

December 28, 1936

**To: President Hannah
D. B. Verner
J. H. Denison**

**Attached is a rough draft of a proposal. I would
appreciate suggestions before re-writing.**

Attachment

THE MATILDA WILSON COLLEGE OF MICHIGAN STATE UNIVERSITY

This proposal envisages the establishment on the Meadowbrook Farms of the Matilda Wilson College of Michigan State University to serve primarily the needs for higher education of the able youth of Oakland County and adjacent areas. It is contemplated that this would be a four-year college with the possibility in the future of the addition of graduate programs in selected fields.

The Need

There is little doubt that in the area in question there is now, and will be increasingly so in the future, a great college-age population which is not now being adequately served to the detriment of not only this region but the entire State.

If one contemplates an area within a fifteen-mile radius of Meadowbrook Farms, it is estimated that the present population of this area is 516,000. Reasonable projections show this population increasing by 1960 to 632,000, by 1965 to 753,000 and by 1970 to 926,000. The college-age population (18 to 24) is presently estimated at 44,000. This in turn would increase by 1960 to 54,000, by 1965 to 73,000 and by 1970 to 103,000. Our experts on population projection have indicated that between now and 1970 both the total and college-age population can be expected to increase more rapidly in this area than in any other similar sized area in Michigan. There seems absolutely no question that there is within this conservatively estimated commuting distance of fifteen miles sufficient population to demand and support an institution of higher learning.

The Program

It would, of course, be unwise at this early date to rigidify any kind of program specifications. Prudence would dictate that a program be developed with the advice of those who know the area well to make certain that the institution will respond to needs evidenced in the community. But certain generalizations can be set forth which would seem to have validity as guide-lines.

Perhaps the major problem which confronts higher education in the United States today is that which stems from necessity for educating men and women who are masters of the highly complex and intricate skills and knowledge necessary in our society without sacrificing the ideal of producing graduates who have been educated in the liberal and fine arts so that they may be whole men--competent in their profession, good citizens for a free society and happy in their own persons. As John Stuart Mill observed in his inaugural address at St. Andrews in 1867, "Men are men before they are lawyers or physicians or manufacturers; and as you make them capable and sensible men they will make themselves capable and sensible lawyers and physicians."

The implication then is clear that whatever fields of specialization might eventually be developed at the Matilda Wilson College there must be a firm and prevailing under-girding in the liberal and fine arts and the basic sciences. Not only would the effect here being discussed be achieved through the requirement of certain courses, but there would seem to be no better place in the world than Meadowbrook Farms to achieve the educational ends which can only come through continuous exposure to objects of cultural importance in a setting aesthetically pleasing.

The kinds of courses to which reference is here made would be drawn from such areas as Art, Economics, History, Political Science, Psychology, English, including both composition and literature, Philosophy and Foreign Languages.

In institutions long established it is difficult, because of the complexity of inter-curricular relationships, to experiment as boldly as one would like with the organization of a curriculum. With a new college there would be no such difficulty. For example, the tendency has been in most large universities to put all of the liberal education in the freshman and sophomore years, yet there is considerable evidence to indicate that the educational effect would be better if the liberal and special education were side by side. Thus one could see in this new college a program where both the liberal and technical were carried throughout the four-year experience of the student.

There is also increasing evidence of the necessity for students in their final year to have some kind of an educational experience which will tend to make sense of the totality of their learning, to provide perspective as it relates to the conflicting values of our society, to give meaning to the relationships between the areas of knowledge. The provision of such an integrating course in the senior year striving to relate the special to the liberal and the cultural to the technical would be possible in this new unrestricted setting.

In addition to liberal and cultural learning, and certainly the categories here being presented are not mutually exclusive, there is the problem of developing sequences in mathematics and the basic sciences which would support concentration in the more advanced scientific and engineering fields. In mathematics this would undoubtedly call for a two-year sequence covering topics in plane analytical geometry, differential

and integral calculus, elementary vector analysis and ordinary differential equations. There would also be necessary a one-year sequence to be taken in the third year covering such topics as Fouriers Series, complex variables, etc. In addition, electives would be needed in the following areas: numerical analysis, operational calculus, statistics, and appropriate topics from modern linear algebra.

During the early years of the new college's existence, work in three of the basic sciences would seem minimal. In physics there would need to be a first-year sequence covering topics in mechanics, heat, and kinetic theory. The second year would probably call for two sequences covering such topics as electricity, magnetism, optics, atomic physics, electromagnetism and electromagnetic theory of light. These sequences would need eventually to be buttressed by electives in atomic and nuclear physics, electronics, thermodynamics, optics, and statistical mechanics.

A second science in which instruction would be necessary from the beginning would be chemistry. A first-year sequence in general chemistry would need to be followed by a year sequence in elementary analytical chemistry, qualitative analysis and quantitative analysis, a year each of organic and physical chemistry and a year sequence in industrial chemistry.

Finally, it would seem important to have a year sequence in elementary geology in addition to electives in geophysics, petrology and mineralogy.

These two phases then, sketched in broad general terms, would provide that part of the program which first makes certain that the graduates of the Matilda Wilson College would be appropriately educated from a liberal and cultural point of view and second provides for the basic work in mathematics and science to support the special education of engineers, scientists, and business management specialists.

In the field of specialized education to which this college might dedicate itself it is proposed that in the beginning these be limited to the fields of engineering and business management. It happens that in both of these areas there is an opportunity at the moment to do an unusually creative and imaginative job. There is considerable feeling on the part of both practitioners and educators that our special education in these areas is badly in need of a new, fresh, creative approach. These two fields are discussed below separately.

Engineering: The opportunity to organize a new engineering school presents a distinct challenge, and it is proposed that it be met by a new and bold step into the future, to yield an institution of which the surrounding area can well be proud.

Engineering education should no longer be built around "things," or the end products of our industries. It should now be concerned with the basic knowledge and ideas which will be of service in the research and design leading to the new products for our future civilization. Engineering educational organization based on "things," as steam engines, motors, bridges, and the like, cannot well serve this new viewpoint, which is in essence based on the natural sciences.

It is proposed, therefore, that this new school be organized along the lines of materials, energy, and manpower, as areas of fundamental scientific knowledge. Departments might cover areas such as engineering materials, mechanics, heat and thermodynamics, electrodynamics and electronics, chemical and nuclear energy, and operations research, to mention a few. Degrees with conventional title might be presented, but for work cutting across many areas of fundamental science, rather than for work rigidly confined to a narrow area. It is proposed that this entity be titled something such as a "School of Engineering Science and Research" to adequately describe its fundamental and new function.

Such a school organized and developed along new lines, unhampered by ties and traditions of the past, could readily become a leader in engineering education, worthy of its location in a center of modern engineering production.

The immediate proposal calls, of course, for simply an undergraduate engineering program. There is no doubt, however, that in the long run the program could well be extended to the graduate level in order to serve the educational needs of this community. The following three items are simply indicative of what might eventually be done in this area:

1. A graduate engineering program in all the appropriate technical fields, largely directed to the needs of the engineering employee of the industries and laboratories in the area might be established. This could provide a valuable means of upgrading the abilities of such employees.
2. A graduate program in engineering management, to serve the needs of the young engineering administrator might be devised.
3. A research program to support the graduate program, to enhance staff abilities, and to serve certain of the research needs of area industries might be inaugurated.

Business Management: One of the most notable characteristics of the American economy in the twentieth century is its enormous complexity. As industrial enterprises have grown in size the problems of coordination and the management of men and materials has become one which would have been held to be beyond solution fifty years ago. One of the real achievements of the twentieth century has been the way in which those engaged in

business management have met the challenge of size and complexity. At the same time it seems clear that if we are to be able to continue the competent administration of this leviathan and make it serve the interests of society we must keep constantly flowing into industry a coterie of able young men and women competently educated in those disciplines necessary for the replacement in management of those who now hold these responsible positions.

Again it is possible to criticize much of what now is labeled education for business management. There has been too much tendency to concentrate on techniques which are better learned within the industry itself and too little attention given to providing those who want to enter business management with the basic understanding of the world, the economic system, the political system and, probably most important, the whole area of human relations. In some ways responsible business leaders have been ahead of educators in calling attention to this need, for they repeatedly have called for our universities to produce graduates whose chief characteristic is wisdom rather than a collection of managerial gadgets.

It is proposed, therefore, that the business management curriculum at the Matilda Wilson College be firmly grounded in those disciplines which provide an understanding of society and of human beings. Courses in economics, psychology, sociology, literature, the basic skills of communication, and human relations would be an integral part of the education of the students in management.

In addition to these courses it would be necessary to provide work in such areas as principles of management, marketing, accounting, personnel administration and the like. The location of the proposed college would mean that a great deal of use of the businesses in the area might be made in providing laboratory experiences to accompany the classroom work in these areas.

Other Programs: The present proposal envisages for the moment only the establishment of these two fields of special education. However, it seems likely that other programs would be certain to develop in the years to come. Certainly the preparation of teachers, particularly in the fields of science and mathematics, is an area which would some day need careful consideration. The development of areas of specialization in the sciences themselves would seem a real and logical possibility. The addition of courses from the biological sciences would be a natural result of any subsequent decision to offer work of a pre-medical or medical nature. Prudence indicates that in the beginning it would be wise to confine this program to simply the two fields which have been described, but imagination cannot but lead one to speculation that on this sight the next generation may see a large, complex university covering many, many fields.

Organization

It is proposed that the Matilda Wilson College of Michigan State University be conceived of as a four-year institution with the possibility of the subsequent introduction of graduate level work. However, it would seem important that its curriculum be so organized as to make it possible for the institution to meet the needs of the region for a junior or community college. Michigan State has had on its East Lansing campus considerable experience with organizing these kinds of two-year curricula. At the present time, for example, there are two-year terminal programs in the following areas: agriculture, general business, insurance, retailing, secretarial science, home economics, building construction, engineering drawing, and banking. In these programs are combined some liberal and cultural courses along with courses designed to achieve the appropriate level of sub-professional competence. There is no reason that similar

kinds of opportunities could not be developed on the campus of the Matilda Wilson College in order to adequately serve the junior college needs of the area. While there has not been time to investigate all of the legal problems involved, it is felt that the junior college division could be so organized as to qualify for either State or Federal aid which may now or subsequently be made available to junior colleges in the State.

While the Matilda Wilson College would be an integral part of Michigan State University and the degrees granted by Michigan State, it is obvious that for the college to develop well and to serve the needs of the area there would need to be considerable decentralization of authority from East Lansing. This would mean that it would be necessary to appoint as the chief administrative officer for the institution a man of recognized administrative ability, educational leadership and imagination. Similarly, while there should be sufficient flexibility to provide for ready interchange of faculty between the two campuses, it would undoubtedly be necessary for a resident faculty to be developed.

At least for the foreseeable future it is not contemplated that dormitories would be built. The emphasis would be on the commuting student. To the extent then that the management of dormitory facilities would be eliminated or kept minimal, the administrative organization would be as a result simplified. On the other hand, however, the presence at Meadowbrook of the existing facilities and invaluable works of art would make necessary the provision in the administrative structure for a competent director of an informal program in the creative arts for both the undergraduate students and the adults of the community. Other administrative arrangements would need to come into being as the institution developed.

Procedure

It is proposed that the Matilda Wilson College of Michigan State University admit its first students in the fall of 1959. This would provide for about a two-year period of planning, not only on the part of the University but the entire community. The institution then would come into being over a four-year period. With careful advance planning this would make possible the recruitment of an excellent faculty and the provision of superior educational leadership.

Thus, it would appear that the opportunities to here develop an institution of higher learning of great significance to the region, the State, the Nation and the world are almost without bounds. Here again in the words of Andrew Carnegie, who did so much to define the social responsibility of wealth, there would be erected, "ladders upon which the aspiring can rise."