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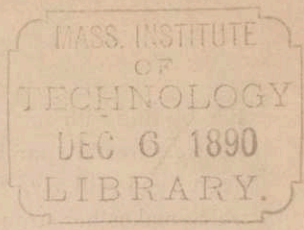
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The Relation of College Women to  
Progress in Domestic Science

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[SERIES II. No. 27.]

# THE RELATION OF COLLEGE WOMEN TO PROGRESS IN DOMESTIC SCIENCE.

BY MRS. ELLEN H. RICHARDS.

*A Paper presented to the Association of Collegiate Alumnae, October 24, 1890.*

The college-bred woman is a comparatively modern product. Twenty years ago one could almost count on one's fingers the women who were so educated, and who were old enough to impress their individuality on any community. It is only just now, when there are two thousand or more mature women who have known what a thorough college training is in their own experience, that we can begin to talk of their influence, or to lay out work for them as a class. As individuals they find their own work; but in some respects it seems to me that they have certain obligations laid upon them as a reward, or penalty, for their position as pioneers and the most observed class of the present day. We have been treated for some years to discussions from eminent men as to our mental ability, our moral and physical status, our predilection for matrimony, voting, or the presidency, etc.; but the kind of a home we should make if we did make one, the position we should take on the servant question, the influence we should have on that centre and source of political economy, the kitchen, seem to have been ignored.

Meanwhile men have talked and argued themselves into many a muddle and inconsistency, and the college woman has gone serenely on her way, making her place in the world by her practical ability without any fuss, until you will find in the thick of almost any fight for the right or for the amelioration of any class a college-bred woman as a leader. You may work

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side by side with one for years and not know from anything she says that she treasures her parchment ; but when you do learn that she has a college degree you will say, "I wondered where she got that power over herself which makes her strong." For some reason, either the current of the time or woman's more practical sense, she has, in the main, been saved from the reproach of the college-bred man of a past time, that he was unpractical.

Foremost among reforms, domestic science sorely needs the combined energy and wisdom of this Association of Collegiate Alumnae. Before your sisters faint by the way, and home is blotted from our land, to the rescue with the judgment and tact that training has given you. To attempt to remedy the increasing troubles, the whole situation must be studied from the bottom, the same patient and scientific method must be used as in interpreting an obscure fact in natural history, or in deciding a vexed question in the history of nations. Trained minds must be brought to bear on the subject, and brave hearts and willing hands must all work together.

We are so often quoted now as an association that we can well afford to set a fashion of our own, and we need not be bound by the traditions which have been handed down from our grandmothers. We no longer worship the opinions of our grandfathers, as to woman's sphere at least. Why, for instance, should all the family wash be on the line before ten o'clock on Monday morning, and all the house be turned upside down for Friday's sweeping? Are our lives, newly broadened, to be at once narrowed again to the petty round of duties, — petty because we allow them to dominate us?

All merely mechanical repetition of manual work is drudgery. The man who digs for the foundation of a great engine, who mechanically repeats blow after blow of the pick, is a drudge. The man who runs the engine, although he may do the same thing day after day, is not a drudge ; he has to put thought and skill into his work, and no care of the great machine seems menial to him. The woman who boils potatoes year after year, with no thought of the how or why, is a drudge ; but the cook who can compute the calories of heat which a potato of given weight will yield, is no drudge. Knowledge of principles always gives interest to work, and is an incentive to the acquisition of more knowledge.

Let us for a moment consider the essentials of a home where love and contentment may dwell, and from which the different members of the family may issue morning by morning, to cheer and succor all whom they may meet. First, in this climate, a roof and four walls for shelter, enclosing spaces, clean, airy, and wholesome. These sanitary conditions are



essential ; the color of the walls and the pattern of the rugs are only secondary. Second, well-cooked food, abundant and varied enough for health ; the cut glass and china are only secondary. Third, and most essential of all, people who mean to make the most of themselves, and the most of their surroundings. The amount of money to be spent is only secondary, when these three conditions are fulfilled.

You will find many such homes in this land of plenty, and it is not from them that the moan of discontent comes. It is from those whose inmates, having less than their neighbors in taste, education, or money, strive to outdo them, — a striving which results in hurry, worry, and pinching, in places not exposed to the public eye. Make a tour of the kitchen department of many a house which boasts a tastefully furnished parlor. The cook is given only utensils clumsy and insufficient in number. What wonder that she is continually changing? But the mistress says it is useless to give servants new mechanical appliances, they only break them or let them get out of order. But does this mistress show the servant how to use the machine, and see that she understands the saving of labor it will bring? What railroad manager hires a man to take out the locomotive of an express train, before he is assured that he can control the machine?

It is my belief that the friction in our domestic affairs comes from the progress of things in general. We live more luxuriantly, we have more articles in our houses to care for, we give more dinners, we wear finer linen, we require more courses, and all this without any fitting preparation of mistress or maid. We must do as our neighbors do, or we shall be ostracized. Shall we? Sometimes rebellion succeeds. Is it not possible for us women, trained to think somewhat deeply on the problems of life, to arrive at a method of our own by which life shall be tolerable and home a real comfort, and yet to avoid doing all the work with our own hands? Is it not possible to reach a truer estimate of time and time values? A large shop can be run, manufactures and business of all kinds are successfully managed ; why may we not attain to something better than a flat or a boarding house? Readiness to change old ways for new and better devices has made the American mechanic what he is to-day, — the leader of the world. Shall the American housewife be less progressive? It is true that there are many difficulties in the way, but more of them than we think will vanish at a touch.

Mrs. Starrett, in her admirable paper on the house-keeping of the future, seems to have touched the root of the servant question in the statement



which I believe to be true for our whole country. She says: "In a large part the insubordination of servants arises from a growing feeling of unwillingness to be directed and governed by the individual. It is the spirit of the age which rebels against the dictates of the individual, but submits freely to the despotism of an organization."

Then it is acknowledged that the position of a domestic is one in which the person must submit to tyrannical requirement, and that there is no redress for real or fancied wrongs except to change the tyrant. Now, there is one thing which the spirit of the age reverences more than an organization. In fact, the organization holds its place because it is supposed to have this one most desirable thing, namely, *knowledge*. Listen to the common sayings of the street: "The knowing ones," "He knows what he is talking about," "He knows the inside ring." The crowd follows the man who *knows*. In other words, confidence in the ability of the leader always carries with it ready obedience. Ignorance is always tyrannical. The first thing for us to do is to obtain that knowledge of our situation, which is power. What is our education worth to us if we cannot order our houses in peace and comfort? You say, "Modern life makes so many demands upon us." True, but no demand can supersede that of *home*, and no home can be perfect in which the servants are unhappy, for the service will be necessarily defective.

I am not convinced that our condition is to be bettered by co-operation alone. In many ways organization will help matters, but I believe it will become possible only when we have eliminated much that is cumbersome and unnecessary and far behind the times in our kitchens, and when we have a far higher standard of that side of life and are willing to pay for it. We put up with poor service, poor food, and poor plumbing because we have no adequate idea of what can be obtained with the time and money expended. Custom demands breakfast on time and at an early hour, in order that the man of the family may catch a train, or meet an appointment at his office. The children, too, must be ready for school, and the meal must be promptly served. Our servants, fresh from a land where half an hour is of no consequence (as it is not east of Maine and south of Mason and Dixon's line), are required to serve on the minute a meal as elaborate as a dinner should be, and are blamed if the coffee is not hot, the steak not just done, and the biscuit not browned.

The trouble is, we have not adapted ourselves and our mode of life to the speed of the electric car, and the consequence is that we are crushed



and maimed. I fear we cannot stop electricity or express trains, therefore we must quickly learn to adjust life to their demands. Let each young college graduate begin her house-keeping in a simple way, feeling keenly that all her future happiness and the welfare of her family depend on the thoroughness with which she masters at the very beginning the essentials of a home.

But not only in her own home is there a call for this knowledge of the fundamental principles of healthful living and domestic economy. In all work for the amelioration of the condition of mankind, philanthropic and practical, there must be a basis of knowledge of the laws and forces which science has discovered and harnessed for our use.

An example of this kind of work undertaken by college women may now be found in Boston. It is a little shop called the New England Kitchen, — a college settlement of a somewhat novel sort, — a place for the cooking and sale of certain typical foods. The cooking is done on scientific principles, and in sight of the customers as an object lesson in methods and cleanliness. It is also a kind of household experiment station, where new apparatus may be tested and frank opinions expressed; a place to which many perplexed house-keepers bring their problems, to find comfort in their despair, if not relief in their troubles. The Kitchen was started primarily in order to learn how the people really live, how they cook, what they buy ready cooked, and what peculiar tastes and prejudices they have. As a means of doing this, it was determined to study the methods of cooking two things, — the cheaper cuts of beef and the cereals, — and to offer for sale the results of the experiments, the proof of this pudding being the selling.

There have been many attempts on the part of sanitary cranks to induce people to eat what was good for them; there have been many attempts on the part of business men to utilize some hygienic theory for a profitable manufacture; but here was an attempt to educate the people to like what was good and nutritious by serving it day by day. The successful issue did not come at once. Each dish was perfected only by the co-operation of the whole neighborhood, after repeated tasting and commenting, so that finally what might be called a cosmopolitan flavor was obtained; and for eight months at noon each day there has been a procession of pitchers, pails, and cans brought by men, women, and children of many nationalities, for pea soup or beef stew, as a witness to the fact that a really good food is appreciated and will be purchased. Here at last is a possible rival to the



saloon. When food can be as easily obtained as drink, many a man will take the food in preference.

In this experiment, the training of the college woman showed. No mere enthusiasm would have patiently waited, understanding that success is reached only through failure and after a most careful study of every detail, and is maintained only by constant vigilance. I believe that there is opened up a whole new field of work for college women in this idea. The ease with which they can disseminate practical knowledge over the business counter, the readiness of the people to learn, when once they are convinced that business and not charity rules the establishment, prove that this is one way at least to reach the masses. The greatest lesson learned has been that the people of our cities best worth helping are the most self-respecting and least willing to receive anything in the way of charity.

The scientific work done at the Kitchen has helped greatly in this respect. A special preparation of beef broth for invalids, and a kind of evaporated milk, practically sterilized, and yet obtainable at a price within reach of all, have been approved by many physicians, and have furnished texts for many a lesson in the food of babies and invalids. The fact that every child put on a diet of this milk during the summer has been saved, would alone justify the existence of the Kitchen.

To equip our young graduates for this variety of work before them, they should be shown before they leave college in what way some of the knowledge they have been patiently gathering is to tell in after life ; for after all is said, this age is a practical one, and our studies must tell.

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.

“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.”

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.

You will notice that this is the old idea of learning to do a thing by doing it over and over again, the idea of the trade school where the apprentice has to go through all the steps day by day mechanically, until he cannot help doing them right.

All former efforts made to teach domestic work in schools have been on this trade-school idea. Is it any wonder that the young women themselves have rendered all such attempts more or less futile? They had a truer idea of the value of their time in school and college.

The spirit of the age has evolved a new theory of education and instruction out of the increased knowledge which we have gained through the manifold discoveries of science. We now can teach the principles of all trades, *i. e.*, the fundamental laws of matter and form, in a few months with just enough practice to illustrate the principles, and we must bring our teaching of domestic science into harmony with the education of the time, which is a broader and more enlightened one.

This idea of teaching domestic economy as a *trade* has been dying a natural death for some years. The new education rendered possible by a fuller knowledge of the forces at our command has been gradually making its way into our public schools and agricultural colleges.

College-bred women have not been idle. Our own Sanitary Science Club, organized seven years ago, issued, as you know, a little manual on Home Sanitation, after three years of close study of the house and its belongings; and the coming winter it is hoped that a second volume on the more difficult subjects of food and household management may be prepared.

Granted, then, that this once popular idea of domestic economy is a



thing of the past, that domestic work in a college is a sort of penance the student should perform to remind her that she is still a woman, and therefore bound to menial duties, what shall be put in place of it? What shall be taught under the head of *Domestic Science*.

First, the subject should be put in the college curriculum on a par with the other sciences, and as a summing up of all the science teaching of the course, for chemistry, physics, physiology, biology, and especially bacteriology are all only the stepping-stones of sanitary science.

Therefore, in the junior or senior year, after the student has a good groundwork of these sciences, there should be given a course of at least two lectures a week, and four hours of practical work.

The lectures should treat of:—

1. The house and its foundations and surroundings from a sanitary as well as an architectural stand-point.
2. The mechanical apparatus of the house, heating, lighting, ventilation, drainage, etc., including methods of testing their efficiency.
3. Furnishing and general care of a house, including what might be called applied physiology, chemistry of food and nutrition, and the chemistry of cleaning.
4. Food and clothing of a family.
5. Relation of domestic service to the general question of labor, with a discussion of present conditions and proposed reforms.

The practical work should include:—

1. Visits of inspection, accompanied by the instructor, to houses in process of construction, of good and bad types, both old and new.
2. Visits to homes where the house-keeper has put in practice some or all of the theories of modern sanitary and economic living.
3. Conferences with successful and progressive house-keepers.
4. Practical work and original investigation in the laboratory of sanitary chemistry.

The class will be divided into sections, each section having a topic assigned, on which a report will be presented monthly, and a thesis written at the end of the year, based on the results of observation, investigation, and the reading of current scientific literature. From time to time the best of these will be given to the general body of students through society chapters or the college papers.

Think you that young women after a year of this study will be less fitted to manage a modern household than one who had made beds, washed dishes, or learned darning all through her college course?



This is not wholly a chimerical idea ; one college is now trying a very similar plan.

I advocate this serious study of domestic science in all our colleges for women for several reasons : —

First, and in an educational point of view foremost, to broaden the ideas of life with which the young woman leaves college, to bring her in touch with the great problems which press more closely each year.

Second, to secure a solid basis for improvement. Those of us who have had a hand in reforms know how much work is wasted for want of knowing what has already been done.

Third, to replace timidity by confidence. The young housewife, who, knowing her own limitations, is afraid of her house and her servants, is likely to come to grief because of the nervous strain she must constantly bear ; and I believe that the larger part of our domestic trials arise from the irritability and exactions of both parties, due to this electrical condition of the nervous atmosphere of the house.

Fourth, to secure the co-operation of trained women in all sections of the country ; for all great reforms need many-sided helps.

In all these efforts we, who have been through the fire and burned our fingers more or less severely, can help very materially by the development of this new course of study. And I venture to say that no work more worthy of the Collegiate Alumnae or more far-reaching in its possibilities for good can be undertaken than the formation of Home Science Clubs, not only by every branch, but wherever half a dozen women can be found with patience and courage enough to study the local conditions affecting home life.