous in a different social and economic state, the householder should study the new conditions. Considerations of economy, convenience, the future development of the neighborhood, financial security, comfort, probability of permanence, educational value and sentiment are all factors bearing on the problem of choice of home and whether ownership is desirable. These points concern all householders but are of special significance to those who live in towns and cities.

Another question which faces the modern housekeeper is that of the relative advantages of the house, whether owned or rented, and the apartment. City and town planning has thus far been very badly done, or in fact not done at all in this country. The growth of urban communities has taken place so rapidly that thought for the future has been crowded out by the need of immediate action for today. As a result the apartment house system has been developed under the pressure of high land values and the pecuniary advantages of the joint use of common conveniences like yards, sidewalks, water pipes and drains. There has not been worked out at the same time a desirable plan by which some of the advantages of the separate house could be retained. Many communities are now trying to solve this problem as new sections are opened for housing or as old residence quarters are condemned. The experience of the housewife is needed as much in reaching satisfactory conclusions as the skill of the landscape gardener or archi-
tect or the knowledge of the sanitaryian. Mean while as a practical proposition the householder is called upon to decide between the house with its greater domestic freedom, privacy, space and comfort as against the uncertain cost of operating, greater amount of service needed, more restricted opportunity for absence or for moving, and usually greater distance from business, school and friends, involving greater expense in car fares and in time and strength than would generally be required in the care of an apartment.

From the sanitary standpoint proper shelter demands free movement of clean air both without and within the house, means for rapid and complete removal of body wastes, plenty of diffused light, such freedom from standing water, rubbish, dirty streets and smoky air as would disturb peace of mind, ample facilities for cleanliness, and plenty of space to secure, at least at intervals, that degree of privacy which health of body and of soul alike demand. The style of architecture and the social aspect or convenience of the locality are not the chief points to be considered. A house which is to be not only a beautiful but a healthful home must be considered with reference to the far more important points which have been named.

Special attention should be given to the actual site upon which the house is built, but not for the reasons which were formerly advocated. It has been disproved that a damp soil can in itself cause such a disease as tuberculosis, as was believed before the discovery of the germ without whose presence no amount of moisture can cause the disease. The belief now is that the relation between the disease and dampness is probably quite indirect. Even if it is true that dampness depresses vitality, as is sometimes asserted, it is also true that many symptoms which were formerly attributed to dampness are known to be due to
Not many generations ago the home was an almost independent unit. It manufactured what it consumed. It found its educational and social resources largely within itself. There were many hardships and not always much joy, but there were also compensations in opportunities for training in efficiency, thrift, self-reliance, integrity and other so-called "sterner" virtues. The home of today is in striking contrast. Modern inventions and modern industry, the school, the theatre and the playground have taken over many of the former interests of the home. It has been said that the young man is now learning to make the "forward pass" in football when his grandfather would have been in command of a ship. I am struck by the number of students eighteen, nineteen, twenty years old who come to the University accompanied by their mothers who frankly and quite naively speak of them as "little girls" and tell how they have never had to look out for themselves at all. I am always tempted to ask "How old were you when you started a household of your own" and not infrequently the answer comes, "Oh, I was only sixteen, seventeen or eighteen, but that was different!"

To keep all the richness of opportunity and the joy of life of the modern home and to restore some of the values of the older home seems to me the greatest need of today. I do not wish to appear cynical, but in business, in civic life, in politics, even in friendship and in married life I see constant yielding to the easy, the selfish, the popular way of doing things. The home must find ways of training in real values. The common good must be shown to be more interesting than self indulgence, the straight truth, better than
the quibble, the little act of self sacrifice more satisfying than the hour of careless pleasure.

With the old fashioned chore gone, many parents seek in vain for means of character building and tacitly turn over the whole process to outside agencies. I would suggest as a device which is too seldom appreciated and utilized, the conduct of the business of the family by the group as a whole. If the wife again had complete knowledge of the family resources, as in the olden time, if the whole family took part in conferences to determine the expenditures and activities, if different duties and functions were then distributed among the members of the family by mutual agreement, I believe that the family would be more unified and strengthened. Moreover, there would inevitably follow from the smaller conceptions of mutual obligation higher standards of honor and much greater efficiency than we always find in these days when wreckage of railroads and banks, and looting of public treasuries, and even breaking up of families make us heart-sick.
The task of selecting the clothing for her family is one of the most difficult for the modern housekeeper to perform rationally. The Scientists have given dietetic standards prescribing the kinds and amounts of food necessary for persons of different ages doing different kinds of work. There may be disagreement among these scientists, but at least there are formulated standards about which to disagree. In regard to clothing however, no attempt has yet been made to formulate a standard. For many reasons the greatest confusion prevails in regard to the whole subject.

In the first place, there is the question whether one will make or buy ready-made. As has been said, the manufacture of clothing is fast becoming a factory process, and the hideous mishapen, blue-calico wrapper has been so widely distributed as to be termed my some the "American uniform." But the careful and economical manager hesitates before she gives up entirely the making of her own and the children's clothes, and when she thinks of doing so she is frightened by reports of unsanitary work places and underpaid sweating labor.

There is, too, at work always, in connection with clothing the baneful influence of the merchant who is himself a victim of a wrong economic system. He would like to give "good values," but he must sell as cheap as he can and he must make as many sales as he can. He is therefore, tempted to sell adulterated fabrics. He does all he can to emphasize the importance of being in the fashion and makes use of the arts of advertisement and of salesmanship. The constant appeal of the printed page, of the skillfully draped window, of the tempting catalogue and of the artfully presented goods is brought to bear
not only on the housekeeper, but on the boys and girls for whom she cares.

In addition to these difficulties created for her undoing, there are real difficulties for her to face. The question of the value of durability and greater cost or relative cheapness of goods which will not last so long is a real difficulty. The question of the extent to which she can control methods of laundering, so that really good wash fabrics would have a chance to endure a reasonable length of time would determine this question in the case of underwear; in the case of outer clothing, the ways in which the garments are soiled, the cost of having them cleansed in her particular community are determining considerations in the selection of fabrics.

In the selection of her clothing more than in any other of her tasks, the housekeeper will be led to think of the people who serve her indirectly for whose conditions of work she is partly responsible. She cannot buy intelligently today and not have regard to her possible responsibility for the employment of children in the textile or knitting mill; for the under-payment of women who make the flowers on her daughter's hat and for the excessive fatigue, from unduly long hours of girls in shops.

She has long been able to reject the appeal of the cigarette for her bonnet, not only because of the cost in money, but in suffering to harmless, beautiful creatures. She will begin to think now of the suffering of women workers.

Nor are the difficulties over which she has settled the questions already stated. Real confusion grows out of the fact that clothing serves several purposes. It is supposed to give adequate protection to the person against the discomfort of the weather and against contact with unpleasant
substances. It is also supposed to meet the requirements of decency and modesty, and to answer the requirement of beauty. It is also a very good devise for showing exactly how well off one's family is, and so securing that position in the esteem of the community to which one's economic position entitles her. If, however, these purposes are to be served, great regard must be had to what one's neighbors think, and this prevents just the careful adaptation of expenditures to recognized needs and wants which is the bases of sound, free, and wise economy.

Perhaps all the help that can be given at the present time is to state the difficulties. If the intelligent housekeeper will face them, frankly, she will have taken a long step toward overcoming them.
A Practical Experiment in the Study of Dietaries.

The science of nutrition is a subject of such recent development that its practical application in the study of dietetics is only just beginning to be possible. Until within a few years the growth of crops and the feeding of domestic animals have been the fields to which the results of discoveries in regard to nutrition made by Physiology, chemistry, bacteriology and kindred sciences have been chiefly applied. It is a source of satisfaction to observe that the need of extending the present knowledge of nutrition to the care of human beings is gradually receiving more and more recognition.

One of the most notable examples of this new movement toward the better and more intelligent use of food is the experiment which has been recently authorized at the University of Chicago. The results obtained thus far have proved so suggestive and practical as to lead to the belief that similar studies in a modi-
fied form would be well worthy the attention of intelligent housekeepers. At the opening of the new Women's Halls, October 1, 1893, it was agreed that it was a fitting undertaking to attempt to supplement the intellectual and educational advantages of the institution with a corresponding care for the physical requirements of the students. Accordingly under the direction of the women Deans, with Mrs. Ellen E. Richards as expert adviser, a definite study and careful investigation was made of the food supply furnished the occupants of the Women's Halls. The results of this investigation were published at the end of six months in a pamphlet entitled "Food as a Factor in Student Life,- a Contribution to the Study of Student Diet." The methods of investigation thus begun were continued from day to day and it is now possible to draw some conclusions and useful suggestions from a comparative study of the results obtained during the six months ending April 1, 1894 and the year ending July 1, 1895.

It is impossible within the scope of the present article to describe every detail of the experi-
ment or to take into account all the phases which lend interest and importance to the problem. Such matters as methods of cooking, digestibility, attractiveness in serving, amount and kind of waste, quality of food material bought, and the final results as shown in the physical condition of the students, while receiving the closest attention from the investigators, must be passed by without explicit consideration in this article in order that special emphasis may be laid on such important and general questions as nutrient value, nutrient proportion and cost.

The method pursued was to keep an exact record of the amount and cost of all food purchased and of the number of meals eaten. A supplementary record was made of the amount and cost of all the food eaten each day, for the purpose of readily determining whether a proper variety and proportion of nutrients were provided daily and whether the daily expenditure of money were kept duly within the amount appropriated for the purchase of food in its raw state.

The record first indicated is the one from which the
want or to face its discover. Any resistance with land in-


terest any importance to the problem. Such matters as

welcome of cohabitation, agricultural assistance in

remaining, meant one kind of waste directly at hand may

rightremen and the district receive as shown in the plan.

soil contamination of the subsoil. After receiving the

those features are important considerations in the natural in

an without the explicit consideration in their articles in

a, . But these reports emphasize may have to do with important

and frequent droughts as important nature, natural pro-

portion and cost.

The weather bureau aims to keep an exact record of

the amount and cost of all cohabitation and of the num-

ber of cobs in effect. A supplementary record was made of

the amount and cost of all the cohabitation셉 can for

the purpose of leaching contamination another a product as

wetland and proportion of minerals, were drained arely and

whether the grain exchange of money where kept only

within the ample subparagraphs for the purpose of land in

in the farm area.

The record itself included the one from which the
Following tables are compiled. The books containing the record were examined and a careful tabulation made of the total amount and cost of each article of food consumed during the period of the investigation. Following this came a calculation of the amount of nutrients and of calories, i.e. energy, furnished by each article of food, based on the analyses of Konig and Atwater with modifications suggested by Mrs. Richards. The following table of fresh fruits is given as an example.
Informative figures are provided. The zone considered for

reporting was examined and a general localization level of the

fossil remains because a cost of each suitable site of fossil remains

taking the benefit of the investigation. Following the

some a concentration of the amount of material and at the

notice, i.e., another interpretation on each article of fossil

pedest on the surface of would and Auster with moderate

certain suggesting on this Fricanac. The following figure

of these figures is given as an example
From the figures obtained from this series of tables the articles of food were grouped into classes of which the principal ones are shown in Table II. In order to make a comparison from which conclusions might easily be drawn, the figures actually obtained for 1895 are here shown, re-calculated on the basis of the same number of people and days that were factors in the investigation of 1894.

The salient features of the results are indicated in Table III.
From this figure, it appears that the scores of Taube...

Table I shows the number of cases to which each score corresponds. In order to make a comparison with the 100 cases, it may be noted that the mean score of the 100 cases is 80. The mean score of the other cases, as shown in Table I, is 70. This difference in the mean scores is statistically significant.

The extension of this research is presented in Table III.
### Table I. Quantity, cost and nutrients of fresh fruit.

<table>
<thead>
<tr>
<th>Fruit</th>
<th>lbs</th>
<th>cost</th>
<th>lbs</th>
<th>lbs</th>
<th>lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apples</td>
<td>7920</td>
<td>131.55</td>
<td>31.7</td>
<td></td>
<td>1132.6</td>
</tr>
<tr>
<td>Grapes</td>
<td>2243</td>
<td>67.29</td>
<td>13.4</td>
<td></td>
<td>381.3</td>
</tr>
<tr>
<td>Oranges</td>
<td>2690</td>
<td>110.75</td>
<td>23.1</td>
<td></td>
<td>254.3</td>
</tr>
<tr>
<td>Grapefruit</td>
<td>15</td>
<td>.60</td>
<td></td>
<td></td>
<td>1.7</td>
</tr>
<tr>
<td>Tangerines</td>
<td>200</td>
<td>10.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bananas</td>
<td>3000</td>
<td>81.10</td>
<td>145.5</td>
<td>18</td>
<td>591.1</td>
</tr>
<tr>
<td>Lemons</td>
<td>1594</td>
<td>94.85</td>
<td>10.2</td>
<td></td>
<td>148.6</td>
</tr>
<tr>
<td>Pomegranates</td>
<td>25</td>
<td>2.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melons</td>
<td>488</td>
<td>12.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watermelon</td>
<td>205</td>
<td>5.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peaches</td>
<td>735</td>
<td>36.75</td>
<td>8.9</td>
<td></td>
<td>238.2</td>
</tr>
<tr>
<td>Apricots</td>
<td>90</td>
<td>4.50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pears</td>
<td>392</td>
<td>19.62</td>
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<td>Pineapples</td>
<td>50</td>
<td>2.50</td>
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<td></td>
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<tr>
<td>Cherries</td>
<td>158</td>
<td>7.90</td>
<td>.9</td>
<td>1.2</td>
<td>12</td>
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<tr>
<td>Quince</td>
<td>20</td>
<td>.90</td>
<td>.1</td>
<td></td>
<td>2.4</td>
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<tr>
<td>Cranberries</td>
<td>65</td>
<td>3.25</td>
<td>.4</td>
<td></td>
<td>5.2</td>
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<tr>
<td>Rhubarb</td>
<td>659</td>
<td>13.18</td>
<td>5.3</td>
<td>7.9</td>
<td>29</td>
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<td>Strawberries</td>
<td>768</td>
<td>46.00</td>
<td>3.8</td>
<td>3.1</td>
<td>56.1</td>
</tr>
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<td>Blueberries</td>
<td>160</td>
<td>8.30</td>
<td>1.4</td>
<td></td>
<td>20.7</td>
</tr>
<tr>
<td>Raspberries</td>
<td>32</td>
<td>1.50</td>
<td>1.4</td>
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<td>6.9</td>
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<tr>
<td>Blackberries</td>
<td>96</td>
<td>5.42</td>
<td>.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currants</td>
<td>96</td>
<td>4.00</td>
<td></td>
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</tbody>
</table>
Table II. Quantity, cost and nutrients of chief groups of food purchased in 1894 with approximate figures for same number of people in 1895.

<table>
<thead>
<tr>
<th>Year</th>
<th>Group</th>
<th>total lbs</th>
<th>av. price per lb</th>
<th>total cost</th>
<th>lbs protein</th>
<th>lbs fat</th>
<th>lbs carbohydrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1894</td>
<td>Meats &amp; fish</td>
<td>21647</td>
<td>$0.081</td>
<td>$1756.19</td>
<td>2559</td>
<td>2260.6</td>
<td>4997.9</td>
</tr>
<tr>
<td>1895</td>
<td>&quot;</td>
<td>17322</td>
<td>0.091</td>
<td>1584.85</td>
<td>2490</td>
<td>2238.3</td>
<td></td>
</tr>
<tr>
<td>1894</td>
<td>Eggs, milk, butter, cheese, sugar</td>
<td>39179</td>
<td>0.051</td>
<td>2013.53</td>
<td>1305.8</td>
<td>3795.3</td>
<td>4997.9</td>
</tr>
<tr>
<td>1895</td>
<td></td>
<td>45169</td>
<td>0.044</td>
<td>1991.17</td>
<td>1544.4</td>
<td>3825.5</td>
<td>5512.6</td>
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<tr>
<td>1894</td>
<td>Grains</td>
<td>14779</td>
<td>0.042</td>
<td>615.62</td>
<td>1363.3</td>
<td>198.2</td>
<td>9374</td>
</tr>
<tr>
<td>1895</td>
<td>&quot;</td>
<td>13137</td>
<td>0.036</td>
<td>477.59</td>
<td>1254.6</td>
<td>199.6</td>
<td>8767.8</td>
</tr>
<tr>
<td>1894</td>
<td>Vegetables</td>
<td>21399</td>
<td>0.017</td>
<td>365.06</td>
<td>281.1</td>
<td>51.2</td>
<td>2764</td>
</tr>
<tr>
<td>1895</td>
<td>&quot;</td>
<td>32457</td>
<td>0.017</td>
<td>553.40</td>
<td>518.</td>
<td>76.</td>
<td>3991.8</td>
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<tr>
<td>1894</td>
<td>Fresh fruit</td>
<td>12082</td>
<td>0.026</td>
<td>315.03</td>
<td>107.</td>
<td>5.7</td>
<td>1536</td>
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<tr>
<td>1895</td>
<td>&quot;</td>
<td>15682</td>
<td>0.032</td>
<td>501.82</td>
<td>160</td>
<td>19.</td>
<td>2067</td>
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<tr>
<td>1894</td>
<td>Preserved fruit</td>
<td>2143</td>
<td>0.087</td>
<td>187.19</td>
<td>35.1</td>
<td>1.3</td>
<td>1139.1</td>
</tr>
<tr>
<td>1895</td>
<td>&quot;</td>
<td>1611.</td>
<td>0.094</td>
<td>150.88</td>
<td>28.5</td>
<td>42.5</td>
<td>885.6</td>
</tr>
<tr>
<td>Year</td>
<td>Grand total paid in full</td>
<td>Stk'd</td>
<td>Year</td>
<td>Grand total paid in full</td>
<td>Stk'd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>--------------------------</td>
<td>-------</td>
<td>------</td>
<td>--------------------------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1935</td>
<td>6.85</td>
<td>430</td>
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<td></td>
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<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1936</td>
<td>6.66</td>
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</tr>
<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1937</td>
<td>6.50</td>
<td>300</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1938</td>
<td>6.35</td>
<td>280</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1939</td>
<td>6.20</td>
<td>260</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1940</td>
<td>6.05</td>
<td>240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1941</td>
<td>5.90</td>
<td>220</td>
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<td></td>
</tr>
<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1942</td>
<td>5.75</td>
<td>200</td>
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<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1943</td>
<td>5.60</td>
<td>180</td>
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</tr>
<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1944</td>
<td>5.45</td>
<td>160</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1934</td>
<td>8.00</td>
<td>560</td>
<td>1945</td>
<td>5.30</td>
<td>140</td>
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<td></td>
</tr>
</tbody>
</table>
Table III. Total amount purchased and cost, with nutrients and nutrient value of food consumed per person per day.

<table>
<thead>
<tr>
<th>Food purchased lbs.</th>
<th>Cost</th>
<th>Proteid grams</th>
<th>Fat grams</th>
<th>Carbohydrates grams</th>
<th>Calories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1894</td>
<td>$0.25</td>
<td>121</td>
<td>121</td>
<td>381</td>
<td>3183</td>
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<tr>
<td>1895</td>
<td>$0.24</td>
<td>116</td>
<td>122</td>
<td>408</td>
<td>3279</td>
</tr>
</tbody>
</table>

# A Calorie is the amount of heat which will raise the temperature of a kilogram of water 1°C.

Calculated by using König’s formula: 1 gram protein = 4.1 Calories, 1 gram fat = 9.3 Calories, 1 gram carbohydrates = 4.1 Calories.
Home hygiene as first aid
Many points elementary.
High lights
Emphasis in changed interpretation

Need of discrimination between essential and non-essential.
Many practices based on body vapors in mumps.
Old views of disease of

First condition why

Housing, housekeeping, homemaking.
Much confusion in current discussion. Illustrate pictures accompanying considered a factor in housing.
Several kinds - 1) lot
2) house 3) room
Principles of healthful living. From the sanitary standpoint proper shelter demands free movement. Clean air both within and without the house, means for rapid and complete removal of body wastes. Plenty of diffused light, safe freedom from standing water, rubbish, dirty streets and smoky air as would disturb peace of mind. Ample facilities for cleanliness and plenty of space to room, at least at intervals, that degree of privacy which health of body and soul alike demand.

Rubbets--aesthetic greatness.
Surroundings.

Immediate neighborhood free from objectionable features such as saloons, stagnant water, ill-smelling factories, and clean, well-kept streets.

Street side maintenance.

Reference to height of buildings.

Good pavements.

Good air space between buildings.

Site: not so unimportant as was formerly thought.

Clean.

Dry? Rubbers.
Constructions
Basement, light, dry, clean, source of air from home.
Windows, size, vs. light, glare.
Light,纱, screens, mce bugs, no cracks.
Porches, proper use.

Safety, stairs.
Protection against fire. Fire escape, Light stairway, halls, free from obstructions. Steps, floor, etc. in repair.
Stairs, main floor, walls, Vining properly walled.

Space, walls of streets, use of cards.
Rooms, small vs. large, houses, open space about. 1 to 1½ persons.
Principles of hygienic housekeeping
more important than beauty

1. Ventilation or air supply

Old : riv, chem, cough
Body exhalation, CO
New : riv, pneumonia
Exhalation, CO

Dust, smoke
Physical conditions

2. Plumbing
Proper use
Real or fancied danger
Should be simplified & accessible in location & price
3. Cleanliness
Hygiene & aesthetic
Rubbish
Sanitation
Individual toilet units
Complete disposal of body wastes.

Personal cleanliness
Washing hands
Care in case of illness
Control of source
Exclusion of mice, etc.
Cleanliness, hygiene, dust-free

4. Food & Feeding
Real economy
Hygienic precautions

VI. Principles of Home Making
H. San. p. 107
LECTURE TO CLASS IN FIRST AID BY PROF. M. TALBOT, May 18, 1917

I. Home Hygiene as "First Aid"

II. Distinction between housing, housekeeping and home making

III. Good conditions in all three essential to health

IV. Principles of healthful housing
   1. Surroundings
   2. Site
   3. Construction
   4. Safety
   5. Space

V. Principles of hygienic housekeeping
   1. Ventilation
      a. Physical and chemical aspects of air
      b. Control of conditions
   2. Plumbing
      a. Proper use
      b. Real and fancied dangers
   3. Cleanliness
      a. Hygienic and aesthetic
      b. Safeguards
   4. Food and Feeding

VI. Principles of healthful home making

SPECIAL REFERENCES

On reserve, Harper E 11 for Physiology 5.

On reserve, Harper E 11 for Household Administration 20

FOR GENERAL REFERENCE

M. J. Rosenau: Preventive Medicine and Hygiene