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TALK GIVEN BY ERNEST DEWITT BURTON
AT CONFERENCE ON CHRISTIAN EDUCATION IN CHINA

April 6, 1925.

I feel some hesitation in speaking to you today, for although the subject under discussion is one in which I share your profound interest and to which I have in the past given considerable study, I have not, for many months, been able to give to it the attention which many of you have given it. Since returning from China I have undertaken another task which consumes twenty-four hours of the day, seven days in the week - and the fragments of time which are left do not give me much opportunity to study the situation in China. Yet so deep and continuous is my interest in it that I have felt unable to refuse the request that I say a few words at least in regard to this situation in which I am so greatly interested, and the issues of which are of such great importance,--even though almost all the things which I have in mind to say have just been said by Mr. Koo.

The first thing I want to emphasize is that we must face the present situation wholly without prejudice. We who are engaged in this great missionary enterprise must be ready to learn from our past experiences, from our mistakes as well as from our achievements. We must believe that the Lord leads us on. We have a present situation to face, and that situation calls for a careful consideration of the facts, unprejudiced by the practices of the past, or by the findings or recommendations of any reports which have been made in the past. Practices and findings may have been right three years ago and wrong today. we must face the situation anew without prejudice.

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In particular I hope that all of us have forewarned, or are

now ready to foreswear, whatever prejudices we may ever have had against Oriental races, or in favor of Western civilization. None of us who have really known China and the Chinese can have retained such prejudices, if we ever had them.

My next suggestion is that we ought to try once more to define the purpose of Christian education in China; to say clearly why we are undertaking to develop educational work in China. I hope that I may not seem harsh, if I confess that I have never heard the purpose of Christian education in mission countries discussed without disappointment. I have been disappointed because so little attention has been paid to finding the answer to this question, and disappointed because there has seemed to be so little clear thinking in regard to it. Is this because there is disagreement in our thinking on this question, which we do not want to bring to the light? Surely it is not because we have not given thought to it. And surely it is not because we do not have convictions in regard to it. Ought we not to share our thinking and voice our convictions and come to some common agreement? I do not mean that we shall try to compromise, or give up our convictions, but that we ^{or} shall together find out what our present difficulties are, try to solve some of them, and find a platform of purpose on which we can stand together.

That which seems to me absolutely fundamental in reference to this matter, and essential to recognize, is that Christian education, like any other Christian activity, is primarily the expression of the Christian spirit. The most effective way of carrying the Christian message to any people is to take to them the spirit of Jesus Christ. I believe that it would be possible to Christianize a people by living the Christian life in their midst, even if no other means of bringing Christianity to them were available, and that no other means can be

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effective without such living. Christian missionary education is therefore, that it should be an expression of the spirit of Jesus Christ.

Applied to China and to Christian education there, this means that the fundamental purpose of Christian education in China is to make the largest possible contribution to the welfare of China. That of course demands that we understand China, that we consider what is involved in her welfare, and define it broadly and inclusively. It is not a true expression of the Christian spirit to see one's brother go hungry, or naked, and do nothing about it. For the religion of Christ does not consist solely in the acceptance of any religious belief, or the adoption of any religious principle, but in the application of the Christian spirit to the whole of life.

My next suggestion is that the specific purpose of Christian education in any land depends upon the conditions in that land. I have seen Christian schools in another country fulfilling a specific purpose which seemed to me to be an entirely right one for them, but which would not seem to me to be at all the right purpose for a Christian school in China. The conditions in the two countries are so different that the specific task must of necessity be a different one. In view of conditions as they are in China, I am convinced that the specific purpose of Christian education there today ought to be the development of a strong Christian community. I believe that we have reached the stage in our education in China, where this should be the primary purpose. But this purpose includes a number of things. It includes the winning of non-Christians to the acceptance of Jesus Christ as their Lord and Master. It includes the building up of an intelligent Christian laity, of men and women able to follow the leadership of strong Christian leaders, and ^{it includes} the development and training of such leaders. It involves the creation in all Christians of the spirit of social service which

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the creation in all Christians of the spirit of social service which

shall express itself in the community, and shall permeate the community. I am convinced that if we put our emphasis upon the development in the midst of China of such a Christian community, animated by the Christian spirit, organized into or around a Christian Church, we shall be more able to see the goal of all our efforts clearly, and to coordinate them all wisely, than if our emphasis is placed upon any of the more incidental aims included in this larger purpose.

But we must not forget that this purpose is itself a means to an end. We must not lose sight of the fact that our fundamental purpose is to make the largest possible contribution to China's welfare; and we must be ready to make any adjustments of policy or practice which may at any time be necessary in order to enable us to achieve this end.

One more thing I wish were possible, namely, that clearly defining the purpose of Christian education, we should also make it clear to the Chinese what we mean by Christianity itself. Many of them do not now understand. Many of them have gained from us a misconception of what it is. I wish that we might all have such a clear conception of what is really vital to Christianity that all our differences and difficulties might sink into the insignificance that really belongs to them; that the Spirit of God might so take possession of our hearts that we might, in all we do and say make clear to our Chinese friends what the spirit and gospel of Jesus Christ really are. Is this too much to hope for? Can we ever do our real work in China until it is attained?

So much then for the things which seem to me to be fundamental to our consideration of this situation. May I make a few practical suggestions?

In the first place let us act without unnecessary delay. Perhaps we have talked long enough. Perhaps we had now better come to a decision. Would it not be better to reach a decision that is only

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In the first place let us act without unnecessary delay. Perhaps we have talked long enough. Perhaps we had now better come to a decision. Would it not be better to reach a decision that is only

ninety percent right, and act on it, and think about the other ten percent later, than to delay action longer? I suspect that we have already delayed too long, and have allowed obstacles to stand in the way of decision. Has not the time come for some rapid thinking that shall bring us to decisions and forward steps? Let us be willing to take some risk, since any risk that we may take is better than drifting and delay. Let us dare to put the leadership of our educational task into the hands of the Chinese. They may bungle it for a while. Very well. Better let ^{them} bungle it than keep it in our own hands, for it will always be bungled as long as we keep control of it.

Let us remember, as has been said so often today, that control by the Chinese, complete control, is the goal of our efforts -- that we are not in China to maintain a Christian movement which is essentially foreign. We are there, as was said this morning, to make ourselves dispensable as soon as possible. The characteristic of the foreign missionary movement is that it becomes successful by putting itself out of business. The Christian movement in mission fields must of course begin with the foreigner. He is at first all there is; then becomes fellow worker with his converts; then helper and adviser; and finally makes himself unnecessary. I suspect that if we could make our Chinese friends see that we recognize this, a good deal of their suspicion of us might be removed.

After all China belongs to the Chinese. Somewhere in the dim dark ages I seem to remember to have heard people speak of the "rights" of the Christian religion; as if we had a right to trample upon the national rights of other nations. This is much as if, in some American community, we were to claim that a Christian Church, needing a place to preach, therefore had the right to lay hands upon a piece of ground on which to erect a building for the carrying out of its work, regardless

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of the rights of those to whom the land belonged. We of the Christian Church in America have no right to violate the civil rights of our fellow citizens; nor have we the right to violate the rights of the Chinese in China. After all China belongs to the Chinese. It is no part of our mission, as Christians, to violate the very spirit of Christianity, by disregarding the rights of other nations.

Shall Christian schools make attendance at Bible classes and religious services compulsory? This does not seem to me an essential part of our Christian education in China. The quality of our education in Christianity is far more important than that it be compulsory. If it is not ^{compulsory} ~~so~~, it must compete, on the same level, with other subjects. If its quality is high we should not fear such competition. I hesitate to say it - yet if I am to believe the testimony of those who have been in immediate contact with the situation, it has sometimes been true in our mission schools, that Christianity has been less effectively taught than any other subject in the curriculum. ~~My friends~~ Is that a tolerable situation? Suppose we reverse the situation? Cease to make attendance at classes in Christianity compulsory, but make those classes second to none in the quality of the work offered and the ability of the teaching given, and what will be the result? Will students be more likely to be won to Christianity by being required to attend instruction of poor quality, or by being given the privilege of attending classes which are of the highest caliber of any work offered in the school? Do away with compulsion and substitute high quality, and I do not fear the results.

Finally, I believe that we ought to be ready to make any adjustment whatever in order to achieve the fundamental purpose for which we are maintaining Christian education in China. I should like

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to go just a little farther than some who have spoken today. I hope the time will never come when we shall have to face the question of conducting schools in which no religion can be taught. But if we should have to face that question what would be our answer? My answer would be that I would stay in China; that I would stay and seek to express the Christian spirit by giving the most helpful service I could render to the Chinese, even if they refused to let me give them in words what they can and will not refuse me the opportunity of expressing in life. I would seek to bear testimony through a Christian life even though I were bound not to bear testimony through the Christian word. We must indeed not offer education that is not Christian. But we can make our education Christian by the spirit in which we conduct it, even if we are forbidden to give any direct Christian teaching. I, therefore, plead that we be ready to make any adjustments which may seem necessary, in order that we may continue to be able to make our contribution - as large a contribution as possible - to the welfare of China.

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December 30, 1924.
Chicago Club
Ernest D. Burton.

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Some years ago the University of Chicago had occasion to formulate a motto which might be inscribed on its coat of arms and express succinctly its spirit and aims. Many suggestions were made, and there is still a friendly controversy as to who really proposed the motto that was finally adopted. But we bear it, and it consists of four Latin words: Crescat scientis, vita excolatur, which as you doubtless know, means, "Let knowledge grow, let life be enriched". That is really the motto of all modern universities -- only we were fortunate enough to have classical scholars who had caught the spirit of the university and could put it into four Latin words. Crescat scientia, vita excolatur.

To speak in the terms of business life these are the dividends which a modern university pays, the increase of human knowledge and the enrichment of human life, and it pays these to anybody who will prove his capacity to carry them away.

It accomplishes its ends chiefly in three ways -- by research, instruction, and dissemination. Each of these has its importance and each might at appropriate times be emphasized. But that which is most distinctive of the modern university is research, and it is of this that I want first to speak today.

Research is the pursuit of the unknown. It is the resultant of three causes - human need, human curiosity and a world capable of satisfying the former and of exciting the latter.

A hungry man looks around to see where he can find something to eat and eventually becomes a fisherman or a farmer. He is cold, and to cover his nakedness and keep himself warm becomes

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a hunter and trapper and a shepherd. He takes to himself a wife and begets children and becomes a builder to make a place to shelter them.

But among some peoples and in certain stages of civilization curiosity has been an even greater incentive to research than physical needs. All men are curious, being in this respect like their distant relative, the monkey. But it is the insatiably curious races that have become discoverers. Perhaps we might even defend the general statement that the rank of a nation in the scale of civilization is determined by the keenness of their curiosity. Knowledge is the product of research and research is largely the result of man's insatiable curiosity. Man looked up into the sky and saw the stars and eventually became an astronomer. He looked across the sea and wondered what was there and became an explorer and a geographer. He wondered what made the rocks so strangely laid down in layers and became a geologist. He met a man whose language he could not understand, wondered why he talked so differently from himself and became a linguist. He wondered what lifted the heavy lid of a teakettle and invented the steam engine, and steamships took the place of sailing vessels, and the land became covered with railroads. Franklin wondered whether the flash of lightning and the spark of the Leyden jar were of kindred nature, and there followed in the train of his curiosity all the marvellous discoveries and inventions in the field of electricity.

If necessity is the mother of invention, curiosity is the father, and often the father furnishes the major generative impulse.

Modern research has been enormously profitable to the human race. It has diminished the hardships of life, it has added to its comforts and luxuries. It has given us the steamship and the rail-

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road, the telegraph and the telephone, the radio and the wireless, anaesthetics and asepsis. It has multiplied the earning power of men by four within a century. Perhaps some of you noticed in the Atlantic Monthly lately an article entitled "A Woman's Memories at Eighty-one". If you have you know that one half of the items in that list are the products of modern research. Ezra Meeker crossing the continent in his youth in an oxcart, and this year in an airship is a vivid illustration of the progress due to the researches made within the life of one man. Research has reduced smallpox and typhoid fever and cholera from major dangers to negligible incidents among civilized peoples. In 1891 there were 1997 deaths from typhoid fever. In 1923 with double the population there were but 56 deaths. It has exterminated hookworm and yellow fever over large areas and is on its way to banish them from the earth. Within the last year it has made such advances in the study of scarlet fever as to promise that this scourge of the children will be extinct.

But the contributions of research to human life are not wholly in the realm of the physical and the economical. We have learned that there are problems of human life, political, social, and individual that call quite as loudly for study as do the problems of Physics and Chemistry and Disease, and that the study of these is quite as rewarding as the investigations of physical problems. Indeed it has come to be recognized by the physical scientists themselves that there is an element of danger in their discoveries if they are not accompanied by equally thorough studies of the human problems; that Chemistry may produce too many and too dangerous explosives for the good of the race, and that important as it is to save life by checking and curing disease, it is quite as important that those whose lives are saved shall also learn how to live amicably

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in relation to one another. To our investigations of the world in which we live we must add quite as thorough study of ourselves who live in it.

And this leads us also to recognize that researches in the physical realm have a value that is not at all physical, but wholly intellectual and spiritual. What ever their contribution to human comfort and luxury not less important to say the least is the contribution which they make to the broadening and deepening of human enrichment thought, and the consequent of human life.

Astronomy helps the sailor to sail his ship, and gives us methods of reckoning time that have enormous commercial value. But its highest values are in the immense stimulus and inspiration that its stupendous discoveries give to the human mind as it teaches us the relation of the earth to the other inhabitants of the universe and the tremendous distances into which our vision pierces when we go out at night and look up into the sky.

Geology has its value for the mining industry, but we could better afford to surrender all that than to lose what Geology has taught us about the history of the earth and of the life of plants and animals and man on the earth. It has probably had a greater influence in transforming theology and emancipating men from traditionalism than all the studies of the theologians themselves. Bryanism is largely an effort to cry down the facts that Geology has established.

Egyptology declares no very large dividends in the stock market but it has yielded results for human thinking of far more significance than the rise and fall of stocks.

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The highest values of research and education are not measurable in commercial terms; ultimately these values are all intellectual, social, spiritual, and only very partially reducible to commercial terms.

You can calculate the commercial value of the telephone to the stock holders of telephone companies, or perhaps to the commercial houses that use it. But who can reckon its enormous indirect educational and social values? You may be able to calculate how many days' wages have been saved by the practical abolition of smallpox; but who can estimate the total benefit to mankind of this achievement, or of the extirpation of hookworm and yellow fever? You can find out how much salary the professors of history in America earn, or how much profit the books on history yield to their publishers, but who can measure the enormous value of the fact that our intellectual vision is not bounded by our personal memory, but extends back over thousands of years and is every year penetrating more deeply and more widely into the past?

Of what worth is to divide by 1000 the time it takes to send our thought around the world, if we have no better thought to send? Of what use is it to double the rate of speed at which we travel to distant lands if when we arrive there we have no eyes with which to see their beauties, or perception of hearts to understand their problems?

Research, I repeat, has enriched the world immensely both materially and spiritually; but the spiritual benefits always outweigh the material, and the material have their chief value in that they enable us to avail ourselves of the spiritual.

In the progress of research and the making of its results available in the service of man the modern University plays a very important part. It stimulates and organizes curiosity for the effective discovery of the unknown. It trains men to become discoverers, never forgetting that man who discovers is more important than his discovery, for the latter is valuable only as it is converted into

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human betterment, and that character is a vital factor in all processes of education. It gives out to the world without price all the knowledge that it possesses and all the discoveries that it makes. It is the nursery of research.

Of course research is not confined to University laboratories nor are all discoveries made there. What can be justly claimed for the modern universities is that they are the chief cultivators of the spirit of research and that from them come the most fundamental discoveries on which all practical inventions are based.

To mention only a few instances, and these chosen from the discoveries of very recent years;

The wireless telephone was made possible by discoveries as to the nature of the atom which Millikan made in a purely idealistic spirit in the Ryerson Laboratory at the University of Chicago. Insulin and Ethylene are both products of University laboratories; and the recent discoveries in respect to scarlet fever were likewise made not in commercial laboratories but by University men.

The commercial laboratories and private research have their place and their record of achievements. But to the fullness of achievement the University is an essential factor, and it is responsible for that which is most fundamental and far reaching.

The University of Chicago opened its doors October 1892. For just about a generation it has been carrying forward its work of research and education in its buildings on the Midway. Beginning with about 600 students, it now registers annually 14,000. It had at the beginning about 100 professors; it now has about 600. But its claim to the serious attention of the citizens of Chicago

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is not the fact of its increase in numbers or in buildings or endowment. That claim rests rather on the fact that it has steadily laid its emphasis on the three things which I mentioned a moment ago as characteristic of a university, namely, research, instruction and dissemination. It struck again in 1892 the note which Johns Hopkins first struck in 1876, in declaring that it would steadily seek to find out new things, to add to the sum of human knowledge and means of enlightenment. And a mere list of the discoveries that have been made in its laboratories and libraries would take far more time to read than you could spare today.

It has steadily, and never more earnestly than today, emphasized the importance of personalities, and it has sent out from its walls a whole army of men and women most of whom, I may confidently say, have carried with them not only knowledge and skill, but ideals of character and service that have made them valuable citizens, and an honor to their various professions.

It has from the first recognized that its duty was not only to the students within its walls, but to the whole community. It has sent out lecturers, published books and periodicals, and extended its influence to practically all the lands of the world where the English language is spoken. It has a lecturer at this moment in India, a representative somewhere else in the orient and three exploring in Africa; and scarcely a year but has seen one or more of its faculty rendering some important service to other parts of the United States or in far distant lands.

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and useful personalities, to give what it has gained the widest possible dissemination -- these have been and still are its aims.

It has reached a point in its history which, as all who are associated with its work recognize, calls for definite enlargement of its resources and development of its work.

Convinced of this fact, we have been for more than a year studying ourselves to define more exactly the directions in which, and the extent to which, we ought to make progress.

As a result we have definitely reached the conviction that the emphasis of our thought and effort must not be on expansion but upon improvement, not on bigness but on betterment. Our ambition is not to make the biggest university in the country, or the richest, but one which will render in its situation here in Chicago and the centre of the country the best possible service to our constituency. Some expansion there doubtless ought to be. In some fields of research and instruction we are doing nothing, or quite too little to meet the needs of our situation. To meet these needs will call for new departments and possibly even a school or two. But I repeat that our aspiration is not after size, but quality. We are convinced that by this and not by our size will our service to the community be measured.

To make a University requires men and buildings. And of these, men are the chief. Buildings are a necessary adjunct of education, but men are essential. And to such a University as we aspire to make men of the highest ability and character are necessary. Mediocre men, no matter how numerous, do not make a University that really makes a contribution to knowledge and the improvement of educational method. It is the pride of the University of Chicago that from the beginning it has had on its faculty

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men of distinction - men who have made the discoveries and published the books that have set science forward and enriched the life of the world.

As our older men reach the age limit and retire as some of them have done, and others will soon do, they must be replaced by men not of mediocrity but of outstanding ability, and we must find them where we can in Europe or America and pay them salaries commensurate with their abilities. As our own young men rise to distinction as such men as Millikan and Breasted and others have risen, we must make it possible to hold them here against the calls which their eminence will inevitably bring them.

Some of our departments are undermanned, and do not adequately cover their subjects. We must bring in additional men to round out the staff and enable us to deal adequately with all the subjects that we treat.

For these purposes we need at once \$6,500,000. to yield an additional income of \$325,000 for professors' salaries. We have increased our salary roll by \$700,000 a year in 5 years. But we need to increase it at least \$300,000 more to enable us to do our work effectively without adding any new departments. To do the latter would call for still higher figures.

But we need also buildings. War prices have prevented that normal and gradual increase of space which would year by year have taken care of our normal growth. Now we are crowded to our utmost limit and the educational development of various departments is being seriously retarded by lack of space.

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I should like to say a few words about the colleges. In the first place we have decided that it is part of our task, while carrying on research and developing the best possible kind of Graduate and Professional Schools to build up also the best possible kind of colleges. To do this we are convinced that while retaining their place in the University and sharing the University atmosphere, they ought to have the opportunity to develop a life of their own. For this reason and because we need all the space on the North side of the Midway for our graduate and professional schools, we are hoping to develop our colleges on the south side of the Midway in buildings built specially for them and adapted to their needs. Here we hope to produce a better kind of college life than now exists in America - a life permeated by the spirit of research, but not less dominated by the recognition of the fact that men are more than knowledge, and that the purpose of all increase in knowledge is an

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our motto suggests - the enrichment of life, the development of strong personalities.

I shall not undertake to tell you what it would cost to realize all our ambitions and hopes for the University, though in the presence of such men as are here today, accustomed to great enterprises, I do not hesitate to say that within the next ten or fifteen years we ought to double our present resources. But what I want especially to say now is that our immediate needs call for \$11,000,000 for buildings in addition to the \$6,500,000. that I have already mentioned as needed for salaries. Our goal this year 1925 is \$17,500,000. and we must look mainly to Chicago to provide it. Chicago men have given generously in the past and its future is largely in their hands. Mr. Rockefeller has given to the University, and in so doing to Chicago, \$35,000,000. He accompanied his last gift by the statement that it was his last and that he was committing the University to the citizens of Chicago. I am sure we shall not look in vain to them to accept and fulfill this trust. They have given the University most of its buildings. We feel confident we may look to them to meet the present situation also.

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12-6-24
copy to Mr. Tucker

Ad 1

President Burton's Radio Talk

November 24, 1924.

Education is the process by which people become adjusted to the world in which they live. From the selfish point of view its purpose is to learn how to get the most out of life. From the social point of view its purpose is to enable one to make the largest contribution to the common good.

Everybody is educated, only some are well educated, some are badly educated, some get their education at home, some get it in the streets, some get it on the farm and some go to school for it.

A school is simply a device for educating people faster and better than they can be educated in the shop or in the street or on the farm.

In no country in the world do so many people get their education in school as in America, and at no time in the history of the world have so many people gone to school as in America today.

So much is this the case that our chief concern from now on must be not how many people are going to school as how good an education they are getting. Not numbers but quality is what we most need to be concerned about.

This is true of elementary education, and it is true of higher education.

The University of Chicago is just entering upon an organized effort to raise \$17,500,000. And it intends to use all this money not to increase the number of its students, or to give an education to more people, but to give a better education to its present number of students. The University believes that it

15-5-34
copy to Mr. T. J. ...

1891

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has been giving its students a good education, but it is ambitious to do still better by them - to give them the best possible education.

Perhaps some of those who listen to me tonight may have a curiosity to know how a University can spend \$17,500,000 in just making its education better.

A part of the explanation is to be found in the size of the institution.

The University has 44 buildings, a faculty of a little over 600 and about 14,000 students a year - about half that number at any given moment. It conducts ^{six} ~~five~~ graduate and professional schools for students who have already finished a college course. In these schools it aims to train men to become investigators and to prepare them for their chosen profession, - to become teachers, preachers, physicians, lawyers, business men or Directors of social enterprises. Education on this level is very expensive.

The University also conducts colleges for those who having finished the High School are going on for a Bachelor's degree.

The central aim of the colleges is the development of personalities - the making of men and women who can not only get the most out of life, but also make the largest contribution to life - the life of the community. This involves a certain measure of knowledge, a large measure of trained intelligence, and not least of all sterling character.

The great increase in the demand for college education in recent years, has so crowded the colleges and universities with students that it has been almost a matter of necessity to deal with them in large masses or classes - and in this case classes and masses mean the same thing. The close contact between student and

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teacher that was possible a generation ago has become difficult or impossible.

The University of Chicago deploras this tendency, and is setting itself to correct it by seeking to deal with all its students as individuals, establishing and maintaining close connections between students and professors, that the students may be educated by hand, so to speak, not by machinery.

Teachers who can deal with students in this way successfully are neither numerous or easy to find. To develop a college of the type of which I am speaking means more teachers and teachers of exceptional qualifications.

This brings me then to speak of the second reason why the University needs \$17,500,000. in order to give its students a better education.

It must increase the amount which it expends for salaries and professors. This it has already done in a marked degree. It has increased its annual expenditure for salaries by \$700,000 in five years, or 72% of what it was paying five years ago. Yet it recognizes that it must go still further in this direction. The high cost of living which has evidently come to stay, a great demand for teachers, and especially for really good teachers, the competition of many business enterprises which now call for scientifically educated men in far larger numbers than a few years ago, combine to create a situation that can be met only by paying more adequate salaries. This is not to say that men teach for money,-- but men who teach must have money in order to pay high rent and butchers bills, to buy books and to educate their children, and it is wholly unreasonable to expect that they will prefer to teach in an institution that does not furnish them the means for these things

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rather than in one that does.

But to carry out the University's ideal of giving a better education it must also appoint new men to fill the vacancies which from time to time are arising by death and retirement, and to strengthen departments which are at present inadequately staffed.

In filling these positions the University will seek for two classes of men, - men of outstanding ability and achievement, men who have made their reputations and will by their proved ability add materially to the strength of the faculty. These are the men that make a University. The University of Chicago has had its share of such men in the past. As they complete their careers they must be replaced not by men of mediocre power, but by men of outstanding and demonstrative ability.

The second class of men among whom the University will search for additions to its faculty is made up of young men of promise but whose achievements are largely in the future. There are two reasons for searching among these. First, because in this way we have already gained some of the ablest men of our faculty, - men who came to us young and unproved, but have remained to add effectiveness and distinction to our faculty. And the second reason is that there are not enough men of the first type to fill our positions.

But the University must have not only men but adequate equipment, materials with which to work. Modern education is not to any great extent doled out from a text book. It is a matter of observation and of deduction and conclusions from observed facts. The University spends \$170,000 a year on current equipment, which is an increase of 129% over what it spent 5 years ago. But to this

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amount a further increase must be added in order to furnish materials for investigation and instruction in the sciences which are being rapidly developed from year to year.

But the University also needs buildings. Not because it wishes to make a fair show of progress in visible ways, but because its educational work is being seriously hampered by lack of space in which to do its work.

Two buildings are now in process of erection, one for the Divinity School on the main Quadrangle, and one for the Rush Medical College on the West Side of the city. Three more buildings, we hope, will be begun within the next six months, - one for the new Medical School on the South Side and second, the great University Chapel which is to be built on the Midway, and the third, a Field House, which will also be an Assembly Hall, on the Athletic Field.

But it still remains that in addition to these we are in urgent need of a new building for Chemistry, a new one for purely Applied Mathematics, still another for Modern Languages and the Libraries, yet another for History and the Social Sciences, and yet another for the School of Education. In each of these cases the departments which a few years ago were very adequately or passably provided for in existing buildings have so developed that their work of instruction and research are now seriously hampered for lack of space in which to carry it on. In more than one of these departments it is impossible to increase our staff, and difficult to hold our staff because of sheer lack of cubic feet for desks and apparatus.

The buildings of which I have thus far spoken are for educational purposes, laboratories, class rooms, and libraries. But the University is also in great need of residence buildings for its

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But the University also needs buildings. Not because it wishes to make a fair show of progress in visible ways, but because its educational work is being seriously hampered by lack of space in which to do its work.

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But it still remains that in addition to these we are in urgent need of a new building for Chemistry, a new one for purely Applied Mathematics, still another for Modern Languages and the Libraries, yet another for History and the Social Sciences, and yet another for the School of Education. In each of these cases the departments which a few years ago were very adequately or passably provided for in existing buildings have so developed that their work of instruction and research are now seriously hampered for lack of space in which to carry it on. In more than one of these departments it is impossible to increase our staff, and difficult to hold our staff because of sheer lack of cubic feet for desks and apparatus.

The buildings of which I have thus far spoken are for educational purposes, laboratories, class rooms, and libraries. But the University is also in great need of residence buildings for its

students. Of the 5,000 students at this moment in residence at the University some 600 live in University buildings, nearly as many in Fraternity Houses, two or three times as many in their own homes; but there still remain between 16,00 or 1800 who live in rented rooms in the vicinity of the University. For all of these the University would like to provide a home in its own buildings; and this not for financial reasons, or especially for the comfort of the students; but in order to give them a better education. This need is greatest in respect to the college students. The graduate and professional students may perhaps be trusted to take care of themselves. But college life is not simply a matter of attending classes and passing examinations. It is quite as much personal contacts and friendly associations with fellow students and with teachers. The college students who lives in lodgings loses a large part of the possibilities of the college course. It is the ambition of the University to develop for these college students a type of life in University Halls which will mean that the process of his education goes on not three hours a day in which he is in classrooms, but all his waking hours.

Looking back over the history of education in this country and England it is clear that some of the best influences of college life have come through such an association of students with one another and with their instructors as is possible only when one builds something comparable in a measure at least with the Colleges of Oxford and the old small colleges of New England. We cannot turn back the pages of History, nor do we wish to. But it is the desire of the University of Chicago to develop in the city of Chicago a type of community life for its college students which will, while adding all that recent experience has shown to be good, bring back

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back also from the past what is adapted to our present day situation. This will mean that we shall create probably on the South Side of the Midway, across that great Boulevard from our present University buildings a group of University Halls in the midst of which there will stand a building, or group of buildings, devoted especially to the education of our college students. Here we shall hope in full sight of the work of the graduate and professional schools, but measurably separated from the, to do better work for the colleges than ever before, and incidentally to furnish the conditions for better work in the graduate and professional schools.

To these three purposes, therefore, the University will devote the \$17,500,000 which it hopes to raise before the end of the year 1925.

First to the increase of its endowment in order to pay better salaries and add to its staff	\$6,000,000.
Second, for the erection of educational buildings, chiefly for the use of graduate and professional schools	\$8,000,000.
Third, for the better development of its colleges	\$3,500,000.

When these sums are raised the University will have other urgent needs to present to its friends.

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To the Freshmen

VESPER SERVICE

October 5, 1924

Ad.

A COLLEGE STUDENT AND HIS RELIGION

1. You have been taking a preview of your college course. You have discovered that it has many aspects--your living quarters, your place of eating, the ^{college} buildings, your teachers, your studies, physical culture, recreation.

Today I wish to speak to you about ^{one of the most important parts of your life} your religion.

2. I assume that ~~the~~ most of you have come from religious homes. This is true of the great majority of ^{college} students. The ambition for a college education is much more likely to be developed in such a home. I hope you will never allow yourselves to be ashamed of the fact that yours is that kind of a home.

3. Most of you are yourselves religious. You believe in God. You have had habits of prayer. You know there ~~are~~ ^{is a difference} between right and wrong, and you associate your ideas of righteousness with your religion. Even if you have come from a home in which there has been little expression of religion, even if you have no very definite conviction on religious subjects, you have a more or less unformed religion. You have ideals and convictions and aspirations and you recognize, I am sure, that behind and beneath and above all these outward tangible lives of ours, there are larger realities, invisible, eternal, with which we have something to do.

4. It is my deep desire that your days in college shall

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not destroy your religion, or weaken its influence on your lives, that you shall not suffer deterioration of character, but that when you come up three or four years hence to take your degree you shall be men and women of stronger richer character and of deeper richer religious experience than you are today or have ever been.

5. With that desire in mind I want to say to you a few things about what you will meet in college.

You are going to have to be self directed and self controlled to a greater extent than ever before. Home influences, the influences of your church, will be less obviously present and potent. You will be making new acquaintances, coming under new influences. Make up your mind that you are going to stand on your own feet, that you are going to reach your own conclusions and hold your own convictions. ¶ Don't be ashamed of whatever religion you have had. Don't get the impression that it is old fashioned and out of date to have, and to acknowledge that you have, religious convictions. You will not be alone in holding them. The statistics of college life show that a large proportion of the students in American colleges hold religious conviction and are members of religious organizations. ¶ If you chance to fall in with the scoffer and the irreverent don't assume that you must be like him-- he is the peculiar person, he is the outlaw. Stand on your own feet, do your own thinking, hold your own convictions, follow your own practices.

In particular, though not as if this were the most important thing that I have to say, I should like to advise you not to abandon the habit of church attendance. Some of you will continue

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abandon the habit of church attendance. Some of you will continue

to attend the churches with which you are associated in the city; some will connect yourselves with churches in the city--this is good. If neither of these things seems to you best, then I strongly urge that you make it your regular practice to attend the Sunday morning service here in Mandel Hall. You will find here good preachers, good music, and your attendance will be the continuance of a good fellowship, a good habit. ^{Perhaps some} ~~Probably many~~ of those in the house with you will lie abed till after the hour for the service. Have the courage to do the wise thing. Get up and go to church.

It is a matter of course that you will attend the chapel service on the appointed day of the week. But I want to urge that you accustom yourself to thinking of this, not as a burden or a University requirement but as an opportunity and a privilege. Here too then will be good speakers, good music, good fellowship. Come gladly and take a hearty and appreciative part in the service.

6. But it will not be in social contact with your fellows only that you will meet new ideas. The professors in the class rooms, the books that you read, the addresses that you hear, will bring before you ideas about religion that will be more or less novel. I want to warn you against two extremes. ^(a) Don't believe everything you hear, just because someone has said it; ~~don't~~ ~~set yourself obstinately against everything new.~~ Listen with a judicial mind. Don't go with the crowd because it is a crowd. Keep an open mind to all the winds that blow but don't go with what happens to be at the moment the prevailing wind. Stand on

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your own feet. " Do your own thinking. ^(b) And whatever you do don't end in negatives. You will need in this world positive convictions. No life is made up of not doing things or not believing things. What you do ^{and what you} believe, ~~what you do do~~ is far more significant than what you don't believe and don't do. The ten commandments are rather largely prohibitions. But a modern man's religion must have more positives than negatives.

^(b) If as you go forward in your thinking you find that to be true to yourself and the facts as you have learned them, you must modify the beliefs with which you have come to college, make the change courageously, calmly, seriously. Let there be no snap judgment. Let there be no vain boasting that you no longer believe as you once did. It may be a serious duty to modify old beliefs ^{for}, but it is not a thing for idle boasting but for serious thought and decision.

^(c) Don't abandon what you have believed and have practised till you have something better to put in their place. Don't think that religious questions can be settled without hard thinking. Take this side of your college life as seriously at least as you do any other phase of it.

But especially let me urge you not to abandon any of the good habits you have brought with you. You will need them here not less but more than heretofore. Hold fast to all that is good, and change not by ^{yielding to} ~~gradual~~ pressure, but if at all be deliberate conviction that you have found a better way. ^{EXH 197} And if perchance any of you have come to college without definite religious convictions or habits--if religion has never yet become a vital factor in your life, let me urge

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Handwritten notes in the right margin, including the word "Habit" and other illegible scribbles.

you to face the question of the place that religion ought to have in life frankly and earnestly. You will never face a more important question, and you will hardly find a better place and time to face it than now and here. There are people here whom you will easily find if you look for them, who will be glad to talk with you, or point you to books to read; and you can find here as you will hardly be able to do later, time that you can give to serious thought. Face the question, settle it when you can. Make religious convictions a vital factor in your life.

I heartily welcome you to the University. I hope that for everyone of you the years you spend here will be rich with enjoyment and with profit. I hope you are going to make a contribution of your own to the life of the University--that you will not only receive but give--and that when you assemble for your diplomas, the ideal of University life will be higher than it is now because you have been here. I am sure this will be the case if you fill your college life with that combination of cheerfulness and seriousness which I am commending to you.

Whatever is true, whatever is honorable, whatever is right, whatever is brave, whatever is lovely or kindly, whatever excellent or praiseworthy--think on these things--and may the God of Peace be with you.

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THE BUSINESS OF A UNIVERSITY¹

¹ An address delivered before the Chicago Association of Commerce and the University Club of Chicago.

By ERNEST DEWITT BURTON
President of the University of Chicago.

I appreciate this opportunity of coming before this group of Chicago men to speak about the business of a university. When I say university, I am not referring in particular to the institution with which I have the honor to be connected but to a university as such. And yet, I am sure you will not resent my drawing my illustrations largely from the University of Chicago. For, it is, in fact, one of the institutions of the city of Chicago which the citizens of Chicago have, in a large part, by their brains and by their money, created, and, as men who are yourselves creating the great enterprises of the city, I feel sure that you are interested to know of this enterprise. There is a long line of men, too long, indeed, for me to begin to enumerate, who now, for more than thirty years, have given without stint of their time and their ability and money to make the University what it has become. I hesitate to mention any names, lest I should seem thereby to neglect others equally worthy, but I may, perhaps, be permitted to say that the university has been peculiarly fortunate in the two presidents of its Board of Trustees, Mr. Martin A. Ryerson, who occupied that position for thirty years, and Mr. Harold H. Swift, who, coming into office at about the same time of life at which Mr. Ryerson took office, has already proved himself a worthy successor of a distinguished predecessor.

I am going to speak to you about the business of a university, by which I do not mean the business administration of the university as distinguished from its educational work. For, in fact, while a competent business administration is indispensable to the success of the university, the real business of the university is not business, in the narrower sense of that term. To put it in the language, which for you I am sure will need no defining, what I wish to discuss with you is the task of the university, the things for the accomplishment of which it exists.

And the first thing I have to say is that the business of a university is service. Whatever may be said of a business college or a young ladies' seminary, a university has no right to exist as a corporation for pecuniary profit. Whether its funds come to it by taxation or by gift of individuals or from these sources supplemented by tuition fees and exemption from taxation, the one comprehensive task of a university is to serve, to give not to get, to impart not to acquire. Whatever of acquisition enters into its plans must come in solely as subordinate means to its supreme end, and that end service. The university must first of all serve its students, but not its students only. Its obligations are to the city in which it is located, from whose citizens it receives no small part of its support; to the state and the nation, to whose stability it owes the opportunity of continuing its work; to the world, from all parts of which its students come, to all parts of which its graduates go back.

This broad definition of its field of service is demanded, moreover, not simply by the extended character of the relationships of a university, but by the fact, which I hope to make clear a little later, that much of its work can be done successfully only as the university consistently maintains a breadth of horizon limited only by the possibilities of its outlook.

But it is obvious that this definition of the business of a university as service lacks something of definiteness and exactness. There are many other institutions that exist to serve. The church, the museum, the art institute; yes, and more and more, we are coming to recognize that even those corporations which the law defines as corporations for pecuniary profit are bound also to render service, and we are more and more claiming and confessing that the railroad, the street car, the packing house, the department store, while making for their stockholders a reasonable pecuniary profit, are bound to give service, and that their very right to exist is based upon their being serviceable. Moreover, individuals are more and more recognizing that, to society, which furnishes that element of stability without which their efforts to promote their own business would be futile, they owe an obligation of reciprocal service. What, then, is the special type, or what are the special types, of service which a university is called upon to render?

To this question, I should like to return a fourfold answer. The business of a university is discovery, dissemination of knowledge, training of men for service, and development of personalities: discovery of new facts and, by the collection and interpretation of them, of new truth; the dissemination of knowledge through oral speech and printed page, but especially of the results of the discoveries which the scholars of the university have made; the training of men to make practical use of their knowledge in the service of mankind, and the development of personalities capable of large participation in life and of large contribution to life.

In the space of time that is permitted me to use here today, I want to lay special stress upon the first of these four aspects of the business of a university. For it is discovery by which the business of a university is distinguished from that of all other schools. If I were speaking today from the point of view of a college, as I was only a few days ago in this city, I should lay my stress upon the development of personalities. But, the distinctive business of a university is discovery. Or, if I may here again substitute for this more familiar word, the shop word which we more commonly use at the university, research.

Discovery is the distinctive note of the intellectual life of the modern world. Of all the great discoveries, the results of which constitute the present possessed store of human knowledge, far more than half have been made in the last hundred years, and probably within the last fifty. With rare and almost negligible exceptions, the ancient world, at least so far as we have been able to recover its history, the medieval world certainly, the oriental world even until today, has been characterized not by the discovery of new facts or truths, but by the dogmatic transmission and the docile acceptance of the opinions of the past. To speak broadly, and without attempt at the fine qualification which would be necessary in a strictly scientific statement, throughout the centuries, down to the nineteenth, the prevailing question of the people has been: What would our predecessors say about this?

It is the abandonment of that attitude, and the adoption of the attitude of inquiry concerning the facts, and the development of method by which from observed facts one may discover large truths, that have made the world in which we live today something else than the world of the dark ages. The steam engine, the locomotive, the telegraph, the telephone, the trolley car, the automobile, the airship, wireless telegraphy and telephony, the phonograph, the motion picture and the radio are all of them the products of discovery, and while some of these things may seem relatively trivial, I am sure that you will all agree that the subtraction of them all from our modern life would plunge us back into the conditions of the dark ages. And yet, in mentioning these examples of discoveries, I have selected them almost wholly from one area and if I were to undertake, with any measure of thoroughness, to supplement this list from discoveries in other fields, I should consume all the time that is left to me and then should only begin my task. Time would utterly fail me to set forth one-hundredth part of that which has been accomplished practically within the lifetime of the men now living. May I read to you just a list of some of these important discoveries?

The spectroscope, by which we are able to determine the physical composition of stars many millions of miles distant.

The spectroheliograph, invented by a Chicago youth of hardly twenty-one, George E. Hale, son of a Chicago manufacturer and scientist.

The interferometer, the invention of Professor Michelson of our own Department of Physics, who thirty years ago was able by it to measure the satellites of Jupiter and more recently has accomplished the still more important result of determining the diameters of distant stars.

The seismograph by which we record and, in a measure, predict earthquakes.

The whole science of meteorology by which shipping interests and farmers receive advance information as to the weather.

The rigidity of the earth has been measured by determining the tides in the solid earth. This is also an achievement of Professor Michelson.

The atom, once supposed to be the ultimate in matter, as its name suggests the indivisible, has been discovered to be, instead, a world in itself, comparable indeed, not in size, but in organization, to a solar system, composed of a small positively charged nucleus, which carries the weight of the atom, and electrons located at relatively large distances from this nucleus, negatively charged. It has been found, moreover, that all electrons, in whatever kind of matter, are alike, that the positive element of the atom, the nucleus, is either always the same or, at the utmost, of two kinds.

The nebular hypothesis of the origin of the earth, proposed by La Place, and long an accepted truth, has, in the opinion of many physicists, been displaced by Professor Chamberlin's planetesimal theory which has a far-reaching significance in more than one field of thought.

The discovery of the bacterial origin of disease, and the fact that many diseases, such as tuberculosis, pneumonia, hookworm, diphtheria, typhoid fever and yellow fever, are the result of living growths, commonly called microbes, has settled many long-pending controversies and opened up a dazzling vista in the field of alleviation of human suffering and the banishment of disease.

But this very list reminds us of a fact of great significance, namely that research has become in our day, not an individual enterprise, not the task of the lone inventor or of the exceptional thinker, but an organized business in which scores and hundreds of men are engaged in the pursuit of definite results on a co-operative and organized plan. And so, in connection with the great electrical companies, with the great packing houses, with the canning industry, with banking, with hotel management, organized institutions or research are conducted, sometimes by an individual corporation, sometimes by an association of corporations operating in a given field. So familiar are these institutions of research to you gentlemen to whom I am speaking, that an enumeration of them would be superfluous. Yet, perhaps, if one should read here a full list of such research enterprises conducted by corporations for pecuniary profit, even you would be surprised at the length of the list, the amount of money invested, and the large number of men employed.

But now the very length of this list and the very extent of the work being carried on and supported by corporations which are, by the law, classified as organized for pecuniary profit, raises the question: *why*, then, should the university be engaged in research—why should discovery not be left to the Edisons and the Steinmetzes and the others who are, outside of the university, doing such great research? I am particularly desirous of answering that question which may, not unnaturally, arise in your minds.

The business of a university in the field of research is, on the one hand, to deal with the fundamentals, the things that lie deep beneath all that is special and particular, all that has to do with any specific line of investigation, and, on the other, to secure completeness and symmetry, in other words, to bring the researches in various fields into relation with one another and see to it that there are no important gaps in the rounded circle of possible knowledge.

In short, the business of the university in the field of research is to secure fundamentalness and completeness.

Among men engaged in research, you will always find two types of mind and two methods of approach. On the one side, there is the man who is interested in the practical, who wants to know how to make a better electric lamp, who wants to extend the distance over which the telephone can work successfully, who wants to make a ship that can fly in the air as well as the great liners float in the ocean. The practical questions of this type that confront our modern life are, of course, simply innumerable, and they appeal tremendously, and altogether legitimately, to men of a certain type of mind.

On the other hand, there is the type of mind which we may, perhaps, characterize as that of intellectual curiosity, that of the man who simply wants to *know*, without reference to what the knowledge he might acquire would accomplish, the visionary man, if you please, far removed from the practical interests of life, who wants to know how far away the stars are, not because he can do anything with the fact, but because he wants to know; the man who wants to know what the ultimate constitution of matter is; whether the atoms are, after all, the ultimate components of matter, or whether it is possible to break them up into more ultimate elements; the man who wants to know how the ancient Egyptians lived, not because he expects to get from them anything that would affect modern life, but just because he craves the information.

Now, the great fact concerning these two types of mind which it is important to emphasize is this: that the man who begins with a practical question is almost inevitably driven back, step by step, to the ultimate, and that the man who begins with nothing but curiosity, simply wanting to know, has often proved to be the man who made the most valuable, practical discoveries. The truth is, we absolutely need both types of mind and knowledge as such, that always the practical leads back to the ultimate and the ultimate leads forward to the practical.

Could I take the time for it, I could, not from my own personal knowledge, but from the contributions which my colleagues have made to me, enumerate scores of examples of both these facts. Let me, instead, mention one or two typical examples, reminding you that these might be multiplied a hundred fold. It is said that when Benjamin Franklin announced his initial discovery in the field of electricity, arrived at you will remember by the flying of a kite, he remarked that he did not suppose it would ever be of any practical use. Yet, since his day, and as a sequel to his discovery, there has come into our modern world all that enormous progress in the field of transportation and communication which discoveries in electricity have made possible. Sheer intellectual curiosity began the work. Its later developments cover the world and affect practically every human being in his everyday life.

The great science of modern chemistry owes its tremendous advancement, one might also say its very existence, to these two types of mind. German chemistry was primarily practical; English chemistry was theoretical; Frenchmen and Americans have shared the two points of view somewhat equally. The result has been, not that the theorists have found theory and the practical men achieved practical results, but that together, each inevitably tending toward the other's point of view, they have made tremendous progress in the fundamentals of the science and enormous contributions to practical life, of which every one of us every day shares the benefits.

The invention of gas masks as a protection against the poison gases employed in the world-war was made possible by researches into the absorptive power of different samples of charcoal, researches which were undertaken as a pure incident of an absolutely abstract inquiry and which occupied, not the four or five weeks which were expected but four years. Fortunately these four years had already elapsed when the United States entered the world-war and appealed to our physicists for help in discovering some protection against gases.

Lord Rayleigh's and Sir William Ramsay's work on the purely theoretical problem of the density of nitrogen led to the discovery of the rare gases of our atmosphere, of which helium is now being used in our large airship, the Shenandoah, as a non-inflammable gas of great lifting power, giving the United States a great advantage over all other nations, since helium is found in our natural gas.

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We have, at the University, what is called the Quadrangle Club, and one of my colleagues remarked to me a few days ago that this social club was the most valuable asset the University had from a scientific point of view. At noontime, the physicist, the chemist, the botanist, the historian, and the astronomer sit down around the same lunch table and there is no constraint and no program. A chance remark of the historian brings the botanist and the chemist into the discussion and perhaps before they have finished their luncheon each one has gathered from his colleagues something which has helped to correct the one-sidedness of his thinking or to suggest an entirely new line of thought. The mere fact that one can, with little effort or none, learn the latest thought of investigators in remote or similar lines of thought, serves to broaden the horizon, increase our points of contact and stimulate our thinking.

This, then, is what I am trying to affirm: that in this age of the world, characterized as none other has ever been by research, an age which by virtue of that fact has made greater progress in acquiring knowledge of the world and of how to live in the world than was made in twenty centuries before—in this age of the world in which commercial enterprises have the far-sightedness and breadth of mind to establish institutions of research, there is a place for the university and a duty to be discharged, which neither the college, nor the professional school of science or medicine or technology, nor the specialized research laboratory, can achieve. And this task is, as I have said, to deal with the fundamental and the seemingly useless, which often proves ultimately to be the most useful, to broaden man's horizons, to facilitate contacts and relationships, to secure that symmetry of investigation without which research itself is in danger of being so one-sided as to lead to disaster.

I have left myself very little time in which to pay any attention to the other three parts of the business of the university, dissemination of truth, training of men for practical service, and the development of personalities. Let me just say, in a few words, respecting dissemination, that the university recognizes that its duty is not only to find out truth, but to give to whatever it discovers the widest possible publicity. No university professor patents his discovery. From the foundation of the University, there was incorporated, as an essential part of it, the University Press, and from the beginning honor has been given to the man who publishes the results of his work, in other words, to the man who having discovered something which can be of use to the scholars of the world, puts it on the printed page and sends it out to the world. I am happy to be able to say that the University Press, which for many years had a hard struggle for existence, is now on a firm foundation and that its purpose is, and always will be, not to make money, but to send out in the most accessible form the thinking of the members of the faculty and of the other men connected with it.

I must be equally brief in speaking of the third and fourth purposes of the University—to train men for service and to develop high-minded personalities. But I do want to take time enough to say that we regard these as indispensable parts of our task, both because of their intrinsic importance and because research itself cannot be most successfully prosecuted when divorced from them. The real values of life are in people, and this fact needs always to be in the back of the mind, at least, of the investigator. If ever we imagined, as I think a generation ago many of us in America did, that knowledge is of itself sufficient to make democracy safe for the world and the world safe for democracy, we surely have been disillusioned by the experiences of the last decade. To know is not enough. It has in it a fatal defect. Precisely those to whom we intrust knowledge it is most important should also possess character, a broad horizon, a social sense, high ideals not for themselves only but for society, and a will trained to refuse the worse and choose the better and to prefer a contribution to the welfare of the race to any possible personal gain for themselves.

These, then, are to my thought at least the outstanding elements of the business of a university: discovery in every possible realm of human knowledge, the useless and useful, fundamental and specifically practical; the dissemination of knowledge by which the largest possible number of people may avail themselves of it; the training of men for service, and the development of personalities capable of the largest possible participation in life and of the largest possible contribution to life.

For more than thirty years, now, the Board of Trustees and the faculty of the University of Chicago have been engaged in the effort to produce such a university as I have described. In this effort, we have had the constant interest and co-operation of the citizens of Chicago. Our task is, by no means, complete. Great areas remain unoccupied, great opportunities appeal to us. In the entering into these and in occupation of them we need, and we hope to receive, your growing interest and your increasing co-operation.

Discovery is the distinctive mark of the intellectual life of the modern world. Of all the great achievements of man, none have been made in the last hundred years, probably within the last fifty. With rare and almost negligible exceptions, the modern world, at least as far as we have been able to measure, has been characterized not by the discovery of new facts or truths, but by the degree to which it has discarded the opinions of the past. To speak broadly, and with out attempt at the fine qualification which would be necessary in a strictly scientific statement, throughout the centuries, down to the nineteenth century, the prevailing question of the people has been: What would our gods or sages say about this?

It is the abandonment of that attitude, and the adoption of the attitude of inquiry concerning the facts, and the development of method by which from observed facts one may discover large truths, that have made the world in which we live today something else than the world of the dark ages. The steam engine, the locomotive, the telegraph, the telephone, the trolley car, the automobile, the airship, wireless telegraphy and telephony, the phonograph, the motion picture and the radio are all of them the products of discovery, and while some of these things may seem relatively trivial, I am sure that you will all agree that the subtraction of them all from our modern life would plunge us back into the conditions of the dark ages. And yet, in mentioning these examples of discovery, I have selected them almost wholly from the area and if I were to undertake, with any measure of thoroughness, to compare the area of discovery in other fields, I should discover that the most important discoveries in other fields have been made in the last hundred years, and that they would only add to the list of discoveries in the modern world.