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CONTRIBUTION OF BRYN MAWR COLLEGE TO THE HIGHER EDUCATION OF WOMEN[1]

THE retirement of Miss Thomas from the presidency of Bryn Mawr College, whose destinies she has guided since its formal opening thirty-seven years ago—for nine years as dean in association with President Rhoads, and for twenty-eight as president—and whose ideals, policies and achievements are in so large measure the work of her creative genius, turns our thoughts inevitably to the consideration of these ideals and achievements and to the contributions which this college has made to the higher education of women during her administration. These reflections may serve to lighten in some degree the feelings of sorrow and regret aroused by the severance of relations so long sustained, so rich in accomplishment and so warmly cherished by the students, graduates and other members and friends of this college.

Bryn Mawr began its work at an interesting period in the development of higher education in this country. The path had already been blazed for the collegiate education of women. Each type of institution now recognized—the coeducational, the affiliated and the separate college for women—had been in existence for several years—the coeducational, indeed, for over half a century—and with growing success. But the hard-fought battle was still on. In order to realize how complete has been the victory, how great the advance, recall the changed attitude of the public mind since those days toward college education for girls, indeed the present wide recognition of its vital importance for civilization under the new social order, the many problems then open and now solved—although there

[1] Address at the commencement exercises on June 8, 1922, upon the retirement of President Thomas from the presidency of Bryn Mawr College.

will always be open problems enough in the educational field—the many opportunities for advanced study and research and the careers now open to women and the large achievements of to-day as contrasted with the relatively meager results of those earlier years. In this forward movement Bryn Mawr under the leadership of President Thomas has held a position in the front rank.

Certain fundamental questions, once hotly contested, have been so completely and definitely settled that it is a waste of time longer to discuss them. My profession has at last given its reluctant consent to the proposition that the health of girls is generally benefited rather than impaired by the conditions of college life. The demonstration of the capacity of young women to meet all the mental tests of college work at least as successfully as men students is complete and convincing. College breeding, instead of sacrificing, enhances womanly charm, attractiveness and fitness for domestic happiness. Girls go to college for the same varied reasons, aims, motives and ambitions as their brothers, and seem destined to seek it in equal numbers.

It signifies much to have these and certain kindred questions settled by time and experience—the only way in which they could be settled—and their controversial discussion relegated to the popular pastime of summoning ghosts of the departed.

The debatable questions are really no longer strictly within the educational field. Women now can study what they like and practically where they like. The unsettled questions, such as the academic, scientific and professional opportunities, careers and rewards available to women, especially married women, after the educational period, are of great importance, but they do not fall within the subject of this address.

President Thomas's admirable and inspiring address on the twenty-fifth anniversary of this college, as well as other publications, have made unnecessary the rehearsal on this occasion of all the various influences and policies which have combined to make Bryn Mawr the renowned college which it is to-day. Inasmuch, however, as the highest distinction of this college is the intellectual life which it has cultivated and engendered and the high standards of scholarship which it has created and maintained I may be permitted to recall to your attention certain salient points, familiar as they may be to this audience.

Bryn Mawr entered fully into the heritage of the new ideas and methods introduced in 1876 by the Johns Hopkins University into higher education in this country, marking, as they did, a new era of American university education. I quote President Thomas's own generous words, re-echoed in the introductory remarks to which you have just listened: "Bryn Mawr's debt to Johns Hopkins is too great to be put into words. We owe it not only our group system, but our whole conception of what graduate and undergraduate work should be and our ideals of research and scientific thoroughness." Many times over, I may add, has Bryn Mawr repaid this debt, and most worthily has she guarded to this day these ideals, while adapting and expanding them in detail to meet the special conditions of undergraduate and graduate work of this college in its steady and rapid growth.

It will, I think, be universally conceded, with the fullest and most grateful recognition of the important pioneer work and the later large achievements of her sister colleges, that the entrance of Bryn Mawr into the educational world marked a new epoch in the higher education of women.

The first and most striking evidence of this was the emphasis, previously unexampled in women's colleges, placed by the Bryn Mawr administration in selecting its faculty upon the scholarly attainments and productive scholarship of its teaching staff, and this remains a chief distinction of this college. The excellence of its staff of teachers is the best test of college management and is the foundation of the reputation best worth having of any college or university.

To match the acumen and skill, the flair, one may say, displayed by President Thomas in searching out and securing teachers and investigators whose high promise in the glory of their youth was later realized, one must pass from the academic field to the manifestation of

certain trained senses and qualities in the realms of sport, racing and hunting.

I asked to be supplied with the names of those who have taught here and later attained high distinction. I find, as I anticipated, that the list with the accompanying data is too long to be recited within the limited compass of this address, but it is so remarkable and illustrates so completely the standards of productive scholarship sought for the instructing staff that I can not forbear citing the more eminent names, some of which will be recognized by those unfamiliar with the reputations of technical scholars and men of science.

First in time comes Woodrow Wilson, who soon after receiving the doctor of philosophy degree at Johns Hopkins University and publishing his excellent book on Congressional Government was called to Bryn Mawr in 1885, where he organized the department of history and taught for three years before accepting appointment first at Wesleyan University and then at Princeton. In the same department of history taught for eighteen years Charles McLean Andrews before accepting a call to Johns Hopkins and later to Yale, where he is now Farnum professor of American history.

We can understand one of the reasons for the prominent position held by the ancient classics in the curriculum of Bryn Mawr when we recall that here taught for many years that brilliant Greek scholar, Paul Shorey, who left to head the department of Greek at the University of Chicago; E. Washburn Hopkins, who went to Yale as professor of Sanskrit and comparative philology; Herbert Weir Smyth, here for thirteen years before becoming Eliot professor of Greek literature at Harvard; Gonzales Lodge, for eleven years here and now professor of Latin at Columbia; Tenney Frank, who taught here for fifteen years before he was called to the chair of Latin of Johns Hopkins, and Moses S. Slaughter, who is now head of the department of Latin at the University of Wisconsin.

Indicative of the position accorded to the biological and physical sciences in the scheme of liberal education at Bryn Mawr and if possible even more remarkable than the roll of classical scholars is that of the biologists, which includes the names of Edmund B. Wilson and Thomas Hunt Morgan, now at Columbia, and Jacques Loeb, called here from a docentship at Strassburg and now at the Rockefeller Institute of Medical Research, who are to-day the most eminent biologists of America, perhaps of the world. To these are to be added the well known names of Frederic S. Lee, for many years head of the department of physiology at Columbia, and the chemists, Elmer P. Kohler, who after teaching here for twenty years became professor of chemistry at Harvard, and Edward H. Keiser, now holding the chair of chemistry at Washington University.

I must content myself with merely mentioning some of the familiar names in other departments: in mathematics, Harkness; in geology, Miller; in physics, Mackenzie; in experimental psychology, which he here founded, Cattell; in philosophy, Bakewell and Mezes; in English, Tinker and Upham; in Germanic philology, Collitz; in economics and sociology, Giddings.

When to this impressive list are added the far larger number of women graduates who hold important teaching or administrative positions in educational institutions, including Bryn Mawr herself, we can appreciate something of the richness of the gift contributed by this college in less than four decades of existence through the training and development of teachers and investigators to the education not of women only, but of men as well, and to the advancement of knowledge.

Should any one suppose that this continual migration of eminent men teachers to other colleges and universities has sapped the teaching strength of Bryn Mawr, he has only to regard the eminent women and men in her present faculty and the well equipped departments of instruction in order to realize that never were the educational advantages and the intellectual life of this college so great and so vigorous as they are to-day.

There are, however, certain significant inferences to be derived from the fact that it is mainly men and not women who have been withdrawn from this faculty to other institutions. One of these inferences doubtless points to the preference of many of the men for chairs

in colleges and universities not exclusively for women students. But here an important consideration has also been the inability of Bryn Mawr until recently to compete with better endowed institutions for teachers desired by both. It is amazing that Bryn Mawr has been able to create and to maintain such high academic standards upon an endowment so slender. It is this success which has furnished the strongest possible appeal to her alumnæ and other benefactors of education, who have responded so generously in recent years in increasing her resources. But her needs still are and will continue to be great, and the record of benefits to women's education and thereby to mankind here to be obtained in a measure out of all proportion to the money invested will continue to make its strong, public appeal.

But the most interesting and in many ways the most important conclusion to be drawn from the circumstance that here women teachers stay, whereas so many men leave to join the faculties of other colleges, is that desirable positions in these other colleges and universities, including the coeducational ones, are open to women in so small number as to be practically negligible. This lack of wider recognition of their work by academic promotion deprives women in large measure of one of the most powerful incentives and highest rewards of productive scholarly and scientific work. Among other reasons I find in this situation, which is not likely soon to be remedied, a compelling argument in favor of the existence and generous support of independent women's colleges in spite of the high cost. Unquestionably coeducation is the best solution of the problem of professional and technical education for women, and even for their collegiate training it will continue to be the prevailing system throughout the larger part of this country, particularly in the west, but experience has abundantly demonstrated the need and special services of separate undergraduate colleges for women, and among the most valuable of these services I count the opening of attractive academic careers to women. Bryn Mawr has shown also the value of adding, when it can be properly supported, a graduate philosophical department, meeting especially the needs of prospective teachers and of workers in the field of social economics.

Bryn Mawr from the start laid still further emphasis upon high academic standards and productive scientific work and made an additional important contribution to the educational and research opportunities for women by the establishment of her system of resident fellowships and scholarships, open to graduates of all colleges of good standing, supplemented later by European traveling fellowships and the nine graduate scholarships for foreign women. Thereby the reputation and influence of Bryn Mawr both here and abroad have been greatly increased and extended. The presence of so many graduate students—ninety-two in the academic year now closing—engaged in advanced work has stimulated the intellectual life of the entire college and their example and the opportunities have led many to pursue their studies beyond the college period. There have thus been afforded to members of the faculty welcome opportunities for graduate teaching and the conduct of research which has led to valuable contributions to knowledge.

It is everywhere conceded that the Bryn Mawr degree of doctor of philosophy equals in rank that granted by any university in this country. One has only to examine in the register the lists of the ninety doctors of philosophy and the one hundred and sixty-five masters of arts of Bryn Mawr and to note their names and the positions which they hold or have held, predominantly in the teaching profession, in order to gain some appreciation of the immense service to education rendered by the graduate courses in this college and the system of fellowships and scholarships.

Permit me to quote the fine tribute paid to this feature of Bryn Mawr at the twenty-fifth anniversary by President Taylor of Vassar College, the first in the field of independent women's colleges of truly collegiate standing: "As I have regarded her career with intense interest from the point of view of a fellow worker since her second year, I am disposed to suggest as among her chief contributions, first, the splendid emphasis she has put upon advanced scholarship for women. I think her fine devotion of so large a part of her income to fellowships and scholarships perhaps without parallel in our country. It has been a steadfast devotion, too, untouched by the con-

siderable variations of interest in the educational world that have sometimes forced the question as to the present desire for these great helps to higher scholarship. But Bryn Mawr has been steadfast; never has it yielded an inch of its purpose to offer women the best that can be had. I suggest again the generosity of her welcome to these scholarships of the graduates of other colleges and universities. All over our land there are women graduates of other institutions who owe to this one the encouragement and possibility of their higher attainments. Well may they rise up to-day and call her blessed!"

The president and faculty of Bryn Mawr have worked out with great care and thought a system of liberal training which in its totality as well as in certain special features constitutes a distinct contribution to higher education and is often referred to as the Bryn Mawr type. The essential features are these: a fairly uniform and sound foundation on which to build the college courses secured by the entrance examination in fixed subjects, certificates not being accepted; required courses of study, occupying half of the student's time, in language, letters, philosophy and science, which furnish the essential basis of liberal culture; freedom of choice of other subjects in accordance with the group system, permitting seventy-one combinations of courses; unrestricted elective courses for one sixth of the work, and before graduation evidence by examination of a reading knowledge of French and German (the latter language temporarily replaced during the war by Italian or Spanish).

The group system, so designated for the first time by Miss Thomas, the central feature of this plan, which in recent years has widely replaced the former Harvard system of unrestricted electives, was borrowed in 1885 from the Johns Hopkins University by Bryn Mawr, which, in amplifying and adapting it to the four years' undergraduate college course, has had an important share in its development and spread. This system, while securing on the one hand the definiteness of purpose of the traditional rigid curriculum and on the other the adaptation to the students interests and needs claimed for the free electives, is more than a compromise between these two rival systems, for it has the very real advantage not inherent in either of prolonged thorough training in some one branch of knowledge or group of kindred subjects which appeals to the individual's interest and aptitudes or is preparatory to future professional study, and this without too early over-specialization.

As regards certain modern, controversial tendencies in college education Bryn Mawr has taken a conservative, although by no means narrow position, and President Thomas has defended this attitude and participated in the lively discussions with all of her accustomed vigor, clearness of statement and intensity of conviction.

Bryn Mawr still stands for four years' study of Latin as an obligatory requirement for entrance and for one year's required study of either Latin or Greek in college. Shocking as it may appear to some of our educational reformers, she continues to emphasize the disciplinary and cultural value of the older, traditional subjects—the ancient classics, mathematics, philosophy and history—and the students follow suit in their electives.

That this zealous interest in the older humanities is compatible with the most open hospitality for those modern subjects of study which are considered to have legitimate place in a scheme of liberal education is demonstrated by the ample provision here made for the study of the natural and physical sciences, psychology, modern languages, English language and literature, which is a particularly strong department, long inspired by the teaching of President Thomas herself, the economic, political and social sciences, comparative philology, Semitic languages and literature, classical archeology, history of art, theoretical music, in a form somewhat reminiscent of the position of this subject in the medieval quadrivium, and still other branches of learning.

Even those who may prefer other types of college courses and methods of study will, I think, concede that Bryn Mawr's curricula and standards embody a noble conception of liberal culture and knowledge—a true Studium Generale—retentive of what is good in the older and receptive to what is best in the newer

systems. No adverse financial conditions, no popular clamor and no pressure from outside have led to any sacrifice of quality to quantity, of excellence to numbers, in the maintenance of these ideals.

Modification of the college curriculum to meet the supposed special intellectual needs of women, which has been urged by men more frequently than by women, while it has from the beginning received the serious consideration of educators in women's colleges, has not found favor here or permanently so in other better colleges for women. The ultimate decision of this question rests entirely with the women.

Bryn Mawr resists the transformation of the college of liberal arts by the entrance of strictly vocational and professional studies and frowns upon such heresies as the bisection of the college at the belt line into a junior and a senior college, or the telescoping of the last year or two of the college course into the professional schools. In a word she stands with her sister colleges for preservation of the educational standards and the integrity of the American college in essence and in spirit. To the many who cherish the traditions of the older learning and liberal culture as represented in the American college of the past it may appear that the ark of the covenant is passing into the keeping of the colleges for women.

President Thomas has expressed in these admirable words her conception of the aims of college education for women: "If fifty per cent. of college women are to marry and nearly forty per cent. are to bear and rear children, such women can not conceivably be given an education too broad, too high or too deep, to fit them to become the educated mothers of the future race of men and women to be born of educated parents. Somehow or other such mothers must be made familiar with the great mass of inherited knowledge which is handed on from generation to generation of civilized educated men. They must think straight, judge wisely and reverence truth; and they must teach such clear and wise and reverent thinking to their children." This was fifteen years ago. To-day with the assumption by women of all the responsibilities of citizenship and with the vastly increased influence which college women will exert upon the life of the community and nation, how supremely important it is that the college should aim to discipline intelligence, to strengthen the ability to observe correctly and to form sound intellectual and ethical judgments, and to cultivate for the highest service of the race that fundamental instinct of woman's nature which seeks not less than the perpetuation of the species its safety and welfare!

To this audience it is not necessary to point out that the brilliantly successful efforts of President Thomas to bring to realization at Bryn Mawr certain clear and well defined conceptions of the place and functions of the college in education, as distinct from the secondary school on the one hand and graduate, professional and technical schools on the other, imply no lack of interest in providing opportunities for the training of women in practical and vocational subjects in their proper place. Quite the contrary is of course true.

Full evidence of this is found here at Bryn Mawr in the excellent provisions for the training of teachers and specialists in the graduate courses, particularly in the Graduate Department of Education, an integral part of which is the Phœbe Anna Thorne model school with its primary, elementary and secondary departments, and in the Carola Woerishoffer Graduate Department of Social Economy and Social Research with its admirably conceived theoretical and practical courses which furnish much needed opportunities for training women for ever widening useful and attractive careers in the immense fields of organized social, industrial and community activities and welfare, for which women are much better fitted than men.

What could make stronger appeal to human sympathy and generous support than the novel and interesting experiment, successfully launched here last summer and to be continued this one, of the Summer School for Women Workers in Industry, conceived and initiated by President Thomas?

Our Medical School at the Johns Hopkins and all women owe an inexpressible debt of gratitude to the vigorous efforts and persuasive arguments of Miss Thomas and the generous donation of Miss Mary Garrett in securing the Women's Endowment Fund which enabled the

school to start in 1893 with its doors open to the admission of women upon the same conditions as for men, the blessing of coeducation in medicine being more adequately appreciated to-day than at that time. This is only one of the many large services to the women's cause rendered by President Thomas outside of Bryn Mawr College.

To that very important if not larger part of college education which is represented by students' life, association in college halls of residence and activities, here fortunately without intercollegiate athletics, clubs and fraternities, and without sacrifice of the primary collegiate aim, and which really creates the spirit and personality of the college, Bryn Mawr has made its full and delightful contribution, but this is for those who have lived the life to tell. Most charmingly and competently has this been done by the pen of a gifted alumna, Mrs. Helen Thomas Flexner, in the brochure entitled "Bryn Mawr—a Characterisation."

I may mention as a most notable contribution affecting the life of students the system of students' self-government, which was developed here in a more completely organized and unrestricted form than existed elsewhere. It "was born," President Thomas tells us, "of the temporary and wholly fortuitous coming together of marriageable men and maidens as professors and students."

We have only to look around us on these lovely grounds and beautiful buildings of grey stone in order to appreciate the significance of the contribution made under the directing mind and taste of President Thomas by Bryn Mawr's architects to the beauty of American colleges in creating here what has been designated as the American Collegiate Gothic style of architecture.

The best fruits of all the contributions of Bryn Mawr which I have sketched so incompletely and inadequately and of the inspiring personal influence and instruction of President Thomas are the lives and work of over 4,500 former and present students, of whom about 2,000 are alumnæ, of this college.

Who can estimate the benefits to American homes and communities, indeed to the whole nation, resulting from the activities and influence of these women who received their inspiration and training within these walls? Members of the graduating class! We have every confidence that these benefits are to be appreciably increased by your admission to-day to the goodly company of liberally educated women who bear forth to the world the spirit and the traditions of service of Bryn Mawr.

President Thomas! It is a great privilege and honor for me, personally and as a representative of the Johns Hopkins University, to be permitted to join with these loyal alumnæ of Bryn Mawr and your colleagues and with hosts of others in paying tribute to you on this occasion for your great and enduring work for this college, which, as I have endeavored to point out, has made important contributions to higher education. It was not really necessary to add the last two words to the title of this address.

You brought to this task, so triumphantly achieved, scholarly attainments and unswerving devotion to productive scholarship, force of character and intellectual ability of a high order, the boundless energy and enthusiasm of abiding youth, indomitable courage, resourcefulness and perseverance in overcoming difficulties, clear vision and steadfast loyalty to ideals, persuasive and vigorous speech, the inspiration of a cultured, radiant and vital personality, an unwavering and ardent devotion to the cause not of woman's education only but of her advancement in all ways and her emancipation from all shackles and disabilities.

In enjoying well earned release from the burdens of administrative responsibility and in turning to other tasks, for we can not think of you as inactive, you carry with you the durable satisfaction of great service rendered to the great cause to which you have devoted your life, the admiration, affection and gratitude of the thousands of students, alumnæ and friends of Bryn Mawr College, the appreciative recognition and felicitations of other institutions of learning, of scholars and of friends of education and of the cause of women everywhere.

We can hardly think of Bryn Mawr without you, President Thomas, but you are passing on to an able and experienced successor, a threefold graduate of this college, the torch of un-

quenchable flame which here you have kindled and which here will burn brighter and ever brighter in the coming years to illumine the path of women toward knowledge and wisdom, toward the attainment of the largest and best use of their intellectual and spiritual powers, toward appreciation and enjoyment of the best in life, in literature, in art, in science, in men and women, toward understanding and furthering of the agencies and forces which make for righteousness, peace and the betterment of mankind.

WILLIAM H. WELCH

THE JOHNS HOPKINS UNIVERSITY

"THE FRIENDLY ARCTIC"

(Published by permission of the Deputy Minister of Mines, Ottawa).

ANY one who is in the slightest degree familiar with the Arctic, or even with the history of Arctic expeditions, must have been amazed at the naïve review of Mr. Stefansson's book, "The Friendly Arctic," that appeared in the March 24 issue of SCIENCE for the current year. The writer of that review, Professor Raymond Pearl, admits that he is "in no wise a specialist in either geography or polar exploration." One may be permitted to wonder why he undertook the task of reviewing a book that is mainly concerned with those topics. His review, indeed, would be unworthy of serious notice were it not for the wide circulation of the journal in which is appeared; but on that account a reply seems called for.

The reviewer states that the importance which the history of science will attach to Mr. Stefansson's work will rest primarily on his application of a "new and strictly scientific method" to the problem of Arctic exploration; for, whereas earlier explorers depended for food, heat, shelter and clothing mainly on the supplies which they took in with them, Mr. Stefansson, acting on scientific principles, "carried through, over a long period of time [nearly five years, we are told in another place] and a wide range of area, travels in the polar regions, living entirely off the country as the Eskimos do."

Now this statement is unjust not only to earlier explorers, but to Mr. Stefansson himself. The practice of living off the country is *not* a new one in polar exploration. To quote but one example: Dr. John Rae, in 1846-7, supported himself and his party for a whole winter in Repulse Bay, although their only weapons were old, muzzle-loading guns. The method is really a very satisfactory one for a quickly-moving traveler who can choose his own hunting-grounds (*e. g.*, David Hanbury in 1902), and even for a small stationary party in certain well-favored regions; it is rarely satisfactory in the case of a large party working for any length of time within a prescribed area, because the game supply rapidly becomes exhausted. Hence the necessity for bases, and caches of food, employed not only by both the northern and southern parties of the Canadian Arctic Expedition, but by all polar expeditions. Every reader of Arctic literature knows that while game may be plentiful in certain places and at certain seasons, it is very scarce in other places and at other times of the year. All explorers, therefore, including Mr. Stefansson, have been careful to take supplies with them whenever possible, whether they are traveling by ship or by sled, in order to have something to fall back upon when the local supply of game fails. To do otherwise would be the sheerest folly. To take an example. One of the almost gameless areas in the north at the present time is the long stretch of coast between Barrow and the mouth of the Mackenzie River during the winter months; caribou are exceedingly scarce in this region and seals difficult to procure except in the spring and summer. Mr. Stefansson, during his last expedition, spent nearly a year in this portion of the Arctic, but, despite his reviewer, he does *not* claim to have lived off the country at this time, or even to have attempted to do so. He will probably himself admit that from September, 1913, when he first landed from his ship, the Karluk, until March, 1914, when he started on his ice trip, his rifle did not secure him a single meal. Similarly, on his exploration trips in the northern archipelago, where game is more plentiful than in most places, he prudently carried on his sleds all the supplies he