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In Memory of Ellen Mr. Richards

1929

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## IN MEMORY OF ELLEN H. RICHARDS

On December 3, 1928, the eighty-sixth anniversary of the birthday of Ellen Henrietta Swallow Richards, a bronze tablet to her memory was unveiled at the Massachusetts Institute of Technology. It carries a bas-relief portrait by Bashka Paeff, sculptor, below which is the following inscription:

ELLEN HENRIETTA RICHARDS 1842-1911

VASSAR COLLEGE A. B. 1870—A.M. 1873

MASSACHUSETTS INSTITUTE OF
TECHNOLOGY S.B. 1873. FIRST WOMAN
GRADUATE INSTRUCTOR IN SANITARY
CHEMISTRY 1873–1911. SMITH COLLEGE
SC.D. 1910. LEADER IN THE FIELD OF
PUBLIC HEALTH AND PIONEER IN
HOME ECONOMICS SHE STROVE FOR
BETTER LIVING CONDITIONS AS A FIRST
STEP TO HIGHER HUMAN EFFICIENCY

The tablet is the gift of Mrs. Richards' friends. The chairman of the committee in charge was Miss Frances Stern, chief of the food clinic at the Boston dispensary, a former pupil, friend, and follower of Mrs. Richards in the home economics profession. The treasurer was Mr. Everett Morss of Boston, who, in announcing the plan in 1925, spoke of Mrs. Richards as having throughout her work at Massachusetts Institute of Technology put into effect "the new emphasis on science—the correlation between knowledge and action." The other members of the committee were Augustus Herman Gill, Gretchen Abigail Palmer, Samuel Cate Prescott, Alice Frances Blood, Orville Boardman Denison, Royce Wheeler Gilbert, Lois Lilley Howe, Isabel F. Hyams, William Robert Kales, Margaret Eliza Maltby, Eleanor Manning, George Truman



Palmer, Dwight Porter, Lillie Collamore Smith, Alice Irving Tyler, Willis Rodney Whitney, and Charles-Edward Amory Winslow.

The chairman of the exercises of the unveiling was Dr. Augustus H. Gill, '84, associate of Mrs. Richards and professor in the chemical department of the Institute. His introductory remarks, brief as they were, show the spirit of the occasion and the character of the woman in whose honor it was held.

We are met this afternoon to do honor to one of the most remarkable women of the nineteenth century. I regret the delay incident to this observance, caused first by the removal to this new site, and secondly by the Great War and recovery therefrom.

You will readily understand why I should remain silent, but as her trusted associate for more than a quarter of a century, I wish to emphasize her forcefulness, her prophetic vision, her broad, humane, sympathetic spirit, and withal a certain motherliness which charmed us all.

We are especially fortunate in being able to include all phases of her development—as a student, as a teacher, as a leader, and as a worker in Humanics.

The first address was by Mr. William E. Nickerson, '76, a fellow-student of Ellen Swallow at the Institute and now a member of its Corporation.

Ladies and Gentlemen: I have been invited, perhaps I might say requested, to say just a few words on this occasion. Fifty-eight years ago in the fall of 1870 I mounted the granite steps of the Rogers Building on Boylston Street, then the only building possessed by the Massachusetts Institute of Technology. I was at that time a rather raw student, being merely a graduate of a provincial high school. I was fired by a more or less enthusiastic desire to become a chemist and to place my valuable services at the disposal of mankind and through the knowledge that I should gain at the Institute to assist in laying bare some of the secrets which nature had hidden in the molecular combinations of matter. My chemical discoveries, I am willing to admit, yet with regret, have not bulked very large and have not to any appreciable extent affected the progress of mankind in general, or of the science in particular. A few years after my graduation I was diverted into other fields of activity, which seemed to have been more congenial to my mentality, so it is impossible to say, and useless to speculate upon, what the world has lost on account of my not following the career for which I was supposed to be educated. Nevertheless my course of training at the Institute has been of incalculable value to me, for what I learned there I have found ready application in my activities in life.

To impress upon your minds the length of time that has elapsed since my entrance to Technology, I may be permitted to mention that of all the teaching

force of that day the only one now living, as far as I am aware, is Professor Richards. This certainly is a look far backward.

There are many among the personnel of the Institute of that day whom I recall with very pleasant feelings of appreciation, and none more than she who at the time of my entrance was known as Nellie Swallow. She had graduated from Vassar College and was then a student at Technology. In 1872 I became private assistant to Professor Nichols, a position which she also held. It was during this period that I became very well acquainted with her, an acquaintance which proved both valuable and agreeable to me. She was an admirable woman, whose life to its very end was devoted to the advancement of a branch of chemical science which in those days had received but scant attention, that of sanitary chemistry. In this field she became authoritative and she added enormously to its practical application. Her striking personality and her generous disposition made her extremely popular among the numerous pupils for whose advancement in knowledge she worked so long and so untiringly. Words cannot express the enormous amount of good which flowed from her professional activities, both as a sanitary chemist and as a teacher. When Technology lost Mrs. Richards it lost a devoted servant; and the students, an invaluable leader.

I rejoice exceedingly that in this tablet her memory has received a well deserved tribute. It is gratifying to know that in future years it will speak to both teachers and students and hold before them an example worthy of all imitation.

Dr. Alice F. Blood, '03, professor and director of the School of Household Economics at Simmons College, Boston, followed, speaking in the rôle of former pupil and disciple in home economics.

Members of the Institute and other friends of Mrs. Richards: Many of you will recall the moment in one of Maeterlinck's plays when the grandparents come alive through the thought of their grandchildren. This is what those of us who knew Mrs. Richards would like to do today—make her come alive as far as possible for those of you who did not know her.

I have three very different pictures of Mrs. Richards. The women of my day knew her as a dean of women, in fact, if not by official appointment. She saw to it that we had a club room, helped us in financial difficulties, and worried about our behavior. We were fresh from high school and, looking back, I can well understand Mrs. Richards' anxiety lest one of us do something that would close the door which she had, with so much difficulty, opened for women at Technology.

In my day, Mrs. Richards did not devote much time to the young people in the laboratory, but we saw her often working in her own little cell glassed off from the rest of the laboratory and were aware that important samples of water came for her personal attention. Even on our inexperience the perfection of her technique was not lost; and most of us, I am sure, sensed the chemical interpreter behind the quantitative analyst.

My third impression was the result of a happy accident of circumstance. I was sitting on Mrs. Richards' porch making a dinner call when a cab drew up at the gate. Mrs. Richards was on her feet instantly with a radiant smile of welcome for her guest. That smile illuminates for me the many tributes in her biography from those who knew her personally. Without it, I should be able to see her only through the rather scared eyes of an undergraduate.

Of Mrs. Richards' community interests we were only vaguely aware. We knew that she had many callers and saw her come and go. Later when I became closely concerned with home economics work, I wished that I had known something definite of those comings and goings, because it was at about that time that she was helping in the organization of the Lake Placid Conference which a few years later became the American Home Economics Association with Mrs. Richards for the first president.

That she should serve as the center of crystallization for this movement is not surprising. She held a firm conviction that if people knew better, they would do better, and had high hopes for the improvement of the controllable environment of human beings through the application of scientific knowledge. Such projects as the school kitchens, the New England Kitchen for teaching the foreign born, the Rumford Kitchen at the Chicago World's Fair for teaching all, and sundry school lunches under educational control, were all projects to which she devoted her best energies. Mrs. Richards liked to say that some of her ventures were "interesting failures," but how timely the ventures were is perhaps better judged from our vantage point of twenty years. It has become universally accepted that a school lunch should be administered by the school for the welfare of the children rather than by a concessionaire; "school kitchens" have developed to a point where they count substantially in the health program of the community; and numbers of women have found interesting vocations in the general field of nutrition. It is undoubtedly due to Mrs. Richards' influence that the home economics movement concerned itself first with the application of science to home and institutional problems. That she was sensitive to beauty is known to all who saw her in her garden, or heard her talk about an early morning walk around Jamaica Pond, but she saw the greatest need of the homemaker in terms of scientific knowledge. The American Home Economics Association in the twenty years since its organization has grown to a membership of ten thousand with a diversity of interests not wholly forseen by Mrs. Richards. Behind this diversity, however, lies the idea cherished by Mrs. Richards of the possibility of conscious choices which will preserve through changing form that which is of essential value in the home.

The growth of the home economics ideas formulated by Mrs. Richards, and particularly the recent development of what she called euthenics,

was described by Dr. Ruth Wheeler, professor of physiology and nutrition and chairman of the committee on euthenics at Vassar College.

Mrs. Richards carried a load tremendous even for her great and sturdy soul. Dr. Blood has described the early home economics movement carried by her wisdom. I had the privilege of knowing her a little in the Chemical Society, and then of seeing something of her in Washington during the first meeting of the American Home Economics Association, and of her cheerful assumption of that part of her burden. Her interest in projecting science into actual living had been shown still earlier, when for its sake she had substituted at Vassar for her beloved astronomy a course in what was then called "natural science." Even in 1868 Vassar was applying many of the facts in the fundamental sciences it taught to everyday matters, greatly quickening Mrs. Richards' natural interest in doing this. In her letters to her family Mrs. Richards mentioned Professor Farrar's habit of constantly pointing out such applications of chemistry as would help to explain household problems. Very practical applications seem early to have been made, as in her letters Mrs. Richards frequently praised the food served at college; and one dinner, in 1868, was surely fifty years ahead of science, with soup (though frankly, Mrs. Richards said of this that it "was a fashionable one, water poured over meat, with macaroni a little larger than knitting needles") roast beef, succotash, squash, and potatoes, with rhubarb pie and canteloupes for dessert. She said, "All was as nice as possible"; and we say, "What could be richer in vitamins?"

The interest in fundamental science, in finding its application to everyday life and making use of it, as in finding the connection between chemistry and the cooking of food, has persisted at Vassar. No one could have taken courses in chemistry under Dr. Moulton without realizing its practical importance, nor history under Miss Salmon without gaining many bits of wisdom which could be put to the most practical uses. Many other instances could be given. Vassar, like the home economics movement and like Mrs. Richards herself, has always had a clear idea of her own function in the education of women. As the best schools of home economics have steadily insisted upon a firm foundation of really straight science in teacher and pupil alike, building the superstructure of applied science with frequent tests of the foundation beneath, so Vassar, too, has kept her course straight, teaching straight science, and focussing her attention upon it, while currently showing the significance of practical application of scientific truth. Mrs. Richards helped to build foundations for both the home economics work and for science at Vassar when she served the college as a trustee; both have built upon her gift.

In 1916 the Associated Alumnae of Vassar College established in memory of Mrs. Richards a \$25,000 memorial fund to secure annually a lecturer of distinction who shall give at Vassar a lecture or lectures along the line of Mrs. Richards' interest in developing euthenics, or the science of right living.



Now Vassar is embarked upon an educational experiment. Directly in line with its policy since its foundation, it has established a division of euthenics, whose chairman has associated advisors representing such fields as chemistry, physiology, psychology, personnel research, and mental hygiene. Her task is to help students to work out groups of electives, clearly focussed and strongly supported, which shall give them information useful in the science of right living, knowledge of their own bodies and minds, and of some sector of their environment. It also conducts a Summer Institute of Euthenics, to which mothers may come with their young children and for six weeks live on the campus, with a nursery school for children from one and one-half to four, and a progressive school for children from five to nine, studying child guidance, child psychology, child nutrition, methods of education, and religious education, as well as similar subjects in euthenics for adults. Teachers interested in these subjects come too.

All of this work centers in the Blodgett Hall of Euthenics, a beautiful new building given by Minnie Cumnock Blodgett, Vassar '84, a disciple of Mrs. Richards. Much of the work springs from the inspiration given by Mrs. Richards herself; I hope that she is watching it with approval.

The memorial was formally presented to the Institute by James Phinney Munroe '82, Mrs. Richards' counsellor in community work for human conservation. Dr. Munroe's death occurred a few weeks later, so that this tribute was almost the last public speech by this warm friend of Mrs. Richards, of education, and of home economics.

This memorial to Ellen Swallow Richards is associated intimately and properly with the Massachusetts Institute of Technology with which she was actively connected during the greater part of her busy life. Yet it is a national memorial, for her notable services to this institution were but a comparatively small part of her ceaseless and far-reaching contributions to the well-being of mankind.

Small, compactly built, and absolutely unafraid, Mrs. Richards was always a fighter. The women of her generation who undertook, as she did, to overturn the existing order, had need of every ounce of that pugnacity so characteristic of her. When a woman dared to challenge, not merely the relations of her sex to the existing order, but that very order itself, she aroused into shocked protest not only the men, but most of her fellow-women, too.

I go far enough back into the 1870's to remember the tradition of a long controversy between Miss Swallow, President Runkle, and a few members of the faculty on one side, and the rest of the faculty and all the Corporation on the other. "Why," these opponents sternly asked, "should a female take up the scientific studies reserved for men? Woman's place is in the home. Furthermore," they argued, "if one woman is admitted, others will follow; and think

of the disastrous effect upon the young men." Finally, those cautious and reluctant authorities placed her and her small band of disciples in a sort of contagious ward located in what we students used to call the "dump" and known as the Women's Laboratory. We have been made familiar with the contributions, many of them revolutionary, which she brought to her special science, chemistry, and to that combination of applied sciences which came to be known as home economics. But possibly some of us do not appreciate what notable—and again revolutionary—changes she wrought in the most fundamental of social activities, those of the public school.

As we know, through her successful efforts in basing home management upon science instead of upon rule-of-thumb, Mrs. Richards did much to rescue American children, and consequently American men and women, from bad hygiene, unfit sanitary conditions, and improper food. She attacked with vigor, dirt, bad air, and malnutrition in general, but with special zeal she fought those dangerous conditions as they existed in the Boston schools. She realized, of course, that those evils, as well as much of the wrong and inadequate teaching were due to corrupt politics, to general irresponsibility, and to indifference on the part both of the general public and of the fathers and mothers themselves.

She organized, therefore, a committee of citizens, with Dr. Samuel Eliot at its head, to bring about, through legislation, four main changes in the administration of the Boston schools: first, that the large school committee elected "for politics only" by city wards should be superseded by a small committee of competent citizens chosen at large; second, that responsibility should be placed upon an expert superintendent chosen by this small committee; third, that through a school faculty, the teachers should have an active part in laying out courses of study and selecting school texts; and, fourth, that through advisory committees of fathers and mothers, the school and the home should be made to work together.

For four years this committee of hers fought the powers of reaction in extended hearings before the Legislature. In this uphill contest, Ellen Richards took a leading part, though, with her usual modesty, she kept herself scrupulously in the background. In the conducting of those four successive campaigns were shown, in a superlative degree, her special qualities: her pugnacity, tempered by extraordinary tact; her thoroughness, leaving nothing to chance but making certain that every witness should be present, and that the testimony of all the witnesses should be both impressive and cumulative; and her wisdom in realizing that mere arguments in open session would have little effect unless supplemented by many other types of pressure exerted upon members of the Legislature by forces of which they stood in awe.

Every one of the four campaigns was masterly; and the successive modifications of the proposed measure, due to experience gained at the hearings, were almost solely Mrs. Richards' work. Though the effort ended in what seemed at the moment failure, it really prepared and sowed the ground so that within two or three years thereafter, bills were passed under which the schools of Boston were greatly changed for the better. Her experience enabled Mrs. Richards to assist many other cities in similar fights for school reform, and the infinitely better general school conditions of 1928 are due, in unreckoned measure, to the initiative and hard work of this versatile woman.

In the remarkable building-up of the Home Economics Association and the Lake Placid Club, Ellen Richards applied the same qualities of zeal, of tact, of thoroughness, and of optimism that she had exerted in the notable campaigns before the Massachusetts Legislature.

From the above statements emphasizing her fighting qualities, her interest in "masculine" studies, her willingness to descend into the ways of the legislative lobbyist, one might draw the inference that Ellen Richards was unfeminine. Nothing could be farther from the truth. I had the good fortune to be one of her husband's "boys," that is, a student in mining engineering. We were, of course, her special care; and I have a vivid recollection of that charming house to which we students were frequently invited—its plants and flowers, its embracing atmosphere of hospitality, its abounding cordiality, and to hungry boys living in boarding houses, what food! Mrs. Richards carried out in her own household all the principles of home economics which she was so vigorously and effectually promulgating.

It is fitting, as I have said, that this beautiful memorial should be placed here in the midst of the chemical laboratories where she so successfully worked; but a similar memorial might rest, with equal appropriateness, in Vassar College, in the public school headquarters of many cities, in the offices of the Home Economics Association, and in a number of other active centers to the existence of which her initiative gave an incentive so immense.

Representing, as I presume I do, the public and especially that part of it concerned with the progress of education, I feel greatly honored in being asked to present to my mother institution this beautiful and permanent reminder that one of the outstanding builders of the Institute's fame and her educational success was the woman who in the school's early conservatism was regarded as a rather impertinent interloper. The stone that the builders of Technology almost rejected a half-century ago is now become, we rejoice to acknowledge, one of the very heads of the corner.

The tablet was unveiled by Mrs. Richards' husband, Dr. Robert Hallowell Richards, '68, whose long and distinguished career as a metallurgist has, like hers as an analytical chemist, been most closely associated with the Massachusetts Institute of Technology.

The memorial was accepted in behalf of the Corporation of the Institute by the head of its department of biology and public health, Dr. Samuel C. Prescott, '94, who was not only a former pupil of Mrs. Richards but her active ally in pioneer work in public health.

For many of us here today the deeps of memory have been stirred by these tributes, eloquent with friendship, with gratitude, and with appreciation of a great character.

It is perhaps not entirely inappropriate that one who for nearly a score of years was a student and colleague of Mrs. Richards' in this school should be permitted, in the name of the Institute of Technology, to accept from grateful and generous givers this imperishable memorial. It is a privilege for which I cannot adequately express my appreciation, nor my gratitude to President Stratton, who has so graciously and generously made me his deputy for the moment, in order that I may add the tribute of a fellow instructor and coworker in the field of public health and that I might acknowledge, as I now do with sincerity and grateful memory, my personal indebtedness to a great teacher, a great citizen, and a great woman.

To set up a worthy memorial to Mrs. Richards would be a notable event under any circumstances, but it is the more significant in this great engineering school where for years she was the only woman on the instructing staff. Here she rendered immeasurable service, both by her own scientific investigations and through the remarkable influence which she exerted on her students and associates, in adding to the character and the reputation of the institution. This service was especially outstanding in that early period of extreme poverty and stress through which Technology passed in its lean and struggling youth. The world will never know how great was the contribution of her splendid energy and woman's intuition, her courage and faith, her wisdom and scientific skill, always unremittingly exerted in cooperation with the labors of that devoted band of professors in which her husband was so prominent a figure.

This is not the place or the moment for me to review at length those masterly pioneer studies on the chemistry of water, or on the relation of blue-green algae to taste and odors in water supplies, first of their kind in the world, or those manifold studies in other fields which contributed so greatly to human welfare, and were the actual basis of much of the splendid development in America of household economics and the science of healthy living. They have long since been recognized as establishing a new epoch in public health, and as the work of a true pioneer in research, a master of technique and keen power of observation. Through them the whole fabric of sanitary science was strengthened and made practical as well as scientifically sound; matters of doubt were made matters of certainty and subject to correct determination and interpretation through laboratory procedures.

Underlying all Mrs. Richards' activity there was also a spiritual quality, a lofty conception of service and a sensitiveness to duty that made themselves felt, and which she practiced far more than she preached. She was, in biblical phrase, "zealous in good works" and had no patience with sham, half-truths, or half-hearted endeavors; hence her work was always carefully planned, thorough in its execution, and convincing in its results. I cannot help think-

ing of Mrs. Richards as a sort of modern Martha whose labor was scrupulously performed,

"Not as a ladder from Earth to Heaven, not as a witness for any creed, But simple service simply given to her own kind in their common need."

It is my privilege now, on behalf of the Institute of Technology, as the representative of the president and Corporation, and as a member of its faculty, to accept with appreciation and sincere thanks this tablet to Mrs. Richards which has been so generously presented by her friends and former students. It will be cherished by those who knew her as a friend and teacher; it will be honored by those who know only of her service to science. As this enduring bronze is set up in this great temple of science to perpetuate the memory and influence of this distinguished woman, I hope it will become a sort of special shrine at which many who are engaged in the widening fields of service which she visioned and in which she so faithfully ministered will find new inspiration and courage for the study of the problems of human welfare.

I accept this tablet with the hope that it will stand close to the current of that ceaseless stream of young and vigorous humanity which year by year flows through these halls and laboratories like a living, dynamic river. It is pleasant to think that as these young men and women pass this beautiful memorial which will adorn and give distinction to their path to laboratory or research rooms, they may pause for an instant to look upon the serene face there portrayed, and that they may inwardly, even if inarticulately, say in essence to themselves: Here is one of the truly great, for she taught not only her own science but the love of all truth, the dignity of labor, and the nobility of human service.

Since the founding of the American Home Economics Association in 1908–09 was in large measure due to the devotion, energy, and guidance of Mrs. Richards, and since the establishment of a professional magazine of home economics was a part of its work especially dear to her heart, it seems fitting that to the Journal of Home Economics should come the privilege of printing and preserving the account of these exercises in her memory. Their appearance is particularly appropriate at the time when the Association is celebrating its twentieth anniversary in Boston, the city most closely associated with her and her work for "the application of modern science to the improvement of living conditions in the home, the institution, and the community."



