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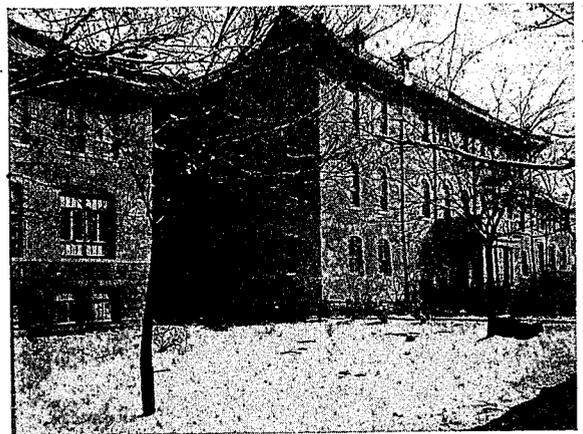
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Brochures, pamphlets 1920-1924

***A Power House
of
Leadership***



Science Hall and Dormitories of the School of Arts
and Science



The School of Medicine

To aid in the training of strong, Christian leadership for China, potentially the greatest nation in the world, is the challenge to all men and women of the Christian world today.

Shantung Christian University, founded on a broad interdenominational and international basis, located at a strategic center of Chinese life, is giving instruction in their own Mandarin tongue to more men of college grade than any other school of similar character in China today. It is truly a "Christian power house of leadership for a great people."

Its Location is at Tsinan, the capital of Shantung province, the sacred land of the Chinese because it was the home of their greatest sage, Confucius. In view of recent political events, Shantung is undoubtedly the most important of all the provinces of China, and because of its strategic location will have a large share in all Far Eastern matters.

Its Field is not only that of the province of Shantung but includes large portions of near and adjoining provinces. Within the area served only by Shantung Christian University live over 50,000,000 people. They look to that University as the only hope for a Christian education.

Its Interdenominational Character is shown by the fact that there are ten different missionary organizations of the United States, England and Canada co-operating in the work of the University, and thus securing a broad international basis of union. In London and New York Joint Boards of Direction have been formed which have control of the policy of the institution. A Field Board of Managers in China has the immediate and local administration in charge.

The Staff now numbers 55. There are 19 from Great Britain, 19 from the United States,

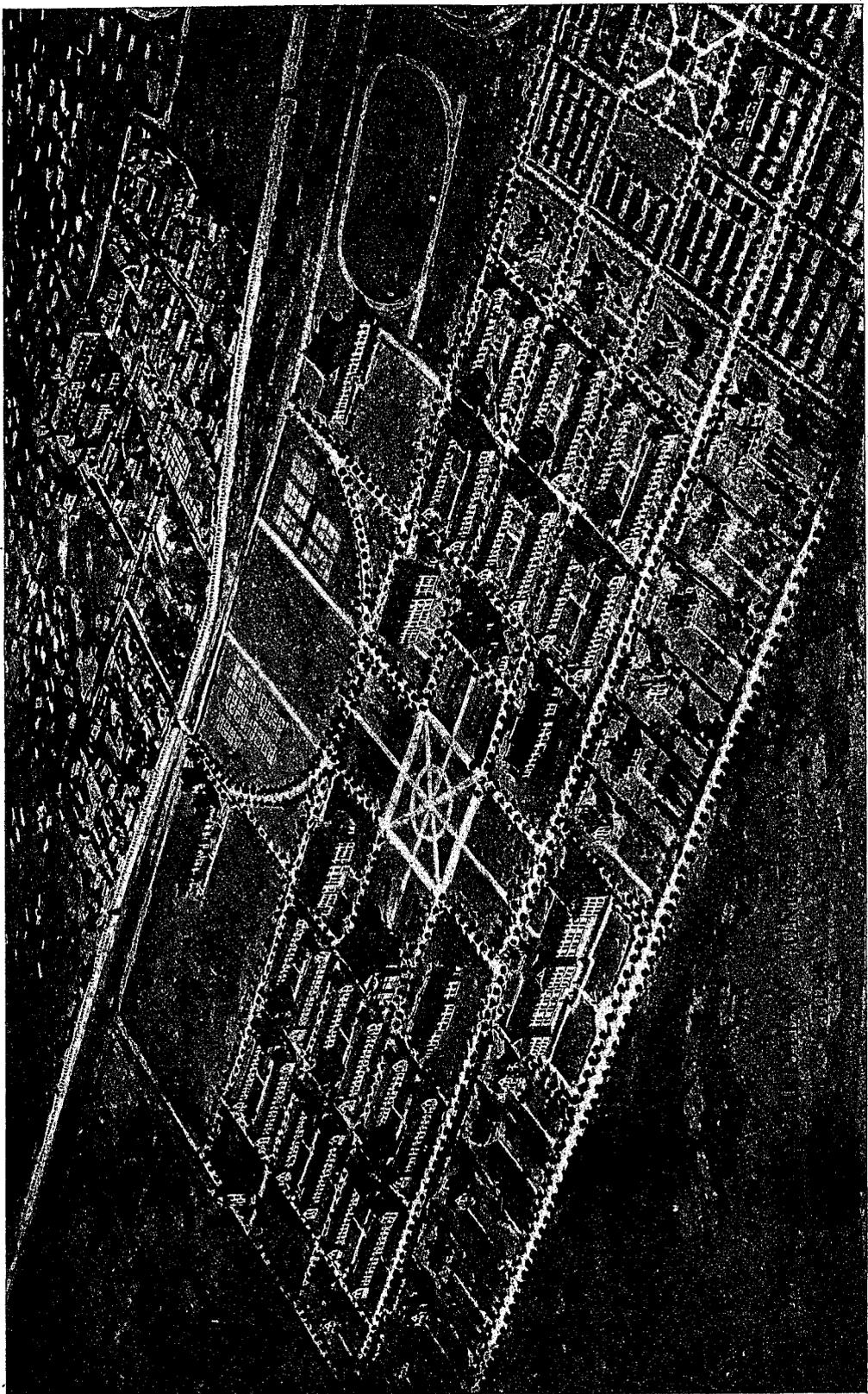
five from Canada. Twelve of the number are Chinese, six of them being returned students from America and England. As representatives of the several co-operating Missionary Boards and Societies, they come from the strongest colleges and universities of their respective countries and go out for that specific service for which they are best fitted.

The School of Arts and Science is the oldest and largest school of the University, dating back to the time of Dr. Calvin Mateer and the Tengchow College. For a time the Arts College at Weihsien, it was removed in 1917 to Tsinan to the new campus laid out in close proximity to that important city. Students from scores of Mission and government high schools, after passing the University Matriculation Examinations, are admitted here to the five-year courses offered in Chinese Literature, Teacher Training, Natural and Political Sciences, English, History and Mathematics. And with this preparation they go out to all parts of China as teachers to pass on to others the Christian education which they have gained.

The Aim of The School of Theology is the establishment of a well-educated, spiritual leadership by the Chinese themselves. If the objective of the evangelization of China is to be reached, it must be done, not through the medium of foreign missionaries alone, but largely through the efforts of Chinese pastors and evangelists. The men who go out from this theological training school are helping in large measure in the evangelization of the millions who could never be reached by the foreigner with what the Chinese too often call a "foreign gospel."

In The School of Medicine is found the chief hope for the new Mandarin-speaking medical profession of China. With a population of over 400,000,000, there are less than 1,000 physicians with any knowledge of modern medicine. To depend upon such a meagre

City Wall
 Residences
 City Gate
 Residences
 The Hospital
 School of Medicine
 Residences
 Dispensary
 Church
 Dormitories
 Extension
 Department
 Chinese
 City



Water Tower
 Power Plant
 Dormitories and Commons
 Residences
 The Chapel
 Teacher
 Training School
 Administration Hall
 Anglican Hotel
 Harkness Hall
 Theological Bldg.
 Library
 Science Hall
 Dormitories and Commons
 Residences
 Y. M. C. A.
 Athletic Field
 Model Village of
 Chinese Professors' Homes

Within the city wall: School of Medicine, Extension Department; area approximately 16 acres; value land, buildings and equipment, M\$440,000. Buildings shown are all erected.

Without the city wall: School of Arts and Science, School of Theology, Buildings of General University Use; area, 70 acres; value land, buildings and equipment, M\$525,000. About one-half of buildings shown are already built or will be erected this coming year.

force for the healing of China's ills will bring no real solution of the problem. The one hope lies in the development of a Chinese medical profession, trained in accordance with modern standards. This is the aim of the School of Medicine, the largest school in China teaching modern medicine in the Chinese tongue, and its students, well-trained by a strong staff from the best medical schools of Great Britain and North America, are going forth to do great service for the suffering millions of Chinese.

The University Hospital serves a great need in giving relief from suffering to thousands of needy patients, and in being the training ground of the medical students in their clinical work. Last year over 1,200 patients were cared for in the five wards of the In-patient Department, while over 43,000 were treated at the Out-patient Department. The Hospital is thoroughly modern in every respect and in its cleanliness and well-ordered efficiency is a wonderful object lesson to the Chinese.

The Training School for Nurses is helping to build up a profession which was unknown in China but a few years ago. Both men and women are being given instruction in this most important service and it is most encouraging to note how the true nursing spirit is being developed.

A most vital contact with all classes of the people is that gained through the **Extension Department of the University**, formerly the Tsinanfu Institute. By means of its extensive museum, striking models and instructive photographs, charts and diagrams, the Institute seeks to enlighten in all that makes for the progress and welfare of China. People of every walk in life come here to study the exhibits of Western civilization, nearly 500,000 having passed through this Department during the past year. All of them heard the message of the Gospel at least once, for all aisles lead to the preaching halls where evangelistic services are held at frequent intervals. Much seed has

been sown here amongst travellers from distant parts that has borne fruit in definite service elsewhere.

The Students of the University this past year came from 14 of the 18 provinces of China. Over 40% of the whole number, and 57% of the Medical students, came from outside the province of Shantung. They were from over seventy different Mission and government preparatory schools. The Missions of eighteen different denominations are represented in the church affiliations of these students, of whom there were but 17 non-Christians. Of the 303 enrolled last year there were 135 senior college men, 125 junior college men and but 43 in a preparatory department.

The Graduates of any school are a fair indication of that school's worth. Throughout China today there are hundreds of men who received their training at Shantung Christian University and who are now engaged in teaching, as pastors, as physicians, in business or official life, faithfully serving their fellow men. The theological students become the leaders in pastoral and evangelistic work in city and country. Over 80% of the graduates of the School of Arts and Science are teaching in schools and colleges, largely Mission institutions. Of the physicians graduated more than three-fourths are now engaged in Mission hospital work.

Within a few years China must take her place among the great nations of the world and **the question of leadership for the New China is of the greatest moment to the whole Christian world.** There will be leaders, of one sort or another. But what of the character of that leadership? Is the Christian world doing what it should to aid in the training and development of Chinese men and women in order that China may be guided in ways that are true and just?

Christian education is the cornerstone of all missionary effort for it has in hand the task of training the leaders, not only of education, but also of evangelization and of healing.

Shantung Christian University is filling a three-fold need in its task of training pastors, teachers and physicians for the three fields of missionary effort, evangelization, education and healing. In the preparation of Chinese leaders for these three phases of the work the staff is doing more than it could possibly accomplish by engaging personally in those fields.

Shantung Christian University is the only Christian institution of higher learning for a population of approximately one-half that of the entire United States or one and one-half times that of England. Such a responsibility, such an opportunity, cannot be ignored or overlooked. The work which has been begun must go on with greater impetus than ever if the goal is to be reached in time.

A series of small folders giving more detailed information regarding the various departments of work of the University is available.

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SHANTUNG CHRISTIAN UNIVERSITY
156 Fifth Avenue
New York City

19 Furnival Street
London EC4

AN INTERNATIONAL ENTERPRISE IN CHRISTIAN EDUCATION

Four Countries and ten Missionary Organizations of the largest religious denominations, all co-operating in the establishment of a great Christian University, upon which over \$950,000 (£190,000) has already been expended, and to which a highly trained staff of 43 foreign and 12 Chinese members has already been appointed,—such is, in brief, the record of the strong international institution in north-east China, known as the SHANTUNG CHRISTIAN UNIVERSITY. What is it all for, and how has it been accomplished? These are the questions which this brief paper will attempt to answer.

The task of evangelizing and uplifting a country of the size of China is so stupendous that if it were dependent upon the unaided efforts of foreign missionaries it would seem utterly hopeless and insuperable. And yet Christian men and women never despair of the task. Why not? Simply because they know quite well that the most remarkable characteristic of the Message of Christianity is that it always becomes indigenous and self-operative, sooner or later. And the result is that while the missionary from abroad may have the privilege of commencing the work, the real evangelization of the country is sure to be brought about by the people themselves.

Thus it is that missionary statesmen have for many years recognized that alongside of their extensive work of widespread evangelization there must also go the intensive effort to educate and train and inspire those Christian men and women who are obviously possessed of gifts which mark them out for leadership among their fellow-countrymen. Particularly has this been the policy of missionaries in the province of Shantung,—that sacred province where Confucius and Mencius lived and died, and where there exists so strong a reverence for education and scholarship. Led by far-seeing and consecrated men, such as the late Dr. Calvin Mateer, Dr. Timothy Richards, the Rev. A. G. Jones

and Dr. Watson M. Hayes (the last named still, happily, with us), the two largest Missions at work at that section of China,—the American Presbyterian Mission, North, and the English Baptist Missionary Society,—early embraced a policy of establishing good schools and colleges in connection with their missionary propaganda.

At first this was carried out quite separately, the American Mission, in 1864, establishing the Tengchow College in the far eastern portion of the province, and the English Mission, in 1885 and 1886, establishing a High School, Teachers' Training School and Theological College in the centre, at Tsingchowfu. In 1904 the Tengchow College was removed to large new premises in the important city of Weihsien, and in that same year the two Missions decided to unite their educational forces, and to form three Union Colleges,—Arts and Science being taught at Weihsien, Theology and Education at Tsingchowfu, and Medicine at a new College to be erected by the Baptist Mission at Tsinan, the provincial capital.

In this way the foundations of the future Shantung Christian University were laid in 1904 by the two Missions, to be joined a few years later by the Anglican Mission in Shantung (S. P. G.), who decided to share in the work of the Arts College.

Meanwhile, in the adjoining province of Honan, another large Mission—the Canadian Presbyterian Mission—was similarly feeling the need of providing higher educational facilities for the training of its Christian leaders. A careful consideration of the problem convinced the members of the mission and presbytery, as well as the Foreign Mission Board in Canada, that instead of attempting to establish a small denominational college of their own in Honan, a far wiser policy would be to accept the invitation which had been extended to them by the Shantung Christian University, and to join with them in making that institution a strong and efficient Christian force.

Just at this time, large developments were taking place in the field of medical education. In addition to the Union Medical College that had been started at Tsinan, as mentioned above,

other Medical Colleges had grown up in a similar fashion in other parts of China, each endeavoring to train Christian Chinese doctors, but each seriously crippled by the inadequacy of staff and financial support. This matter came before a special meeting of the Council on Medical Education of the China Medical Missionary Association in April 1915, and a resolution was passed strongly urging a policy of concentration, and recommending that the Medical College at Tsinan should first be made the centre of such concentration, so far as medical education through the medium of the Mandarin dialect of Chinese be concerned. This policy received the endorsement of the British Advisory Board of Medical Missions, then newly appointed, and of the Mission Boards in America which were concerned, and as a result of these and of subsequent actions the Medical Department of the University of Nanking and the Union Medical College at Hankow were both transferred to Tsinan, to join with the Union Medical College there in the formation of the School of Medicine of the Shantung Christian University.

As a result of this step, five Missions interested in the establishment of Christian Medical Colleges became additional partners in the work of the Shantung Christian University, whilst a further agency, the Grinnell-in-China Movement of Grinnell College, Iowa, also decided to co-operate in the institution, and have already placed their first representative on the staff of the Theological School.

In the year 1917 the Union Arts and Theological Colleges were removed from Weihsien and Tsingchowfu respectively, and rebuilt at Tsinan on a splendid site of over 70 acres, adjoining the Medical School, that School being also reconstructed and largely extended by means of funds generously supplied by the China Medical Board of New York. At the same time, the Tsinanfu Institute, which had been carrying on a remarkable work in the city on social, educational and evangelistic lines, became incorporated in the University as its Extension Department.

These large developments necessitated an entire change of organization, both at home and on the field, and in 1918 three new Administrative Boards were established, a Field Board in China,

composed of representatives of each of the co-operating Missions, together with Alumni and co-opted members, both Chinese and foreign, and Joint Boards of Direction, very similarly composed, in both North America and Great Britain.

Thus, by means of this wide co-operative effort, there has been established a Christian University in China, which students of all classes, non-Christian as well as Christian, can obtain a full University education; where modern standards are maintained throughout; and where, above all, an attempt is being made by every member of the staff to inspire each student with the highest ideals of Christian devotion and service, and to send him forth, God willing, a trained and consecrated leader in the great task of evangelizing, educating and healing his fellow-countrymen.

This is No. 1 of a series of eight folders giving detailed information regarding the various departments of work in the Shantung Christian University. The series consists of the following:

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SHANTUNG CHRISTIAN UNIVERSITY

**156 Fifth Avenue
New York City**

**19 Furnival St.
London, EC4**

THE SCHOOL OF ARTS AND SCIENCE OF THE SHANTUNG CHRISTIAN UNIVERSITY

To the Chinese scholar of the old regime, versed only in the famous classical literature of his land, knowing nothing of modern science, geography, mathematics or foreign languages and literature, the introduction of western learning was nothing less than a great calamity. He did his best to thwart it, to make it of no effect, but his efforts were useless. For it was not long after the missionaries had opened the first schools of a broader education that the young and progressive element realized that here indeed was a training that had given the foreigner a much wider knowledge than theirs. From that day to this the missionary schools in China have been the leaders in giving the best of western education to the Chinese, and, realizing this, the youths of that land have flocked to the missionary schools in such numbers that many of them are sadly overtaxed in caring for more students than had been planned for.

When Dr. Calvin Mateer, of the American Presbyterian Mission, began his missionary work in Tengchow well over fifty years ago, he commenced work on a system of Christian education that has made his name famous throughout China. Starting with a group of six boys in his own home he there laid the foundations for what was to be a strong college, and eventually become the School of Arts and Science of the Shantung Christian University at Tsinan, the capital of the province of Shantung. Until 1904 the college which he built up was known as the Tengchow College. At that time the English Baptist Mission and the American Presbyterian Mission decided to unite their forces for higher educational work, and the result of that union is the Shantung Christian University. The Tengchow College was removed to Weih sien to be the Arts College of that University, the other departments being the Theological College at Tsingchowfu and the Union Medical College at Tsinan.

After a few years it became apparent that a much larger sphere of usefulness would be opened up if the three colleges were brought together at the more central location at Tsinan. Accordingly a sum of \$300,000 Gold was raised in the United States from Presbyterian friends for the construction of the new buildings of the School of Arts and Science. A fine plot of some seventy acres of open country was secured just outside the city wall, adjoining the property of the School of Medicine which is situated within the wall. The erection of buildings was begun in 1915 but the unprecedented loss in exchange occasioned by the war hindered operations and so effectually reduced the sum of money available that some of the buildings could not then be erected. By the summer of 1917, however, a sufficient number was ready so that the removal could be made, and the concentration of all forces was effected at that time.

At present there are two large buildings for classroom and laboratory use, substantial three-storied structures of stone and brick. Eight dormitories house the students in very comfortable style and two commons buildings provide dining rooms for them. A power plant supplies electricity and water to the three schools. Six foreign-style residences house a part of the foreign staff, others having to be accommodated in rented Chinese houses for the time being. The Chinese staff has a new "Model Village" of comfortable Chinese homes built for its use. The work of the School of Arts and Science is divided into Junior and Senior Colleges, two years for the former and three years for the latter. The Junior College includes not only the first two years of the Arts and Science curriculum but also the pre-medical course and the pre-theological studies. From these two divisions students go to the School of Medicine and the School of Theology, respectively, for their senior college work.

In both Junior and Senior Divisions of the School the aim is to give a broad and yet intensive treatment of the various branches of study of a modern college course. In the first two years the work is naturally of a more general

character; during the last three years it is more specialized and adapted to the future need of the student. Courses are given in Chinese Language and Literature, Bible, English, Teacher Training, Natural and Political Sciences, History, Sociology, Mathematics and Astronomy. Inasmuch as the School's great aim is to give to Chinese youths the benefits of a modern education in their own language, much emphasis is laid on the work of the Department of Chinese Language and Literature. Although English is not the medium of instruction as it is in many schools in China, it is an important part of the curriculum and most of the students have a fairly ready command of that language at graduation.

For this instruction there is at present a staff of fifteen professors, besides numerous instructors and assistants. Of the fifteen, eight are Chinese, five are Americans, one is from England and one from Canada. They are the graduates of the best schools of their respective countries, and have gone out to take charge of departments for which each is peculiarly fitted. The greatest need of the School at present is for professors of Education and Psychology in order that the students, the great majority of whom go out for teaching service, may have stronger courses along that line.

Although the larger part of the student body comes from the province of Shantung, nevertheless fourteen of the eighteen provinces are represented. These students come to the University from over sixty different preparatory schools, largely Mission schools but also government high schools as well. There were but 17 non-Christians in the student body this past year out of a total of 186, the Christian majority of the students being from the many missions of thirteen different denominations. One of the most interesting facts is that the Senior College students are steadily growing in numbers in comparison with those of the Junior College, and when the figures for the whole University are compared it is found that there are more Senior College students than there are in the Junior College, a showing which would be difficult, if not impossible to match elsewhere in all China.

But, after all, interesting facts in regard to the equipment, staff and student body of any school do not count for much if the graduates are not standing the test of after life. The value of any institution is the work which its graduates do. Ever since its inception this School has been widely known as a strong center of training for Christian leadership. Its graduates have all been Christians and they are now passing on to others something of the benefits which they in turn received at this School. More than four-fifths of these graduates are engaged in teaching, the most of them being connected with Mission institutions. Quite a goodly number became pastors and evangelists, while others took up the study of medicine, and a few are to be found in business or official life.

For the expansion of this valuable work there are urgently needed additions to the staff and to the fund for buildings and equipment. Residences, more dormitories, more land, and equipment, these are some of the physical needs at present. If the work is not to suffer, there must be immediate advances along these lines. The number of students is rapidly increasing, and in order to make the most of the great opportunity that is here offered, the help and co-operation of the men and women of Christian lands is most earnestly requested.

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SHANTUNG CHRISTIAN UNIVERSITY
156-Fifth Avenue
New York City

19 Furnival St.
London, EC4

THE SCHOOL OF THEOLOGY OF THE SHANTUNG CHRISTIAN UNIVERSITY

There was a day when Christian activities in China mainly revolved around the foreign missionary. But that is no longer the case, except in the more remote provinces. In all the chief cities and country districts it is, the Chinese Christian Church which is increasingly taking the lead as the most potent agency in the evangelization of China, and which is exerting the strongest spiritual influence upon the community. Although not yet very large numerically, the Chinese Church, as a well-known journalist has recently written, is already influencing thought and opinion in China to an extent that is out of all proportion to its numbers.

All over China, as a result of the missionary effort of the past hundred years, Churches have now sprung up, denominational in character for the most part, and, in their beginnings, largely dependent upon the guidance and assistance of the missionary, and yet tending to look more and more beyond denominational barriers, and rapidly to become self-supporting, self-governing and self-propagating.

Particularly has this been the case in the important province of Shantung and the adjacent area, where, amidst a vast population of thirty to forty millions of people, there has grown up one of the largest Christian communities in China, characterised by that rugged independence which has made the men of Shantung known throughout the country.

In view of these facts, missionaries have long recognized that no greater opportunity nor more solemn responsibility is laid upon them than the task of educating and training those who will be the future leaders and pastors of the Church of China. If the ministry is well-educated, and aflame with the Spirit of God, no one can gauge the possibilities of the next years, for all classes in China today, from the official and scholar down to the poorest peasant, are willing to listen to the presentation of Christianity as never before.

The Theological Colleges and Bible Schools which have so far been established in China for the purpose of carrying on this important work differ one from the other in very many particulars. They differ in organization, some being Union Colleges, others strictly denominational. They differ in affiliation, the large majority being separate institutions, unconnected with any University or other College. They differ in the language employed for instruction, some teaching solely in Chinese, and the students being quite ignorant of English; some teaching mainly in Chinese, but requiring students to possess sufficient acquaintance with the English language to be able to do some reading in that tongue; a few teaching wholly in English. Lastly, they differ in the type of student received, many accepting men of but little previous education, if they possess evangelistic gifts; others requiring an educational standard varying from an ability to pass a university matriculation examination to the completion of a full Arts course.

Of the Theological School of the Shantung Christian University it may be said at once that it possesses the unique advantage of being an integral part of the University; that it represents the co-operative effort of four different missions, (English Baptist, American Presbyterian North, Canadian Presbyterian, and American Congregational); that it teaches in Mandarin Chinese, but requires a knowledge of English at entrance, and includes English as a compulsory subject throughout the curriculum; and that it accepts two classes of students, the one consisting of those who have already taken the whole B. A. course, the other consisting of men who have done a minimum of two years' Arts studies subsequent to matriculation.

The School had its origin in a Theological College belonging to the English Baptist Mission, at Tsingchowfu, Shantung, founded in 1885 under the principalship of the Rev. J. S. Whitewright, and enlarged in 1893 as the Gotch-Robinson College. Other theological classes were at that same time being held in various centers throughout Shantung, in connection with the American Presbyterian Mission. These two missions united their forces in the year 1905, and a Union

Theological College was thus formed, the Rev. J. Percy Bruce being the first Principal.

Later, when the Shantung Christian University took definite shape, and other missions joined the union, this College became the University School of Theology, and in 1917 was transferred to the provincial capital, Tsinan, where the University buildings were being put up. A sum of money had already been collected in England, through the Baptist Missionary Society, for the erection of the Theological College on the University campus, but unfortunately, owing to the unprecedented rise of exchange during the war, this sum became inadequate, and a further £2000 (\$8,000) is still required before the building can be proceeded with.

The teaching staff of the School at present consists of four foreign professors and one Chinese, all giving their whole time to the work, the Dean of the School being the Rev. John D. MacRae, M. A., B. D., of the Canadian Presbyterian Mission.

The course of instruction extends over three years (subsequent to the two years' special course in the Arts School, to which reference has been made above, or to the full five years' Arts course in the case of those wishing to join the special graduate class), and includes regular lectures, etc., in such subjects as Biblical History and Exegesis; Church History; Systematic Theology; Homiletics; Religious Pedagogy; Sociology; etc., as well as in Chinese Literature, English and Greek. At the same time, students take regular part in evangelistic work, and in the conduct of religious services in connection with the Extension Department of the University and the city churches.

Thirty-eight students have been graduated from the School of Theology during the past five years. These men, together with others who were graduated before them, are to be found today scattered throughout China, serving the Chinese Church in city or country pastorates, in many cases at great sacrifice, or taking a leading part in other forms of active Christian work.

The Rev. Ding Li Mei, though not an actual

graduate of the Theological School, is a product of the University, and is today one of the greatest spiritual forces in China, influencing students wherever he goes, and leading many of them to give their lives to the salvation of their fellow-countrymen.

It is to men of this type that we are looking for the evangelization of China and the up-building of the Christian Church, and we ask for sympathy and prayer in this effort to gather consecrated students for the ministry, and to prepare them for the tremendous task which lies before them.

This is No. 3 of a series of eight folders giving detailed information regarding the various departments of work in the Shantung Christian University. The series consists of the following:

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SHANTUNG CHRISTIAN UNIVERSITY

156 Fifth Avenue
New York City

19 Furnival St.
London, ECA

THE SCHOOL OF MEDICINE OF THE SHANTUNG CHRISTIAN UNIVERSITY

When it is remembered that China, with all her ancient civilization and her love of scholarship, is still almost devoid of a qualified medical profession, the suffering and need of her vast population at once becomes evident.

Two hundred years ago medical science in China was not far behind that of any other country in the world; but since that time, owing to the absence of Medical Colleges and Hospitals, or of Government regulations safeguarding the practice of medicine, ignorance and commercialism have hindered all scientific progress, and it is only within very recent years that the Chinese Government has made any attempt to initiate medical education.

Meantime, in connection with the missionary effort that has been carried on in China throughout the past century, a large number of physicians and nurses have opened up mission hospitals in all parts of the country. These hospitals have met with marked success, in relieving the sufferings of hundreds of thousands, in spreading Christianity, and in familiarizing the Chinese people with the benefits of modern medicine. It is however recognized by all today that the true salvation of China can only be brought about, ultimately, by the consecrated efforts of her own trained leaders, and medical missionaries have in consequence been giving increasing attention to the problem of organizing high-grade medical colleges in China, staffed with expert teachers and equipped according to modern standards, and thus able to offer a complete medical course to Chinese students of good education, whilst at the same time attempting to inspire them with the highest ideals of Christian service.

Such a Medical School has now been established at Tsinan,—the capital of the province of Shantung,—as part of the work of the Shantung Christian University, a University in which the representatives of four different countries and ten different Missionary Organizations are now taking a share.

The first stage in the development of this Medical School consisted in the gathering together of small groups of student-assistants at various hospital centres for instruction, mainly of a practical nature, from the physicians in charge. From that, there gradually sprung up small Union Medical Colleges in some of the larger cities, where a little group of medical missionaries combined their forces in the attempt to give systematic instruction to the students in attendance. These colleges represented a considerable advance on the former stage, but were sparsely equipped and under-manned. Finally, on the recommendation of the Council on Medical Education of the China Medical Missionary Association, endorsed by the British Advisory Board of Medical Missions and by Mission Boards in America, three of these Union Medical Colleges (those at Tsinan, Nanking and Hankow respectively) became amalgamated, and thus formed the School of Medicine of the Shantung Christian University at Tsinan.

The special characteristics of this Medical school are as follows:

1. It is an INTERNATIONAL ORGANIZATION, its faculty and teaching staff, which now consists of twenty-three members, coming from Great Britain, the United States, Canada and China, and including graduates of Oxford, Cambridge, Edinburgh, London, Johns Hopkins, Pennsylvania, Northwestern, Rush, Columbia, Yale, Toronto and McGill.
2. It is essentially a MISSIONARY AGENCY, every member of the staff in addition to being a specialist professionally, being a member of one of the co-operating Missionary Societies, and taking part in the religious work of the School and hospital.
3. It is broadly INTERDENOMINATIONAL, and already includes representatives of eight of the largest religious denominations as co-operating partners.
4. It is endeavoring to maintain MODERN MEDICAL STANDARDS throughout the whole curriculum, every student, after passing the University Matriculation examination, being required to spend at least two years in pre-medical study, (Chemistry, Physics, Biology, etc.), such as can now be secured in the well-equipped laboratories of the School of Arts and Science at Tsinan, fol-

lowed by five years devoted to the medical course proper, the last year of which is given up entirely to clinical work in the wards of the University Hospital.

5. Although English is a compulsory subject at entrance, and throughout the curriculum, so as to facilitate wide collateral reading of English medical literature, THE MEDIUM OF ALL INSTRUCTION IS MANDARIN CHINESE, the language used by three-fourths of the Chinese. This policy has been adopted with a view to enabling students to receive a modern medical education in their own tongue, and thus be the better able to pass on their knowledge to their fellow-countrymen.

The original buildings of the Medical School were erected from funds contributed through the Medical Auxiliary of the English Baptist Mission. These were largely augmented in 1916 by generous grants from the China Medical Board of the Rockefeller Foundation, which at the same time asked the School to receive a number of students from the former Peking Union Medical College, then transferred to the China Medical Board. From these two sources it has been possible to erect a large Medical College and Hospital with well equipped laboratories and wards, in addition to students' quarters, professors' residences, etc., a sum of over \$350,000 having already been expended on these buildings.

The School has received gratifying recognition and assistance from the Chinese authorities. The Governor of Shansi Province, in the summer of 1919, arranged for the graduates of some of the leading High Schools in that province to sit for the Entrance Examinations to the Shantung Christian University, with a view to their entering the School of Medicine, their fees being paid by the provincial government. The Civil Governor of Shantung, also, has recently recommended an annual grant of \$5000 being made from the provincial budget towards the upkeep of the University Hospital.

Students from all parts of Mandarin-speaking China have entered the School of Medicine. The enrollment for 1919-20, which amounted to a total of 46 students in the Pre-medical Department and 98 in the Medical School, included representatives of no less than fourteen provinces, eighteen different missions, and over fifty high schools.

Over fifty graduates have already completed their course, and are to be found today scattered throughout the country. Almost all of them have served in mission hospitals, subsequent to graduation, and over three-fourths of them are still employed in that way, in some instances taking sole charge of hospitals which would otherwise have been closed. The remainder are engaged in private practice or in military service. It is our earnest hope and prayer that these men may not only contribute towards the relief of suffering and prevention of disease in China, but may also do much towards the evangelization and the uplifting of their fellow-countrymen.

There is still an urgent need for further buildings in connection with the School and Hospital, especially for an additional Laboratory Block, extended ward accommodation, and the provision of a Home for Chinese Nurses.

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A MODERN HOSPITAL IN A CHINESE CITY

Visitors to China twenty years ago would have smiled if anyone had suggested to them the possibility of establishing modern hospitals in any of the inland cities, for in those days prejudice and ignorance were rife, and doctors were forced to accept whatever conditions were most likely to allay the patient's suspicions and fears. Nurses were almost unknown, and in most cases the patient brought his own friends into the hospital to look after him, his own bedding to lie upon, and often his own food to eat.

But many things have happened in China during the last twenty years, as everyone knows, and not the least remarkable change has been the new attitude of the people towards western medicine, and the welcome they have given to the founding of modern hospitals and the institution of up-to-date methods of nursing and of medical treatment.

In the city of Tsinan,—the capital of the province of Shantung, and one of the largest and most important cities in North China,—such a new hospital was erected in 1914 in connection with the School of Medicine of the Shantung Christian University, and it has been of the greatest interest to watch the developments that have taken place there since that time.

Prior to that year, although medical mission work had been carried on in the city for thirty or forty years, no attempt had been made to establish a hospital on modern lines, and the question naturally arose as to how far the people were prepared for such an innovation. As soon as the hospital was completed, a notice was widely circulated, stating the conditions under which patients would be received into the wards. Friends would no longer stay with them, but they would be looked after, night and day, by the Chinese nurses who were receiving their training. They would not be permitted to bring their own food, but their diet would be decided by the medical staff, and prepared in the hospital kitchen. Most startling of all, each patient, on admission, would be given a hot bath, and supplied with hospital clothing and bedding!

Whatever doubts may have previously existed as to the response which such a new policy would meet were immediately dissipated. The conditions were accepted without a suggestion of protest, and in a very short time all the wards were filled, since when the only serious difficulty has been the inadequacy of the accommodation for the care of those who have sought admission from far and near.

The hospital (now known as the University Hospital of the Shantung Christian University) occupies a frontage of 400 feet, and is divided into separate In-patient and Out-patient Departments, both of which are built of stone and brick, and fitted throughout in modern style. The wards are centrally heated and lighted with electricity, whilst hot and cold water are laid on everywhere, and a water-carriage sanitary system and septic tank have also been installed.

The Operating Rooms, which are four in number, have tiled walls, and are well supplied with modern sterilizers, aseptic furniture, and surgical instruments. An X-Ray plant and Electro-therapeutic apparatus have recently been added, under the care of an expert radiologist from England, and clinical laboratories are also in daily use.

The medical staff of the hospital consists of members of the faculty of the School of Medicine, together with Chinese house surgeons and physicians who have been graduated from that school, whilst the nursing staff is composed of five trained nurses from Great Britain and North America, together with over thirty Chinese probationers.

The University Hospital is supplying A FOURFOLD NEED. In the first place, it is GIVING RELIEF FROM SUFFERING AND DISEASE to thousands of necessitous patients, some of whom travel literally hundreds of miles, from distant parts of the province, to seek admission. More than a thousand such patients are accommodated in the wards each year, whilst the out-patient attendances exceed 40,000. They include every type of complaint,—accidents and injuries, too often sadly neglected before the poor sufferer is able to reach the hospital;

tumors and growths of every shape and size; tuberculosis in all its form (very prevalent in North China); tropical affections, such as malaria, kala azar and leprosy; ophthalmic diseases; nervous and mental disorders; venereal disease; etc., etc., etc. Children, as well as adults, are brought to the hospital, and many a little sufferer from the agony of vesical calculus finds relief and new life in the wards, to the joy and gratitude of his parents.

In the second place, it is FORMING THE TRAINING-GROUND OF THE STUDENTS of the School of Medicine, to whom are entrusted the important clinical and pathological investigations which are made on each patient, and who find, both in the out-patient clinics and in the wards, the best possible preparation for their future work. It was these students who, during a serious outbreak of Pneumonic Plague in 1918, and a similar epidemic of Cholera in the summer of 1919, worked night and day with the hospital staff, and were responsible for saving the lives of many.

In the third place, the hospital is the PLACE OF TRAINING OF THE SPLENDID GROUP OF CHINESE NURSES who are now coming forward year by year to join the Nursing School, and whose services are becoming increasingly valued by the people.

Lastly, and most important of all, the hospital is proving A MOST WONDERFUL AGENCY FOR THE SPREAD OF CHRISTIANITY. Day by day, as they lie in the wards, the patients are taught the simple message of the Gospel from the visitors and evangelists who go from bed to bed, or from those who conduct the ward services which are held throughout the hospital every evening, and many a one goes back home to become a member of the local Church, and, in some cases, an earnest evangelist himself.

The Chinese officials and gentry are taking an increasing interest in the work of the Hospital, and as a result of a petition recently forwarded to the Governor of Shantung by the Hospital Advisory Board (a committee chiefly composed of Christian Chinese), the gratifying

news has been received that the Governor is recommending an annual grant of \$5000 (£1000) towards the hospital from the provincial budget.

The Hospital is in urgent need of increased accommodation. At present its utmost capacity is only sufficient for 110 in-patients, and every year numbers of needy patients have to be turned away, or kept waiting so long for an empty bed that they are obliged to return home untended. An earnest appeal is made for funds for the erection of the new wards.

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A CHINESE NURSING TRAINING SCHOOL

If anyone is at all uncertain as to how much modern hospitals owe to their nursing departments, he could not do better than pay a visit to inland China, and stay for a few weeks at one or other of the mission hospitals where nursing is still considered an unknown luxury. Such was the condition of almost every hospital in China up to a few years ago, for at that time public opinion had not been stirred and educated, and the care of the sick was considered a very menial office. The result was that where hospitals were established,—mainly in connection with missionary work,—they were in truth but little more than hostels, where the patient stayed with his friends whilst receiving the medical care and attention of the doctor. Nursing was quite out of the question, and neither the feeding nor cleanliness of the patients could in any way be controlled, nor could he even be kept in bed if he wished to get up.

The situation was not very much improved in those institutions in which the patient's friends had given place to orderlies, engaged by the hospital, for most of them were quite uneducated, and far more anxious to follow the whims of the patient than the instructions of the doctor, with the result that as soon as a medical round was completed, there was every likelihood of the ward windows being securely shut, and the patients allowed to do very much as they pleased, even to the extent of opening their bandages and examining their wounds.

It is a remarkable testimony to the good constitution of the average Chinese that so large a proportion of them got well, in spite of these drawbacks. Perhaps there was a special Providence watching over such misdemeanors. The greatest matter of regret was that the magnificent field of Christian service which the work of nursing opens up was at that time unexplored territory to the young Chinese Christians.

Gradually, as a result of the example which missionary nurses from Great Britain and North America were setting, together with the influence of Mission School teaching on the dignity of Christian social service, a new interest

became aroused amongst the educated classes of China in the importance of modern nursing methods, and doctors found themselves face to face with the encouraging fact that it was at last possible to think of organizing an up-to-date nursing department in connection with their hospital work.

It was in the year 1914 that this possibility was realized in the city of Tsinan,—the capital of the province of Shantung, and one of the largest and most important cities in North China. A new hospital was in process of erection there, in connection with the School of Medicine of the Shantung Christian University, and for the sake of the efficient training of the medical students, as well as for the proper care of the patients, everyone was hoping that it would be found practicable to establish a Chinese Nursing Training School in connection with the hospital, as had already been done in some other Chinese cities. The great fear was as to whether a sufficient number of well-educated Chinese would be willing to come forward for such training, seeing that they would need to be amongst the pioneers in a profession which was still apt to be looked down upon by the majority of the people, and would have little or no guarantee as to the possibility of securing future employment.

In making the experiment, it was decided from the first to attempt to secure probationers on approximately the same conditions as to age, educational standard, period of service, allowances, etc., as are now required in the best Nursing Training Schools at home, and a notice was sent out to this effect. To the surprise and delight of all, no less than forty Christian students,—almost all of them High School graduates,—applied for admission to the first class. Twelve of the number were carefully picked out, and clearly told of the hard work and menial tasks which nursing would involve; but these facts they cheerfully accepted, little as they understood them at the time, and they were quite ready to commence on their three years' course of training.

Thus was founded the Nursing Training School of the University Hospital, Tsinan, and from that time onward there has never been a lack of applicants for the new class of probationers which has been taken in each year, and

which now numbers between thirty and forty altogether.

The first year's work naturally presented many difficulties, for the new probationers had no great nursing tradition, nor sense of personal responsibility towards the patients, to stimulate them, nor had the patients at that time any understanding of the exact status of a nurse, who seemed to most of them to be some strange combination of a servant and an unqualified doctor! The value of good team work; the need of keeping awake when on night duty; the importance of accurately observing and reporting symptoms, and of carefully carrying out medical instructions;—all these were quite new to them; whilst the fact that it was necessary to have men nurses for the male wards, and women nurses for the female wards, did not make the initial problems any easier. These difficulties have, however, all been overcome in the course of time, and it is most gratifying to notice how the true nursing spirit is being manifested in some, at least, of these young Chinese nurses.

The training of the probationers is in the hands of the foreign nursing staff, which at present numbers five (two from Great Britain, two from the United States, and one from Canada), the Nursing Superintendent being Miss M. F. Logan, formerly of the Royal Infirmary, Glasgow. All instruction is given in Chinese, members of the faculty of the School of Medicine also assisting in the systematic lectures.

A Nurses' Association has recently been formed in China, and has drawn up a standard curriculum and uniform examinations for all Training Schools which it registers. The School at Tsinan has now been registered under this Association, and the nurses will in future take its examinations, their course being lengthened to four years for this purpose.

Nine nurses have already completed their course of training; and are now assisting in the conduct of mission hospitals in various centres. All are Christians, and are identifying themselves with active Christian work. As more graduates qualify themselves, it is hoped that some will also give themselves up to the important work of private nursing, especially in the departments of maternity and of public health.

At present the nurses are housed in rented quarters, which are far from satisfactory, but an appeal is being made for funds wherewith to erect a proper Nurses' Home, where they will have good opportunities for study and recreation and exercise, and for social intercourse one with another, and with the members of the foreign staff.

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A UNIQUE EXPERIMENT IN UNIVERSITY EXTENSION WORK

Among the many developments in University activities during the past years, possibly the most interesting and most helpful has been the effort to link the University more closely to the community through various phases of extension work.

If this be true in America and Britain, how much more true is it not of China, where but a small fraction of the people ever gain an education through the medium of schools. Where ignorance and superstition are so overwhelming, where there has been such a preponderance of uneducated people as to result in the placing of the few fortunate ones who have received the benefits of an education upon a different plane, where the common conceptions of western civilization are often so distorted and unfair, what may not be the wonderful results of taking to millions of these people the story of a Christian civilization, told in a simple manner through the medium of picture and chart, model and diagram, illustrated lectures and moving pictures?

Surely the most unique and helpful contribution to such work in all China is that which has been developed during the past fifteen years by the Rev. J. S. Whitewright of the English Baptist Mission, known as the Tsinanfu Institute. Begun in connection with that Mission's work, it has grown in a wonderful way and has now been incorporated into the Shantung Christian University at Tsinan, Shantung, as its Extension Department.

Briefly put, the Institute has had as its aim the enlightenment and education of the Chinese people of all classes, the clearing away of misconceptions in regard to the civilization of the west, and, most important of all, the explanation of the true nature of the Christian faith and its relation to individual and national life.

As one goes in to study the work of this Department and tries to discover the reason for the popularity of its service he is struck with its diversity. To educate the people is the first objective, for their knowledge regarding the rest of the world is most fragmentary and often distorted. In one hall there are shown scores of models of men and women of all races and

nations, dressed in their native costumes, thus giving the Chinese a true idea of what other people look like. Pictures by the hundreds portray scenes of interest in those countries in which the people live. A good collection of stuffed animals from all parts of the world gives them ground for comparison with their own animal life. Maps and charts show the geographical, social and economic relation of other peoples to China and the Chinese. Ideas of transportation facilities in these foreign lands are given them by means of many pictures and models, the latter being made in the workshop of the Department. The economic status, production and wealth, natural resources and the like are compared with those of China by the use of most interesting charts, graphs and diagrams, showing the immensity of their own natural resources and bringing home to them the fact that they have been very remiss in not developing them to better advantage.

The strides that are being made in science and invention are shown by models of locomotives, steamships, airplanes, electrical and physical apparatus. A model of the famous bridge built over the Yellow River at Tsinan gives an idea of modern engineering under most difficult circumstances.

Much of China's misery and poverty may be traced directly to the deforestation of her hills and mountains. So there have been prepared models which show in most graphic form the disastrous results of that policy and the great benefits of proper afforestation. The problem of river conservation, the urgent need for proper drainage and sanitation, and many other like questions are treated in ways that suggest definite remedies.

One of the most interesting phases of the exhibits is that section given over to charts and models showing what is needed in a hygienic way. Where such a thing as a quarantine is an unknown quantity, the Chinese are shown its benefits in foreign countries; where they have nothing but superstition to account for disease, the germ theory is explained and preventive measures outlined; where there are more flies and mosquitoes that would seem possible, the danger of their presence is made clear and plans suggested whereby the menace may be lessened. The unhygienic conditions to be found in almost

every part of China are indescribable, but such exhibits as these are doing a great work in teaching the people needed changes.

The best of our Christian civilization is laid out in a form that is easy for the Chinese to see. One large glass case contains a model of a representative city street showing how churches, schools and hospitals are as real and as necessary a part of our life as are residences, business blocks and factories. Other models show the sympathetic and tender care being given in hospitals, schools for the blind and similar institutions. But the most striking of all is a splendid set showing the activities of the Red Cross in the war, giving a vivid idea of their work all the way from "no man's land" back to the evacuation hospitals; with the variations of the work in the different environments of France, Africa and Siberia. Void as is the heart of the Chinese of much sympathy for the neighbor in trouble, understanding not the gospel of love, such a lesson as this model teaches makes him wonder as to the motive which prompted such sacrifice. Wondering, he questions, and his questionings lead him to those who can tell him of that love which is the foundation stone of Christian civilization.

For as the first objective may be the educative one, the underlying end and aim of all is the making known of the Gospel of Christ to all who visit the Institute. All aisles lead to the preaching halls where evangelistic services are held at frequent intervals. After seeing the strange and wonderful exhibits of the various sections the visitors are always willing and eager to know the cause of it all, and though they take away with them only an inkling of what it means, many return again and again to learn more.

But there is much more of extension work than that of the museum and the preaching halls. There are reading rooms that are largely used. For the students, mainly from government schools, there are club rooms where games may be enjoyed. An increasingly large and important work is that being done among the merchant class of the city. Sometimes special lectures with the stereopticon are given them upon subjects which are peculiarly interesting to them. When some films of the great war were available special lectures were held for the military men of the city who were intensely interested and very appreciative. The greatest need of this

department is that of a much larger hall where cinematic exhibitions of educational and religious value can be given to large numbers. Unlimited invitation to lectures or entertainments cannot be given at present for the number that would respond would be many more than could be accommodated.

Probably the finest thing about the Extension Department is the absolute absence of any class feeling. The poorest peasant woman or the laborer from the street is just as welcome as is the student or the rich merchant. One day a week is reserved especially for the women and on that day the foreign women, many of them, come to the Institute and aid in handling the crowds and making known the meaning of it all to those who do not understand.

How this Department appeals to the Chinese is shown by the fact that it was visited last year by almost half a million people, and that since it was opened about fifteen years ago over 4,500,000 have entered its doors. Truly it would be hard to find another Christian enterprise in the Far East with a finer record than that. The best of it is that it is a growing institution, gaining in favor with all classes of a large and increasingly important city. Through its object lessons of a Christian civilization it is doing a wonderful work for the progress of China in helping her towards a more happy and a more useful place in the affairs of the world.

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CREATING A SCIENTIFIC LITERATURE IN CHINA

Ever since the famous edicts were published in China, abolishing the old educational system, Chinese students have been anxious to secure all that western education and modern science had to offer them, and various new colleges have been opened in different parts of the country, some connected with the Chinese Government and others maintained by the various Missionary Societies.

Several of these colleges have carried on their instruction in the more advanced subjects through the medium of English, and in that way have opened up to the student a vast range of modern scientific literature. But this method, good as it is, is admittedly solving only half the problem, for such scientific knowledge can be of but little value to the people in general until it has passed into general currency in their own language. Educationalists have therefore clearly seen that side by side with the establishment of these institutions of higher learning there must also go a determined effort to translate the best modern textbooks into Chinese, and thus build up a Chinese scientific literature.

It was in the field of medical science that some of the earliest efforts were made in this direction. Medical men in various parts of the country found that it was quite impossible to give satisfactory training to their assistants in the absence of up-to-date textbooks, and they therefore applied themselves to the task of translating some of the better known works.

But this at once brought to light a new problem. Not only were the most modern scientific ideas entirely foreign to China, but the language did not possess any adequate equivalent for a vast number of the basic terms (chemical elements; anatomical structures; names of bacteria; etc., etc.) upon which the language of modern medicine is built. And until these could be fixed, it was obviously useless for one translator in one part of the country to make one set for himself whilst another man, somewhere else, was employing an entirely different set.

The China Medical Missionary Association accordingly took the matter in hand, and appointed a special Terminology Committee, composed of experienced doctors and Chinese pundits, to draw up a list of scientific terms suitable for all branches of medical study. Various sub-committees were formed for the purpose, and in the course of a few years a very valuable Medical Lexicon was compiled, including vocabularies of special terms in Chemistry, Anatomy, Physiology, Materia Medica, Bacteriology, etc., etc. Wherever possible, old Chinese terms were employed, but where none existed that were suitable, new words had to be coined.

This step was an extremely important one, and as a result a large number of medical textbooks were translated into Chinese, all employing the same terminology. A fund was established for the publication of these books, to which Mr. Henry S. Wellcome was a large and generous contributor, and the English Presbyterian Mission set aside one of its number, Dr. P. B. Cousland, to give his whole time to the editing and publishing of these books.

The one weak point in the scheme was that the Chinese educational authorities were taking no official part in the work, and there was reason to fear that the terms that had been decided upon might at any time be put aside in favor of others.

During the last four years, however, as the result of continual representations, the Chinese Board of Education has consented to the formation of a Joint Committee, upon which, in addition to members of the Terminology Committee of the China Medical Missionary Association, there are also appointed representatives of the Central Educational Board, the National Medical Association, the Kiangsu Educational Association, the Chinese Medico-Pharmaceutical Association, the Chinese Chemico-Physical Society, etc. This Joint Committee has undertaken the entire revision of the work previously done, in order to bring it up to date and to fix the form in which all scientific terms are to appear in the future.

The terms in Anatomy, (following the B. N. A. nomenclature), Histology and Embryology have now been completed, and good progress

made with Chemistry and Bacteriology, and before long it is confidently hoped that all other scientific terms will similarly receive official authorization, their use being made compulsory in Government colleges.

Meantime, the Chinese Government has generously come to the financial assistance of the Joint Committee, and has intimated its willingness to subscribe \$400 per month towards the expense involved in this work, whilst the China Medical Board has also made a very liberal grant of \$10,000 per annum for the next two years, towards the cost of translation and publication.

A special Translation Department has recently been established in connection with the School of Medicine of the Shantung Christian University at Tsinan. This is the largest Medical School connected with Missions which teaches in Mandarin Chinese, and, as such, it is vitally interested in the production of an adequate scientific literature in the Chinese language. The London Missionary Society have set apart two of their most experienced medical men, Dr. T. Gillison and Dr. P. L. McAll, for the work of this Department at Tsinan, and they are assisted by various expert Chinese translators. Latterly, some of the students of the School of Medicine who possess a good knowledge of English have also become interested in translation, and have not only rendered valuable assistance to the foreign workers but also have made an excellent beginning at translating scientific works by themselves.

The Publication Committee of the China Medical Missionary Association has already issued a large number of standard medical textbooks in Chinese (books like Osler's Practice of Medicine; Rose & Carless' Surgery; Gray's Anatomy; Lewis & Stohr's Histology, etc., etc.), and others are being rapidly prepared.

At the same time, one of the largest and most successful Chinese business firms, the Commercial Press, the head of which is a leading Chinese Christian man, Mr. Fong Sec, is also taking a great part in the preparation and distribution of scientific works of all descriptions in Chinese, and thus throughout the country a modern scientific literature is being built up, and

is being placed in the hands of the educated classes everywhere.

In time to come, the whole of this work will be undertaken by the Chinese, but for the next few years a most important responsibility rests upon such agencies as the Translation Department of the Shantung Christian University and the Publication Committee of the China Medical Missionary Association, as well as upon Societies such as the Christian Literature Society and the various Tract Societies, which are giving themselves up entirely to the production of religious literature in Chinese.

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Cheeloo Papers

Being a Selection of Addresses delivered at
Shantung Christian University, Tsinan, China,
and published by the University Press.

1924

Price: 25 cts.

1924

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(Selection of Addresses delivered at
Shantung Christian University)

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INTRODUCTION

The accompanying series of addresses consists, for the most part, of papers delivered in connection with an Open Lecture Course, arranged by the authorities of Shantung Christian University during the winter of 1922-23, when matters of scientific and religious interest were presented in popular form for the benefit of the general community in Tsinan. A selection of these papers has been printed at the request of several who heard them, and who wished to preserve them in permanent form.

Tsinan.

April 1924.

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IDEALISM OR SELF PROTECTION.*

By Dr. Harold Balme,
President of the University

The Graduation Oration which was delivered at Glasgow University in November last by the Earl of Birkenhead, Lord Rector of the University, has aroused widespread attention and comment. Lord Birkenhead, as is probably known, has occupied a prominent position in the political life of Great Britain during recent years, and as Lord Chancellor, was one of the most influential Cabinet Ministers connected with Mr. Lloyd George's Coalition Ministry. It was not so much, however, the eminence of his position which drew attention to his speech, but rather the character of the address itself, which openly attacked the principle of Idealism in connection with the transaction of national affairs. The following extracts from the oration will serve to indicate the general tenor of the argument which Lord Birkenhead advanced:

"Idealism in national affairs is not only impracticable, but may easily degenerate into a deadly source of national peril."

"The motive of self-interest not only is, but must be and ought to be the mainspring of human conduct."

"The desire of self-advancement is the only adequate incentive for labour and achievement."

"The world continues to offer glittering prizes to those who have stout hearts and sharp swords."

These are strange words indeed to sound in our ears in days like the present, when the tragic figure of brute materialism is apparent on every hand, and when the clash of self-interested forces is producing hatred and suspicion and widespread misery in all parts of the world. Is this, after all, what the War was fought for? Is the domination of Might to be universally recognised as the only adequate force with which to control and develop human nature? Are we frankly to advocate a reversion to sheer jungle law—the survival of the fittest—in its most blatant and naked form?

It seems but yesterday that we heard on all sides the call to Sacrifice; the War that was to end War; the new era of co-operation and brotherhood. Alas, a wave of disillusionment and reaction has come over the world since those days, and it is out of this reaction that such statements as those of Lord Birkenhead's are born. Let us therefore examine them with every care and consider the challenge which they present to us.

*Being a Baccalaureate Address delivered to the students of Shantung Christian University on 15th January, 1924.

I. In the first place we are probably all prepared to admit that the motive of self-interest has always been one of the most dominating forces in human life and conduct. The individualism of primitive man was an individualism which knew no higher law than that of self-interest, and the struggle which has taken place throughout the centuries, for the development of an ordered society and the cultivation of the common weal, has been a continuous record of battle against this menacing influence. Nor is it merely in things physical—the struggle for food and material possessions—that this contest has been carried on. Exactly the same scenes of conflict have been witnessed in the mental and spiritual development of the human race, and are only too visible to-day in the fight for social righteousness and international peace. Whence come wars and international hatreds? How do class jealousies and party passions arise? Why are the nations of Europe torn with dissension, and China a prey to internal disorder and corruption? Is it not in every case the dominating force of Self-interest that is to blame?

It is of little wonder, therefore, that the great men of every age, the philosophers and thinkers as well as the religious leaders, have recognised in the force of Self-Interest the implacable foe of human progress. We turn to the philosophy of Greece, and of what does it consist? It might almost be summarised in two great principles,—the first, "Know thyself", and the second, "Master thyself". We turn to the great minds of Ancient Rome, only to find that noble-souled Emperor, Marcus Aurelius, exclaiming: "Men exist for the sake of one another. Teach them, and bear with them."; whilst Epictetus, the lame slave "dear to the immortals", and afterwards one of the greatest of Roman philosophers, declares that no man is a slave whose mind is free, and that the true freeman is he who has fully conquered himself.

If such is true of the ancient philosophy of Europe, how much more is it so with the philosophy of Ancient China. What is the Confucian ethic, but a demand for the overcoming of self and a return to the principles of propriety (克己復禮). This prominent *motif* of self-mastery instead of self-interest rings out again and again through all the Confucian writings, as you so well know. Does the philosopher wish to shew the difference between the ideal man and the man of mean moral stature? It consists in the fact that whereas the one places first what is right, the mind of the latter is always centred on petty gain,—those gains which ever hinder the accomplishing of great purposes (君子以義爲上. 君子喻於義小人喻於利. 見小利則大事不成). Does he wish to describe of what true happiness consists? It is not in riches that are secured by methods of unrighteousness; these are but unsubstantial, floating clouds; it consists in a life of complete simplicity, a diet of coarse rice and water, with one's elbow for one's pillow (飯疏食飲水曲肱而枕之. 樂亦在其中矣不義而富. 且貴於我如浮雲). Did Tze-lu enquire as to his definition of a real man? The answer comes without hesitation in one of the most superb utterances which ever fell from the lips of the great sage. "The man who in presence of gain thinks of what is right; who in face of danger, is prepared

to risk his own life; the man who never goes back on an old contract,—that is the real man". (見利思義見危授命久要不忘平生之言亦可以爲成人矣).

But it is not alone in the field of philosophy and ethics that the motive of self-interest has been combated. The whole history of communal interdependence, of social relations and of scientific development has demanded the abandonment of the policy of narrow self-interest. How could society have been formed at all unless men were prepared to sacrifice their individual gains and interests for the sake of the greater good? In science, as you students are well aware, there was no wide-spread advance until the discoveries of the individual were placed at the service of one and all, and probably one of the main causes for the relatively slow progress of medical science in China has been due to the failure to recognise and act upon this fundamental law.

II. But while it must be admitted that the motive of self-interest has existed from the beginnings of time, and is still to be reckoned with as one of the dominant factors in human conduct, there is another law of equal antiquity and power, which is also to be found amongst all races of men, and that is the law of self-sacrifice. Go back as far as we like in the records of history, back, even, to the story of the lower creation, and we are confronted with a force which is the very antithesis of self-interest, and which we find most perfectly displayed in the sacrificing love of a mother for her offspring. You wander in the country and meet a brood of chickens, which some ruffian is attempting to kill with his stick. What happens? In an instant the mother bird has flown to the rescue and has stretched out her wings to protect them, and though the brute beat her to death, the love for her brood never fails. In her case, at least, there has been something even stronger than the motive of self-interest which Lord Birkenhead tells us must be and ought to be the mainspring of human conduct.

Or again we read, as we were reading but a short while ago, of the poor country woman found frozen to death on a pitiless winter's night, clad with the thinnest of rags, whilst by her side, warm and comfortable, was the chubby figure of her little child, snugly wrapped up in the mother's own garments. Again, the power of self-sacrificing love has triumphed even over that of self-interest. And every mother's son of us can supply similar evidence from our own life story.

Why then is it, with so great a power of self-sacrifice in the world, the motive of self-interest should still remain the menace to human society that it is to-day? Is not the answer found in the fact that self-sacrifice which stops anywhere short of the whole world will sooner or later degenerate into a form of self-protection, in itself essentially selfish? You will remember that St. Peter, when urging the Christians of his time to progress in their spiritual life, sketched out for them a kind of Ladder of Virtue which he bid them climb. To their faith, the basis of all spiritual life, they were to add virtue, to virtue knowledge, then self-restraint, patience, godliness and brotherly-kindness. But even that was not sufficient, for "love of the brethren" may

easily become a form of mere group-selfishness. To brotherly-kindness they were to add the love of all men before they could be called perfect and sincere followers of Jesus Christ.

The menace of today is not so much out-and-out self-interest as it is that form of limited charity which excuses itself under the name of self-protection, and which is the cause of group-hatreds all the world over. The love which expresses itself in genuine self-sacrifice within its own circle is only too apt to reveal to the outer world unlovely qualities of suspicion and jealousy and hate which are the very negation of the principles inculcated within the group. And even where such violent sentiments are excluded, there is only too often an attitude of unconcern towards those who are without, which expresses itself at best in a cold, exact justice. Confucius, great teacher as he was, did not rise much beyond this exact justice, any more than did the Jewish writers and the great law-giver of the Pentateuch;* it was only in the revelation of God in Jesus Christ that a new force was made manifest in the world before which even the principle of self-interest must give place.

There is not a war of recent times, however violent, nor a class struggle or religious controversy, however bitter, which has not been excused on grounds of self-protection, whether it be protection of country, of class, or of creed. But self-protection, as Edith Cavell said of Patriotism, is not enough, and if China is to be saved to-day, it can only be by virtue of the new power which will burst through all barriers of group or nationality, and express itself in a form of sacrifice and service as wide as the bounds of human life itself.

III. When we look for signs of this higher principle of world-wide altruism, we find but few traces of it outside of the teaching of Jesus Christ, just as it is in Him alone that we find the source of power which alone can make such a principle operative. The Confucian School of philosophers did not go far beyond the principle of self-mastery and universal justice, though it is claimed for Meh-tsu that he, at least, was a true apostle of altruism. It will be remembered how Mencius contrasts Meh-tsu's willingness to suffer for the sake of mankind with the selfish attitude expressed by Yang-tsu, in the striking paragraph "Yang-tsu was 'Every man for himself', and would not have plucked out a hair for the sake of the world, but Meh-tsu loved all men, and to benefit mankind would have rubbed his body smooth, from crown to heel." (楊子取爲我拔一毛而利天下不爲也墨子兼愛摩頂放踵利天下爲之). Possibly it is for this very reason that Chinese scholars and patriots are now turning to the writings of Meh-tsu as never before.

* NOTE. Compare Confucius' "Recompense injury with justice, and kindness with kindness" 以直報怨以德報德 or the Jewish "An eye for an eye and a tooth for a tooth", with the lofty idealism of Jesus Christ, "Love your enemies, and pray for them that persecute you." "Whosoever shall compel thee to go one mile, go with him twain."

But it is in the realm of religion, and not of philosophy, that the principle of self-sacrifice for the sake of a world is to be found, and that religion, the religion of Jesus Christ. The note which He struck throughout all His teaching is so clear and insistent that none can mistake its import. Do men advocate the principle of self-interest? The answer of Jesus Christ is "Take no thought for your life, what ye shall eat or what ye shall drink; nor yet for your body, what ye shall put on. Is not the life more than meat, and the body than raiment?" "Lay not up for yourselves treasures on earth, where moth and rust doth corrupt, and where thieves break through and steal; but lay up for yourselves treasures in Heaven." "What shall it profit a man if he shall gain the whole world, and lose his own soul?"

Do men urge a policy of self-protection, whether of the individual or the group? The answer of Jesus Christ is that "whosoever shall save his life, shall lose it; but whosoever shall lose his life, for My sake and the Gospel's, the same shall save it."

And as with His teaching, so with His call to men. It was to a life of cross-bearing that he summoned his followers; to journeyings with One Who had not where to lay His head; to a crusade in which the man who looked back, after putting his hand to the plough, was to be adjudged unworthy of the Kingdom of Heaven. It was a hard road and a narrow that he bid us tread, a road at the end of which we see not a glittering prize but a crown of thorns and a cross of wood. But it is on that road, and in the sign of that Cross, that Victory—the victory which not only overcometh, but saveth the world—shall come. And by His own Death and Sacrifice He summons you men today, if you would save and help your country. This is the call which Paul of Tarsus heard and obeyed, until the day came when he could declare with truth, "None of these things move me, neither count I my life dear unto myself, so that I might finish my course with joy, and the ministry which I have received of the Lord Jesus, to testify the gospel of the grace of God."

In the city of London there stands a noted cathedral, to which hundreds of visitors wend their way every year. Most of those who go, stop and pause at a monument of one of England's heroes, a man almost as well known in China as in England, Major-General Charles George Gordon. He was a man of stout heart and sharp sword, but the world held but few glittering prizes for him, and it is not for the sake of his military successes that pilgrims visit his memorial today. It is because his whole life was an expression of self-sacrificing service to God and to his fellows, immortalised in one of the most beautiful epitaphs ever yet written of any man:

Major-General Charles George Gordon, C. B.

Who, at all times and everywhere,
Gave his strength to the weak,
His substance to the poor,
His sympathy to the suffering,
His heart to God.

Shall we follow the path of the world, and strive for its glittering prizes?
Or, shall we too follow the way of the Cross, and lose our lives for the sake of the Higher Idealism?

The Birth and Growth of the Modern University.

By Rev. E. W. Burt, M. A.
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Between us and those medieval times when universities first arose, there lies a gulf of mystery which the prose of the historian will never adequately bridge. The conditions and ideals of life have so changed that till some Carlyle arises to paint the life of the medieval university, as the author of "Past and Present" painted the life of the medieval Abbey, the history, if written, must still be almost unintelligible. The cipher might be recovered, but the key has been lost.

The Civilization which we to-day enjoy is a very complex thing and it would be an impossible task to trace all the factors which contributed to it. The early development of civilization among the Chinese, Hindoos, Persians, and Egyptians, is a most fascinating study and is long anterior to our western civilization. But our modern civilization does not go back to these, but comes to us from *four* main streams.

The Greeks, the Romans, and the Christians laid the foundations, and in the order named, and the Germanic tribes, overrunning the Roman Empire in the fourth and fifth centuries, added a fourth force of great future significance.

The work of Greece lies at the bottom and was the most important of all the contributions to our education and civilization. Athens possessed a University up till the second century A. D. The University of Alexandria flourished for nigh a thousand years, from B. C. 300 to A. D. 640, and its famous Library contained 700,000 books. Quintilian, who died in 118, saw the beginnings of a Roman University, which became the chief seat for the study of Law. The first Public Library in Rome was due to Julius Caesar. The decline of education was not due to external causes but to decay from within.

From the time of Aristotle and earlier the range of human knowledge was summed up under *seven* heads—Grammar, Rhetoric and Dialectic—together known as the Trivium—and Music, Arithmetic, Geometry and Astronomy, known as the Quadrivium. These seven liberal arts were studied solely in the interest of general culture and with no professional aims, with the exception of Rhetoric, which had in view the preparation of youth for public life and the bar.

But soon after the Christian era decay began, and by the middle of the second century philosophy had become an intellectual game, personal morality a matter of prudence, and rhetoric an artifice. This loss of moral earnestness in the pursuit of truth was also the signal for the decay of all sound education in other subjects. Words took the place of things, forms of realities. Some great new spiritual force was needed to reform society and the education of the young.

That force was at hand in Christianity. The early Christian conception of education, however, was inevitably narrow. It tended steadily to contract men's intellectual interests. The Christian of that age could not consistently think of the culture of the whole man. His sole purpose was the salvation of the soul. In his view this temporal life was only the threshold of the true life. Salvation was to be obtained by abnegation of the world. Faith tended to degenerate into mere intellectual acceptance of dogma among the intelligent, and mere credulity and superstition among the masses. Abnegation quickly degenerated into asceticism. Christianity, accordingly, found itself ranged in mortal antagonism to Hellenism, and had to go through the troublous experiences of nearly 1400 years before the possibility of the union of reason with authority, of religion with humanism, could be conceived. Theological discussions occupied the active minds of the time to the total neglect of human letters and philosophy. The Latin and Greek Classics were denounced by the church. In 398 the Council of Carthage forbade the reading of secular books, even by the bishops!

Schools, however, of some sort were needed, and as early as the third century, these began to appear under the supervision of bishops with a view to train men for the Christian ministry. In 361 St. Martin founded the first monastery, but it was to St. Benedict in 428 that the medieval Church owed its first truly Christian school. It is to the monks of his order that we owe the diffusion of schools through the earlier half of the Middle Ages.

The historian of education next finds himself irresistibly attracted by Ireland. The Irish cultivated Latin and Greek Literature when others had ceased to do so. Among them there was a living scholarship and a genuine spirit of speculation. Celebrated Irish Schools were founded in the 6th century. While Europe was desolated by wars, peaceful Ireland opened to the lovers of learning a welcome asylum, and it was from these forgotten Irish schools that bearers of learning went forth to England and Scotland, to France and Germany.

For long centuries, however, the sole object of education was the training of the monkish recluse and the regular parish priest. But it was something to the good that in every monastery a school was founded, and, even when these schools were of little importance, the monasteries were as lights in dark places, for the mere example of men leading a religious, studious, orderly and industrious life was itself the best object lesson to the semi-barbarians then inhabiting Europe.

Charlemagne in 9th century endeavoured to revive learning, and his efforts were imitated in England half a century later by Alfred, who died in the first year of the 10th century. Alfred himself tells us that he knew no priest south of the Thames who understood the meaning of the Latin prayers he used. The King himself was a scholar, and the father of English prose, but owing to the social state of England and the invasions of the Danes, Alfred's schools soon declined, so that both Charlemagne's and Alfred's attempts to revive learning proved abortive and premature.

If we take a brief review of the inner work of the Christian schools between 450-1100 A.D. it will be convenient to adopt the modern division of education into Primary, Secondary and Higher.

1. *Primary.* Instruction began at the age of seven. The alphabet, written on tables or leaves, was learnt by heart, then syllables and words. The first reader was the Latin Psalter. This was first learnt by heart, like the Chinese Classics, without being understood, and numerous priests were content all their lives with the mere sound of the Latin words, which they could both read and recite, but could not understand. Writing followed reading, at first with a style on wax-covered tablets, then with pen and ink on parchment—an accomplishment highly prized in days when books were multiplied by hand-copying. Singing of the church service was also taught and the elements of arithmetic in order to calculate the church festivals. Latin was begun very early and the rule was to use Latin in conversing, but it is clear from the known ignorance of the clergy that this was not always done.

2. *Secondary.* The higher instruction aimed at giving pupils knowledge of the seven liberal arts spoken of above. But during the period given to what we now call Secondary education, the time was given mainly to the Latin Language and grammar. Then the youths wrote down and learnt the Fables of Aesop—then Virgil—but the poets were used chiefly for grammatical purposes.

3. *Higher.* Logic was usually reserved for the higher course. Arithmetic, Geometry, Music, Astronomy, were all regarded as being branches of Mathematics—and all these subjects had one object in view—the proper understanding of Holy Scripture, which was the governing subject of the whole scholastic system. Indeed, every study was estimated in its bearing on the Bible, and limited by the needs of the theologian. In the schools the sons of serfs and of nobles might often be seen sitting side by side. Monks were set apart to be with the boys day and night, and so close was the supervision that in the course of years there was produced a class of men entirely devoted to one idea and each like the other.

The discipline was severe. The slightest fault was punished with the rod. The theory was that the devil was in the heart of boys and could be got out only by flogging. In many schools all the boys were periodically flogged as a kind of general atonement of their sins past and possible. One of the earliest protests against this system came from Anselm. No teacher has ever thrown a greater spirit of love into his toil. "Force your pupils to improve!" he burst out to a teacher who relied on blows and compulsion. "Did you ever see a craftsman fashion a fair image out of a golden plate by blows alone? Does he not now gently press it and strike it with his tools, now with wise art, yet more gently raise it and shape it? What do your scholars turn into under this ceaseless beating?" "They turn only brutal", was the reply. "You have bad luck" was the keen answer "in a training that only turns men into beasts!"

Pure literature was regarded as the production of the unconsecrated mind. What we call humanism and the humanities could not live side by side with that which was alone necessary to salvation. As for Science, even if the time had otherwise been ripe, it was impossible because it meant free investigation. Philosophy was impossible because it meant unfettered

thought. The day was coming when the speculative mind, in its desire to rationalise theology, was to stir metaphysical questions, and, through the impulse thus given to free thought, to open the human mind to the beauties of literature and so prepare the way for science.

Berengar in 11th century began to stir these questions. He, together with John Scotus Erigena, maintained the rights of reason and held what are now called evangelical and Protestant views of the Eucharist. This teaching in 11th century became centred in Paris. But after all, the permanent results were not great. Whether one looks at the three centuries which preceded it or at the 250 years that followed it, we find little that we call learning and nothing that we can call literature.

Such failure was doubtless due to the fighting and convulsions of the time. King, baron and knight had a contempt for those who professed a knowledge of letters. The Normans were invading Europe, the Danes descending on England, the Saracens threatening all Christendom, and society was fighting for its very life. Yet notwithstanding the savage struggle, Europe was being slowly penetrated by Christian ideas. The self-sacrifice of the religious orders kept before men's minds the fact that the spirit lives by the spirit and that the things of earth are not to be compared with the things that are eternal; and many men of noble birth and great possessions, to whom a glorious secular career was open, sought refuge in a monkish cowl and in a life in a religious community.

Among the causes which led to the decline of learning was the expectation that the year 1000 would see the end of all things. Under this illusion churches and houses were allowed to go to ruin, and even the fields were untilled. Why, forsooth, should men concern themselves with learning when the Dies Irae was close at hand?

Yet in the century that saw the death of Charlemagne there arose out of feudalism an educational force far more potent than the monastic orders. This was a secular order destined to work great changes in the political as well as the moral world—the order of *chivalry*. The element of personality and individual merit was so strong in this order that it may be said to have contained the germs of the reformation. Chivalry rose in the 10th century and effloresced in the 11th, 12th and 13th. These last centuries were also the time of intellectual revival and the beginning of the Universities. Turning for a moment from the West to the East, while literature, philosophy and learning languished in Europe, the torch burned brightly among the Arabs of the East. Jurisprudence, philosophy, science and art flourished under the liberal sway of the Mohammedan princes. Every mosque had its school. Numerous Universities were instituted and great libraries were collected at Bagdad, Cairo, Cordova and elsewhere. The Arabs became ardent students of Greek literature and art. Christian youth and Christian teachers were welcomed at the great schools of Spain, Africa and the East.

When we speak of Europe awaking in the 12th Century from a long intellectual sleep, we do so with a full recognition of the good work done by the Church. For centuries the Church had been busy re-organizing Europe

on a spiritual basis, and in the midst of wars and tumults the work of preparing the clergy for their duties and training the people in Christian doctrines taxed all its energies. And yet it is true that it was a sleep out of which Europe awoke; after the rough call of John Scotus Erigena the Church turned on its other side, and it was not till Anselm's time that the higher intellectual life of Europe was fairly roused to activity. Up till that time all instruction was given with a view to pious uses. Criticism did not exist. The free spirit of speculation could not arise. The rules of the religious orders cribbed, cabined and confined the minds of men. This was doubtless a necessary stage in the development of Europe, and it is absurd to talk glibly of those ages as "dark ages." All that could be done by the Church was done, and by no other agency. The Church did not prohibit learning, if it subserved the faith. Opinions were watched certainly; but at first the Church did not look with alarm on theological speculations. In brief, the Christian schools were doing their proper work for Europe, for if they did not promote learning, they at least conserved what learning there was, and, what was of more importance, they were *leavening* the life of the people.

As we now approach the period which saw the birth of those institutions known as "studia publica", and ere long to be known as Universities, we have to extend our vision and note the changes in the social condition of Europe, which made great central schools possible—schools to be frequented not merely by the young ecclesiastic but by the layman.

Among other causes which led to a demand for an educated laity was the rise of municipalities about the end of the 11th century. These civic communes began to seek charters of incorporation which conferred on them certain freedoms and privileges. Trade guilds were formed in many cities for mutual protection, the advancement of commerce and the internal regulation of the various crafts. On this there immediately followed a desire for schools in the more important towns. The distinctive characteristic of these city schools was that they were not under the direct control of the Church, and further that the native tongue (German or Italian, as the case might be) was taught. Reading, writing and a little arithmetic formed the staple of the instruction.

We may now briefly summarize the state of things in, say, the year 1100, when the University movement may be said to have begun. The monastery and cathedral schools were prosecuting in an arid spirit their studies with the sole aim of training the priest and the monk. The towns had in many parts of Europe started vernacular schools, free from Church control, the aim of which was limited to what we now call primary education. The increased communication with Africa and the East through the Crusades had introduced men to a standard of learning among the Arabs unknown in Europe. Outside the school the order of chivalry had introduced a new and higher spirit than had been known hitherto. Trade guilds were forming themselves and seeking charters of incorporation. Above all, the Crusades, by stimulating the ardour, and exciting the intellects of men, had unsettled old conventions by bringing men of all ranks within the sacred circle of a common enthusiasm, and into contact with foreign civilization.

The desire for higher education that characterized the beginning of the 12th century was thus only a part of a widespread movement which shewed itself in the order of chivalry, in the Crusades, in the rise of free towns and the industrial guilds.

The universal domination of the Church had by this time created a spiritual European commonwealth and a common language which made communication between different countries easy, and secured the safety of travellers. The University movement, accordingly, was not an isolated movement, or due to any one cause. The times were ripe, and the general conditions of life made their development possible. Moreover there were in existence many Episcopal schools of high reputation which were resorted to by the more ambitious students from all quarters, so that the question "What is a University? Wherein consists its difference from a first-class cathedral school?" is not so easy to answer as may at first appear. At Bec, Anselm (1033-1108) was both student and prior, and all civilized Europe recognized the celebrity of this theological school. Anselm may be regarded as the true founder of speculative theology, which afterwards led to the establishment of the University of Paris.

Among other causes leading to the rise of Universities, we may mention first, the gradual growth of traditional learning which accumulated so great a weight on subjects that most interest the mind of man as to demand specialization; secondly, the growth of the lay, or anti-monastic feeling in connection with the work of physicians, lawyers, and even theologians; thirdly, the actual specialization of the leading studies—medicine at Salerno, law at Bologna, and theology at Paris. These centres of instruction drew vast numbers of students. This is the chief key to the explanation of the rise of Universities. They were specialized schools as opposed to the schools of arts, and they were open to all without restriction as opposed to the more restricted cathedral schools which were under a rule. Indeed, in the beginning there was too little restriction. The daily life at these centres was not only free but licentious, and always more or less turbulent. They attracted the idle as well as the industrious youth of Europe, and life there was in its way almost as jolly as the Crusades.

To sum up, I would define a University as a privileged, higher, specialized and self-governing school open to all the world, free from monastic rule, its privileges including the right of conferring licences to teach.

To fix precisely the date of the rise of the first Universities is impossible, for the simple reason that they were not founded. Europe was at the beginning of a new intellectual movement, and had to feel its own way to the forms which might best provide a fitting channel. The simplest account of their origin is the most correct. It would appear that certain active-minded men began to give instruction in medical subjects at Salerno, and in law at Bologna, to youths who had left the monastery and cathedral schools and who desired to equip themselves for professional life. The Church did not found Universities any more than it founded the order of chivalry. They were founded by a concurrence of able men who had something they wished to teach and of youths who desired to learn. Nonetheless was the

sanction of Church and State necessary in those days for the fostering of these infant schools. Free, voluntary, self-supporting centres of learning, they certainly were in their beginning. Free teaching and free learning were in the very heart of them. Out of a free spirit they arose and not out of the brain of any ecclesiastic. But while this is true, it is not true that the Church was indifferent or that there was no ecclesiastical supervision. The astute statesmen who ruled the Church had their eyes everywhere, and, just as they seized on the order of chivalry and sanctified it by turning it to spiritual uses, so they welcomed the rise of these new centres of intellectual activity, and gave them encouragement, believing that all learning tended to the glory of God and the good of the Church. But we are to some extent anticipating. For as yet the beginning of the 12th Century, Salerno, Bologna and Paris were in the hands of self-chosen teachers. The infant Universities had practical ends—to minister to the immediate needs of society. Speculation and the scientific spirit, nay, the reformation and the liberties of Europe, arose out of them later; but such large issues were not present to the minds of those first teachers. It was the needs of the human body which gave birth to Salerno, the needs of men as related to each other in a civil organism, which originated Bologna, the eternal needs of the human spirit in its relation to the Unseen which originated Paris. We may say, then, that it was the improvement of the professions of medicine, law and theology that led to the establishment of the first Universities. I shall not here refer further to the famous school of Salerno, because Dr. Balme in his lecture on Medical Education has gone into the matter very thoroughly.

But we must devote some time to the famous University of *Bologna*, which owes its origin to Irnerius, born about 1070, died about 1138. He attained great distinction both as a jurist and a judge, and it would be difficult to over-estimate the effects of his labours on the progress of civilization. To Bologna flocked great numbers of scholars, mostly preparing for the secular service of the State. The first formal recognition of the University was by Frederick I. in 1158, when he conferred privileges upon it to secure protection for travelling students and resident aliens, giving them the right to be judged by their own master, or by the Bishop. Bologna became known as the Mother of Laws, and attracted students from all over Europe, and in the time of Roger Bacon there were 20,000 students there. So large a body of youth, and among them hundreds of mature men, collected in one small town, soon felt the need of organization for mutual help and common protection against civic interference. Here in fact was a new kind of community altogether, essentially lay in its characteristics, and yet so far connected with the monkish order that it had intellectual and moral aims. The trade guilds and the order of chivalry were the patterns on which these students organized themselves. Thus arose the "*nations*", so famous in all University history, to one or other of which all students belonged, and which constituted free self-governing societies within the Universities. There were no University buildings of any importance. The masters taught in their own houses or hired apartments, and it was an easy thing for the whole University to migrate to another town, which they often did in those days. As to the

governing authority of the University, a rector, elected by the students, held office for one year, and wielded great power during his term. A professor could not leave his duties for a few days without obtaining permission from the rector, and if his term of absence exceeded 8 days he had to get permission from the whole body of students. The eighteen nations from north of the Alps and the seventeen from south of the Alps also had councillors, who sat with the rector. In 1338 there were 27 professors of civil law, 12 of canon law, 14 of medicine, 15 of arts.

At *Paris* there had long been a well-known Arts School, that of Notre Dame, before the rise of a University, and the latter arose directly out of the Arts School. In the Paris School at the beginning of the 11th century, a learned monk, William of Champeaux, taught theology. A still more famous Theological school existed at Bec in Normandy, of which first Lanfranc and afterwards Anselm were the heads. Anselm endeavoured to rationalize Christian doctrine and was himself of so ardent a nature that it is probable we should have to name him, and not Abelard, as the founder of the University of Paris, had Anselm not been transferred from Bec to Canterbury in 1093.

At that time Abelard was only 14 years old. This remarkable man sacrificed high prospects in order to devote himself to theology and philosophy. In 1113 we find Abelard after many successes and reverses teaching theology, as the head of the Paris School. There is no time here to trace the romantic and tragic story of Abelard. That is well-known to everybody. Our concern is simply with his relation to the intellectual movements of Europe. Having had to retire from Paris owing to the scandal which arose out of his indiscretion, Abelard retired into the monastic life, and built a hut in a desert place. Thither students began to crowd around him, and erecting tents and mud-huts, they prosecuted their studies in the wilds, contenting themselves with the simplest fare. Such an instance of intellectual thirst is surely something to pause over and wonder at, and is in itself a signal of the coming Revival of Learning. It is said that Abelard's students at one time numbered 3000 from all parts of Europe. Again Abelard had to seek safety in flight. The doctors of the Church denounced him as a heretic. Here we see for the first time the intimate connection of the University movement with freedom of enquiry. It is, in truth, to the free activity of the human mind in dealing with questions of theology that we are indebted for the scientific spirit. It was not the study of physical science which gained for mankind liberty of thought. This was the work of the philosopher, and physical science entered into the possession of a kingdom of liberty already conquered. Abelard died in 1142, but the impulse he had given remained, and Paris became the centre of specialized study of philosophy and theology. In 1348 there were 514 masters in Arts alone, not to speak of the other faculties. There were no special University buildings, and even for their great assemblies the University had to borrow the Church of St. Maturin. The students were surprisingly young, and in the 13th Century a statute was passed excluding from the University all under 12 years of age. The reason is that medieval Universities included in their organization the work

of Grammar Schools. Accordingly when we hear of 20,000 or 30,000 students we have to bear in mind that boys came to these centres to receive secondary instruction which terminated with the Bachelor Degree.

The next important event in the history of Paris is the disruption of 1229, caused by a town and gown riot, in which Queen Blanche unfortunately opposed the University and inflicted castigation on certain students, leading to the dispersion of many students and masters, many of whom went to Oxford and Cambridge, and Henry III. took advantage of this University to invite them to stay in England under his protection. Paris never quite recovered from this secession. Historians are of the opinion that it was this migration to Oxford which first converted Oxford into a University in the full sense of the term, as understood in France and Italy.

The distinguishing traits of student life in those days were poverty, ardent application and turbulence. And of all the students, the theologs, with their 15 or 16 years' course of study, were the most turbulent. At the age of 30 or 40 the student at the University was still a scholar. This long period of study is one of the facts which explains the influence then exercised by students and masters over the affairs of religion and the state. Great was the attraction exercised by this vast seminary where the human intellect exhausted itself in efforts which perhaps yielded small fruit though they promised much. The narrow streets, the lofty houses, with their low archways, their damp and gloomy courts, and halls strewn with straw, were never to be forgotten by the students who spent so many years of their life at Paris.

Now a word as to the constitution of Universities. They were essentially autonomous, lay communities, but not antagonistic to the Church. The popes gave the Universities protection, and rarely interfered in an arbitrary way. While Rome was not the mother, yet she was the nurse of universities, and a kindly genial nurse. Up to the Reformation, universities were regarded as Defenders of the Faith, and in return the universities looked with confidence to Rome for protection, while yet remaining self-governing republics. Thus the Church fostered specialized schools, which became more and more powerful, until at last they led the thought of Europe, revived in men an interest in speculation, and initiated that scientific spirit which finally rendered the Church in its medieval form for ever impossible as the Church Universal. Out of the movement set in motion by Anselm and Abelard, we may fairly say, grew the Oxford Reformers of the end of the 12th Century; thereafter Roger Bacon, Petrarch, Dante, Wycliffe, Hus, and finally the whole modern spirit. As heresies arose the Church naturally tried to tighten its grip on the universities, just as the civil power also did in the face of political heresies. But with occasional lapses the history of Universities is the history of freedom. They became centres of resistance to despotism. They not only upheld their own rights of free organization and free-thought, but they sent out thousands annually to every part of Europe to fill the various professions, animated by some share of the scholarly spirit, and possessed of that manly independence of mind which it is one of the chief aims of Universities to promote.

We have dwelt in particular on the Universities at Bologna and Paris because these two became the types of all that followed in later centuries. Bologna was a type of the *students'* universities, that is to say, the powers were vested in the student body itself. Paris, on the other hand, is the type of the *masters'* university, in which the power remained in the hands of the teachers. Besides this broad difference in their organization, the very conception of learning was different at Bologna from what it was at Paris. In Bologna it was entirely professional, that is, designed to prepare the student for a definite and practical career in after life. In Paris it was sought to provide a general mental training, and to attract the learner to studies which were speculative rather than practical. In the sequel, the less mercenary spirit in which Paris cultivated knowledge added immensely to her influence, which about the middle of the 14th century reached its zenith. It then had 40 Colleges, and numbered among its students representatives of every country in Europe. It became known as the great school where theology was studied in its most scientific spirit, and its decisions upon those abstruse questions which absorbed the highest intellectual activity of the Middle Ages, were regarded as almost final.

Measured in terms of modern standards, the instruction was undoubtedly poor, and the educational standard low. We could now teach as much information, and in a better manner in but a fraction of the time then required. Viewed also by the standards of instruction in the higher schools of Greece and Rome, the conditions were almost equally bad. Viewed, however, from the standpoint of what prevailed in Western Europe during the early Middle Ages, it represented a marked advance. Despite the mixed and but partially civilized student body, youthful, and but poorly prepared for study, the drunkenness and fighting, the lack of books and equipment, the large classes and the poor teaching methods, and the small amount of knowledge, which formed the grist for their mill, and which they ground exceeding small, these new universities held within themselves the largest promise for the intellectual future of Europe which had appeared since the days of the old Greek Universities. From these small beginnings, the university organization has grown and expanded, and to-day stands, the Catholic Church alone excepted, as the oldest organized institution of human society.

In 1200 A.D., as the result of a long local evolution, there were already 6 Universities:—Salerno, Bologna and Reggio, in Italy; Paris and Montpellier in France; and Oxford in England. By 1300, 8 more had evolved in Italy, 3 more in France, Cambridge in England, 5 in Spain and Portugal. Three centuries later, in 1600, the grand total had risen to 108, while in the following centuries many new ones were created.

It is impossible to deal in detail with most of these universities, but it would be unpardonable to close without some reference to *Oxford*, the oldest English University, which was founded about the year 1140. As at the seats of learning abroad, so at Oxford there were at first no university buildings; these did not begin to exist till the 14th century. For a long time the students were taught in the hostels, or in private rooms, and the Churches were used for large assemblies. But the most distinctive feature

about the two older English Universities, was the rise of the *collegiate system*. The multitude of students found it difficult to secure lodgings and their extreme youth exposed them to many temptations. In England the hostels were regulated lodging houses where students resided at their own cost under the supervision of a principal. These hostels were sometimes called "inns" or "halls", and only by slow degrees disappeared, as "colleges" multiplied during the latter half of the 13th century. The term "college" was at first given to a corporation of individuals, having a common purpose, and not to buildings. The term college was next used as equivalent to an endowed hall, whose occupants had free quarters, but who were under the regulations of the college statutes. "It is customary with the ignorant", says Dean Hood, "to speak of our colleges as monastic institutions, but in reality the colleges were introduced to supplant the monasteries, which in the 12th century had failed to supply the education which the improved state of society demanded. Monastic schools were as much designed to make men monks as a training school at the present time is designed to make men schoolmasters. Hence the need of colleges for seculars, free from monastic obligations." University, Balliol, and Merton, all dispute among themselves as to which was the earliest in order of foundation, but the most important in the light it throws on the constitution of colleges was Merton, founded by Walter de Merton in 1264. This College furnished a model for all later colleges both in Oxford and Cambridge. It was substantially what we should now call a secular college; no 'religious' person, that is, no monk or friar, was to be admitted; its aim was to produce a constant succession of scholars devoted to the pursuit of literature.

It may be interesting to give a short sketch of the college discipline and student life of those days. Minute regulations are provided for the conduct of the students. They are to be silent at meals and to listen to a reader (the book read was invariably the Bible); there must be no noise in their chambers; all conversation must be conducted in Latin. This rule was deliberately intended to be a check upon talking. College founders accepted the apostolic maxim that the 'tongue worketh great evil', and they were convinced that the golden rule of silence was a protection against scandals and quarrels. Except in the great hall, there was no fire-place in private rooms until the 16th century, and the wooden shutters which took the place of windows, shut out the scanty light of a winter day. Dinner was at 10 a.m., and supper was at 6 p.m. Early to bed and early to rise was the stern law. The student's day began at 6 a.m., and he must often have listened to lectures which commenced in the dark, although dawn overtook the lecturer before he finished his long exposition. Many of the statutes are devoted to the prohibition of amusements; for instance it was forbidden to keep dogs, "for if one can have them in the house all will want them, and so there will arise a constant howling to disturb the students". The keeping of dogs is often described as "taking the children's bread and giving it to dogs". The principle on which modern deans have decided that gramophones are "dogs," and therefore to be excluded from college, can be traced in numerous rules against musical instruments, which disturb the peace essential to learning. Dice and chess were also forbidden, and the

scholars were not to frequent taverns, to engage in trade, to mix with actors, or to attend theatrical performances. Other rules deal with throwing stones, carrying arms, unpunctuality, talking during services, bringing strangers into college, sleeping out of college, absence without leave, negligence and idleness, scurrilous or offensive language, spilling water in upper rooms to the detriment of those in the lower rooms. For grave moral offences, for crimes of violence, and for heresy, the penalty was expulsion. The rough and ready penalty of the birch is frequently mentioned, and Cardinal Wolsey thought it proper that an undergraduate should be whipped until he had completed his twentieth year. Women were not allowed within a college gate; if it was impossible to find a man to wash clothes, a laundress might be employed, but, note! she must be old and ugly. Violence marked the whole medieval life and therefore it is not surprising to hear of town and gown rows between the students and the city authorities. Indeed it was taken for granted that such conflicts would arise, and that the townsmen were always in the wrong. Thus when the University of Vienna was founded, it was provided beforehand that any attack on the student, leading to the loss of a limb, was to be punished by the removal of the corresponding limb from the body of the assailant.

As an instance of a famous town and gown riot, let us briefly relate the history of the battle of St. Scholastica's Day, 1354. The riot began in a tavern quarrel; some scholars disapproved of the wine, and the vintner, giving them stubborn and saucy language, they threw the wine at his head. His friends urged the innkeeper not to put up with the abuse, and they rang the bell of St. Martin's Church. A mob at once assembled, armed with bows and arrows and other weapons. They attacked every scholar who passed, and even fired at the Chancellor when he tried to allay the tumult. The indignant Chancellor retorted by ringing St. Mary's bell, and a mob of students assembled, also armed. A battle royal raged till nightfall. Next day the townsmen stationed in St. Giles' Church 80 armed men who sallied out upon the scholars, killed one of them, and wounded others. A second battle followed in which the citizens defeated the scholars and ravaged their halls, slaying and wounding. Night came on again, but next day with hideous noises and clamours the citizens came and invaded the school houses and killed those who resisted, or else grievously wounded them. The injured University was fully avenged. The King granted the University jurisdiction over the City, and the Bishop placed the townsmen under an interdict, which was removed only on condition that the mayor and bailiffs and threescore of the chiefest burgesses should personally appear every St. Scholastica's Day at St. Mary's Church, to attend a mass for the souls of the slain, when each of them had to offer at the altar one penny. Of this oblation forty pence was distributed to forty poor scholars. This custom survived the Reformation, and it was not until our own times that the Mayor of Oxford ceased to have cause to regret the battle of St. Scholastica's Day.

Drawing this sketch to a close, and referring to the place which the universities then held in the intellectual life of the nation, we have to remember that they were centres of learning and thought which have no parallel in importance to-day. Men went to and from Oxford and carried

with them from the lecture room to the country the ideas which moulded religion, politics and society. And Oxford was the home not only of learning, but also of free thought in matters both lay and clerical. London and the King were sixty miles away; Lincoln and the Bishop were one hundred and twenty; to reach the Pope was a journey of more than a month. What men of that age thought, that they might say at Oxford more freely than at any other place in the kingdom; what leader they chose, him they might follow with less fear of consequences. The line of thought which appealed to very many of them was anti-clericalism, and the leader they chose was John Wycliffe, who for about 40 years resided at Oxford, and gradually came to be regarded as the champion of the Reforming Movement.

After the Wycliffe Movement died out, there followed a century of growing torpor. For a long period, the history of the University becomes commonplace, and its annals almost a blank. In the 16th Century there was a Renaissance, associated with the names of Colet, Moore, and Erasmus; but again from the middle of the 17th Century till the end of the 18th, the University once more sank into a very low state. It was not until the beginning of the 19th Century that the revival began. *Men sana, anima sana, corpus sanum*; these are the watchwords of the three movements which have revolutionized Oxford in the 19th Century—a revival of interest in education and letters, a revival of interest in religion, and a passion for physical culture and athletic distinction such as the world has not seen since the palmy days of ancient Greece.

Things have indeed changed since Erasmus spoke of the teachers at Oxford as "a race of men the most miserable, who grow old in penury and filth in their schools (schools did I say? Prisons, dungeons, I should have said!) among their boys, deafened with din, poisoned by a fetid atmosphere; but thanks to their folly, perfectly self-satisfied, so long as they can bawl and shout to their terrified boys, and box and beat and flog them, and so indulge in all kinds of ways their cruel dispositions."

I have said little in this paper about university examinations. The stringency of these varied in different universities and at different times, but the proportion of successful candidates seems everywhere large; the examiners at Louvaine, for example, are exhorted not to ask disturbing questions! As a general rule, before a student became a Bachelor of Arts, he had to dispute several times with a master, and the medieval system, as it lingered on at Oxford to the close of the 18th Century, is thus described by a contemporary writer. "The youth whose heart pants for the honour of a B. A. Degree must wait patiently till four years have revolved. He is obliged during this period once to 'oppose' and once to 'respond.' This opposition and responding is termed 'doing generals.' Two boys, or men as they call themselves, agree to 'do generals' together. The first step in this mighty work is to procure arguments. These are always handed down from generation on long slips of paper and consist of foolish syllogisms on foolish subjects, of the meaning of which the respondents and opponent seldom know more than an infant in swaddling clothes. When the important day arrives the two doughty disputants go into a large, dusty room,

full of dirt and cobwebs; here they sit facing one another from one to three o'clock. Not one in a hundred times does any officer enter, and if he does, he hears a syllogism or two, then makes a bow and departs in solemn silence. The two disputants then return to the amusement of cutting the desks, carving their names thereon, or reading some sentimental and trashy novel. When their exercises are duly ended, they must kneel before one of the masters while he lays a volume of Aristotle on their heads, and puts a hood upon each, and a piece of black crape, hanging from their necks down to their heels. There remain only one or two further trifling forms to be completed. Every candidate is obliged to be examined by three masters of arts of his own choice. Little books, containing 40 or 50 questions on each science are handed down from age to age from one to another. The candidate employs three or four days in learning these by heart, and his examiners, having done the same thing before, know what questions to ask, and so everything goes on smoothly. When the candidate has displayed his universal knowledge, one of the masters asks him to translate a passage from one of the classics, which he does with no interruption, just as he pleases, and as well as he can. Now is the time when the masters shew their wit and jocularity. Such familiarity, of course, only takes place when the examiners are pot companions of the candidates, which is indeed usually the case; for it is reckoned good management to get acquainted with two or three jolly young masters of arts, and prime them well with port wine previous to the examination. If the Vice-Chancellor happens to enter the school—a very uncommon event—then a little solemnity is put on, but often in his absence the examiners and the candidates talk about their last drinking-bout, or the horse races, or read the newspaper or a novel."

Needless to say, these good old times have passed away, but with this vivid picture of the loose and scandalous conditions prevailing at Oxford up to the end of the 18th century, we may close this brief survey of the progress of the modern university from its obscure origin in the Middle Ages down to our own times. With all their faults they passed the torch of learning on in dark and troubled days, and we owe a tremendous debt to their pious and far-seeing founders, and ought to do all we can to conserve and develop the rich heritage they have left us.

Both Oxford and Cambridge suffered severely from the confiscation of their lands and revenues during the period of the Reformation—indeed the Reformation affected injuriously most Universities. Not only did these disputes render the students' outer life more uncomfortable and precarious, but the din of theological strife too often drowned the voice of sober reason; men had neither time nor patience to listen to any truth which did not directly affect the burning questions of the moment. In the reign of Elizabeth, Cambridge became the centre of the early Puritan Movement, but the fidelity with which both Universities adhered to the royal cause during the civil war, caused them to be regarded with suspicion when the Puritans came into power, and under the Commonwealth Oxford and Cambridge were in great danger of being abolished, and were only saved by the firmness of Oliver Cromwell.

After the Restoration, Cambridge became the centre of a remarkable movement which attracted considerable attention. Its leaders, known as the Cambridge Platonists, were men of high character and great learning. A little later the spread of the Baconian philosophy and the example of a number of eminent scientific thinkers, among whom Isaac Newton, 1669-1702, stands out foremost, began to render the exact sciences more and more an object of study, and in the first half of the 18th Century the reputation of Cambridge as a school of mathematics was established.

In speaking to a cosmopolitan audience like this, it would be unpardonable not to refer to the United States of America, though a mere islander like myself only dares to do so with bated breath, and under fear of correction. In America the word University has been applied to institutions of the most diverse character, and it is only quite recently that an effort has been seriously made to distinguish between Colleges and Universities, nor has that effort yet completely succeeded.

Harvard, William and Mary, and Yale, the three pioneers of colonial times, were organized on the plan of the English colleges, and their aim was discipline, mental, moral, religious. Looking to the origins of American institutions we see them arising from three separate impulses, from Churches, from the State, and from individuals, respectively. Thus Yale and Harvard are children of the Congregational Churches, and Princeton, of the Presbyterian. Wisconsin and California are examples of State institutions; Johns Hopkins and Cornell are independent foundations due to individual generosity. It is true that all receive from the State some degree of authority, but this authority is so easily obtained that in a single city there are sometimes several corporations authorized to bestow degrees and to bear the name of universities. A foreigner cannot understand, nor can an American justify such anomalies; the most that can be said for them is that in the long run the best, and only the best, will survive. In a complete university provision should be made for the study of law, medicine and theology, but unfortunately the development of such schools in the United States has been fettered by narrow conditions. The schools of theology, for example, are mostly under denominational control, and so established is this usage, that in State Universities and in most private foundations, (Chicago being a bright exception), theological departments are not established, because of the dread of religious rivalry, and dogmatism. This unsatisfactory condition of things is surely temporary only, but while it lasts it fosters sectarian narrowness and theological bigotry.

On the other hand nowhere in the whole world have gifts for higher education been more munificent than in U.S.A. Important too, has been the growth of liberal ideas in recent times. American universities are no longer provincial. They must be judged for better or for worse by the standard of university education, as established in the old world. The granting of academical degrees ought to be strictly governed by some recognised authority. In the United States there is but little restraint proceeding from law, tradition, or public opinion; every "College" is at liberty to grant degrees. Hence while the best institutions exercise proper caution in granting degrees, there is a crop of worthless academic titles issued by certain schools, and leading occasionally to scandalous frauds.

The opening of colleges for women, fully equal to those for men, is one of the most noteworthy modern advances in education. Opinions are still divided as to the wisdom of co-education, especially in the undergraduate period; but there is no longer any question as to the wisdom of granting women the very best opportunities for intellectual culture. Separate colleges for women are now maintained in close connection with Harvard, Columbia and other schools, and this mode of procedure seems likely to be adopted elsewhere.

In Europe as well as in America the conception of a University and its functions in modern society has broadened vastly in our own generation. In England, till a time within the memory of men now living, Oxford and Cambridge were jealously guarded as a close preserve for members of the Church of England. And this was one among other reasons which led to the founding in the 19th century of an entirely new type of University, such as London, Manchester and Birmingham. Now, happily, the older Universities, as well as their younger sisters, have thrown open their gates to men and women of all creeds and classes, while the University Extension Movement has brought the college Don, who had become something of a fossil and an anachronism, into close touch with the throbbing life of our great industrial centres, to the mutual benefit of the universities and the nation.

London University, founded in 1836, was at first merely an examining board, but was re-cast into a teaching university in 1900. In 1880 London had the honour of first admitting women to degrees, and it was in 1888, when the present speaker took his B.A., that Dr. Sophie Bryant became the first woman Doctor of Science.

Inspired by the long and glorious history of universities of the West, and warned by their failures, we in our humble way founded the nucleus of the Shantung Christian University in the year 1904. We hope it may conserve the best features of the medieval universities, their plain living, high thinking, and fearless pursuit of truth, and that it may at the same time happily combine the discipline and personal culture of Oxford and Cambridge with the wider and more democratic aims of their American daughters.

In the not distant future we hope to attain to the status and dignity of a true University, with a Charter of our own, and the undisputed right to confer degrees, which shall mean much for the future of China.

The Contribution of Hebrew Prophecy to Modern Life

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The modern study of the Old Testament has shown that the Hebrew Prophet was the human agent in the development of the Ethical Monotheism which is the peculiar contribution of the Hebrew People to Religion. In this connection we must make some estimate of the primitive Hebrew religion which the early Hebrew Prophets inherited from the past. An interesting survival of this primitive religion is seen in the Song of Deborah (Judges 5)—probably the oldest fragment of Hebrew literature extant. Unlike much of the historical literature in the Old Testament, it has the distinction of being contemporary with the events which it purports to describe. The historical situation which the Ode reveals is the period of struggle between the invading Israelite tribes and the Canaanite peoples who are still possessors of the rich fertile plains. The Canaanite King Sisera determines to destroy the invading Israelites before they encroach further upon Canaan. The rival armies meet at Taanach in the plain of Megiddo, and the Israelites win a great victory. Sisera, the defeated king, a solitary fugitive, is murdered by Jael, the wife of Heber. This victory Deborah celebrates in a triumphal ode which throws valuable light on contemporary religion. The opening lines of the poem run thus:—

"For that the leaders took the lead in Israel,
For that the people offered themselves willingly,
Bless ye Yahweh.
Hear, O ye Kings; give ear, O ye princes;
I, even I will sing unto Yahweh,
I will sing praise to Yahweh, the God of Israel,
Yahweh, when thou wentest forth from Seir,
When thou marchest from the field of Edom,
The earth quaked, the heavens swayed,
Yea, the clouds dropped water.
The mountains streamed before Yahweh,
Before Yahweh, the God of Israel."

According to the opening lines of the poem, Yahweh's home was away in the South on Mount Seir. The poet represents Yahweh as seeing his people advancing to the struggle against Sisera, and as journeying swiftly from Seir to Canaan to aid them in the struggle and give them victory. Yahweh goes forth from Seir in a thunderstorm, and as he passes, the earth quakes and the heavens sway.

That the conception of Yahweh's character had not yet become moralised, is seen in the praise which the Ode gives to the murderess of the fugitive King Sisera:—

"Blessed above women shall Jael be
Blessed shall she be above women of the Tent—
Water he asked; milk she gave;
In a lordly bowl she handed him some milk;
She reaches her hand to the tent-pin,
And her right hand to the workman's hammer,
And with the hammer she smites Sisera, destroys his head,
Smashes and crushes his temples.
At her feet he bowed, he fell, he lay.
Where he bowed, there he fell, killed."

And the ode ends with:—

"So let all thine enemies perish, Yahweh.
But thy friends shall be as when the sun rises in his might."

The "friends of Yahweh" were the tribes of Israel. Thus we see that while at the time of the conquest of Canaan the tribes of Israel were possessed of little or no political cohesion, a faith in Yahweh united them and produced in them a rudimentary national consciousness. When the long years of struggle with the Canaanites were over and the people of Israel possessed the land, it was Yahweh who had conquered it, and who made Canaan his abode. Canaan became the land of Yahweh, just as Moab was the land of the god Chemosh, and Egypt the land of the god Ra. This idea that Yahweh's sphere and authority were confined to the land of Israel is seen in the complaint of David, when he had fled beyond the borders of Israel from Saul. In his expostulation with Saul, he says in reference to his expulsion from his native land,— "but if it be the children of men, cursed be they before Yahweh; for they have driven me out this day that I should not cleave unto the inheritance of Yahweh, saying, Go, serve other gods". (I. Sam. 26. 19).

What was it that transformed this Hebrew henotheism into monotheism? How came it that Yahweh, the God of Israel was proclaimed to be the God of the whole earth? This was on its human side the work of the Eighth Century prophets, and their heirs and successors, Jeremiah, Ezekiel and Second Isaiah in the Seventh and Sixth Centuries. I want to shew you how these men spoke out of a new and vital *experience of God*. These men did not learn their faith primarily from a community, or from a book, but directly from God. Let us think of the first of their number, Amos, whose prophetic ministry extended through the period 765-750. He is the first of the writing prophets. It is significant how little of the Old Testament was then in literary form. There were the two prophetic narratives which form the earliest substrata of the Hexateuch. There was a short code of laws, a few ancient songs and some court annals. That is all. As regards the spiritual condition of Judah and Israel in the time of Amos, material prosperity had been too much for religion, and, moreover, the might of Assyria overshadowed Judah and Israel as it did all Western Asia. Such an environment is not the one to which we should readily look for a great creative personality like that of Amos; but on the slopes of the hillside as he was

leading the sheep to pasture, God spoke to him, There was at that time a class of prophets who made a living by being seers and soothsayers, but Amos disclaims this company. He is not one of them. Hear his own words, when the priest of Bethel calls upon him to cease his work of prophecy in Israel and leave Israel for his native Judah:—"I am no prophet, neither am I a prophet's son, but I am a herdsman and a dresser of sycamore trees, and the Lord took me from following the flock, and the Lord said unto me, 'Go, prophesy unto my people Israel'". (Amos 7. 14-15). "*The Lord took me*"—there you have in a pregnant word a revelation of the experience that made Amos a prophet. Under the night sky while tending his sheep Amos experienced God, and by that experience he was remade. With a new sense of Reality, he spoke the message that God gave him to Israel, whose soul was coarsened and degraded with material prosperity. To that society with its luxurious rich and downtrodden poor, Amos came as a wind from his native hills.

It was out of a different experience that Hosea came to be the prophet of Yahweh's Love. He arrived at his vision of God out of the tragedy of his home life. A man who was a great lover, he was married to a woman who proved unfaithful to him. Both her second and her third child he knows to be not his. She leaves him and eventually falls into the hands of some man whose slave-concubine she becomes. But Hosea, who has loved her from the beginning, in spite of her shame, purchases her at the price of a slave, and keeps her in seclusion. With that the story ends, and we are left hoping that this grief was resolved by Hosea's love into happiness. However that may be, Hosea's home sorrow was creative. He whose heart was so bruised and torn in the tragedy of his married life, was led by his own sorrow to the Divine Love, and out of that experience of God's love he makes his unique contribution to Religion.

It is in the experience of Jeremiah, however, that we find the most complete illustration of our theme—that the fundamental thing about the prophet is his experience of God. Jeremiah lived in days far more difficult and trying than either Amos or Hosea. One hundred years before Jeremiah was a prophet in Judah, Israel had been swept out of political existence by Assyria, and in the time of Jeremiah the same fate was threatening Judah at the hands of Babylon, which had succeeded Assyria as mistress of Western Asia. Isaiah was able to strengthen and uphold Hezekiah to resist Assyria a hundred years earlier, by declaring that if Hezekiah would only trust Yahweh, Yahweh would keep Jerusalem and the Temple inviolate. Jeremiah had no such comforting message. In an age of social decadence, he warned the people of Judah that their national life was heading straight for destruction. Jeremiah urged the nation on the one hand to repent, and on the other hand to meet the oncoming might of Babylon not with military opposition, but with those spiritual resources which alone were adequate to protect them. It is easy to see how Jeremiah became an object of derision and hatred in Judah and how his life was in peril at the hands of those who accused him of being pro-Babylonian and a hater of his own country. Such treatment was Jeremiah's supreme burden. He knew himself to be a truer patriot than the men who were seeking to destroy him, and his sensitive

and passionate nature was sometimes overwhelmed with grief and sorrow. Sometimes the veil is lifted for us and we are confronted with Jeremiah in his agony—as when he chides God for the sorrows that throng his life with such words as these:—

"Why is my pain perpetual, and my wound incurable, which refuses to be healed? Will thou indeed be unto me as a deceitful brook, as waters that fail?" (Jeremiah 15.18)

Or again, when through the greatness of his sorrows he curses the day he was born:—

"Cursed be the day wherein I was born; let not the day wherein my mother bare me be blessed. Cursed be the man who brought tidings to my father, saying, A man child is born unto thee; making him very glad Wherefore came I forth out of the womb to see labour and sorrow, that my days should be consumed with shame?" (Jeremiah 20. 14-18)

It was out of this life of suffering that the value of the individual was revealed to mankind. Until the time of Jeremiah the Covenant was conceived as between Yahweh and His People, and it was thought that the Covenant blessings came to the individual in so far as he was a member of the Covenant People. But through Jeremiah's life of sorrow a new Covenant was revealed to him:—

"Behold the days come, saith the Lord, that I will make a new covenant with the house of Israel and with the house of Judah; not according to the covenant that I made with their fathers in the day that I took them by the hand to bring them out of the land of Egypt, which my covenant they brake, although I was an husband unto them, saith the Lord. But this is the covenant that I will make with Israel after those days, saith the Lord. I will put my law in their inward parts, and in their heart will I write it; and I will be their God and they shall be my people; and they shall teach no more every man his neighbour, and every man his brother, saying, 'Know the Lord' for they shall all know me, from the least of them unto the greatest of them, saith the Lord; for I will forgive their iniquity, and their sin will I remember no more." (Jeremiah 31, 31-33) In these words a new ideal of the religious life was set before men—a life of fellowship of God with the individual, who, purified and redeemed, received directly from God a new nature adequate to this high calling. This new ideal was the gift which God gave to men through the lonely suffering life of Jeremiah.

The first contribution of Hebrew Prophecy, then to modern life is its demonstration that religion is rooted in man's experience of God, and that as man's capacity for this experience grows, religion grows with it too. This capacity for religious experience is not something esoteric or recondite. It is essentially the measure of man's personality. Hosea, a great lover becomes the prophet of God's Love. Jeremiah, cut off from human fellowship and love, becomes the prophet of the Divine Fellowship.

What gave the prophets this capacity for experiencing God is their *unique moral consciousness*. An *overmastering conviction* that the Right

demands all and more than all that man can offer gave the prophets their unique capacity for experiencing God. This *conviction* is what we so sorely need in the Twentieth Century. There is so much in our modern life that tells against the growth of strong conviction. Democracy is sometimes very ruthless with the modern prophet, and so there is the constant temptation for the individual to sacrifice his conviction to his popularity. Both in Church and State we see men, who, knowing that their positions depend on the smile of the people, do despite to their convictions rather than lose office. The Hebrew Prophets were made of sterner stuff. Jeremiah is threatened with death if he continues to bear witness to God: Let them do their worst, for only death shall close his mouth! The first message of the Hebrew Prophet to the age is "Trust in God and do the Right". In the service of the Right hold nothing dear—popularity, office, money, comforts, even life itself,—all these, when necessary, must be sacrificed to conviction. Then from the men who so live will come the Religion for the lack of which our vaunted civilisation is threatenen with destruction.

As we swiftly trace the succession of Hebrew Prophets, we see how in carrying forward the Torch of Truth each in order fans the Flame. Each prophet from the depths of his own experience adds his peculiar contribution to the rich store of Hebrew Religion. Amos is the revealer of Yahweh's Righteousness. He declares that because Yahweh is the righteous God and because man's supreme duty is to do right, therefore Yahweh is the God of all men. Amos declares that Yahweh will judge Israel, Judah and *all* the nations for their social iniquity. He warns Israel that because he is chosen therefore the more is required of him:—

"You only have I known of all the families of the earth, *therefore* I will punish you for all your iniquities". (Amos 3. 2.)

Amos denounces the customary form of ritual worship in Isrsel; he says that Yahweh hates it utterly, for He requires that men should *do* the Right. The prophet exhorts Israel with the noble words.

"Let justice roll as waters,
And righteousness as an ever-flowing stream". (Amos 5, 24).

If Hosea's vision was not as wide as Amos', it went deeper. He sees that it is not enough to identify religion with the doing of social justice. Above sinning and suffering humanity he sees Yahweh, whom he represents as saying:—

"For I desire love and not sacrifice
And the knowledge of God more than burnt-offerings." (Hosea 6. 6.)

Hosea declared that that social justice for which Amos contended could only grow out of the love of God. So Hosea calls men to forsake every kind of idol and to learn of God and to taste of his forgiving grace. Isaiah, who followed upon these two prophets, inherits the moral passion and the universal outlook of the one and the knowledge of the Divine Love of the other. He makes no such specific contribution to Theology

as did Amos and Hosea, but he gave richer content to the ethical monotheism of the eighth century prophets by his fearless application of the religion of Yahweh to international problems. We shall shortly consider his work as the statesman-prophet of the Old Testament. Until the time of Jeremiah we have seen how Yahweh was the God of Israel rather than the God of the individual Israelite. Jeremiah discovered for men that God loved them as individuals and that the religious life was the fellowship of God with the individual. Then came the Exile of the Jews in 597, and again in 586. While this destroyed the Jewish State, it made possible the development of the Jewish Church. The Jews went into Exile a nation, they came back from Exile a church. That Hebrew Religion not only did not die in Babylon, but that it actually reached its supreme height is due to the prophet Ezekiel and the anonymous prophet commonly styled "Second Isaiah". Ezekiel, a generation before the Return from Babylon, was so confident of the Return that he outlined the worship and drew up the constitution of the new Church-state that should be centred round the temple at Jerusalem. Second Isaiah, a generation later, not only declared that God through the world-conqueror Cyrus, was going to set His people free to return to their own land, but he declared that God was liberating His people for a world wide mission. They were to proclaim that Yahweh, the God of Israel, is the deliverer of the *World*, and the nations amazed at what Yahweh had done for despised Israel, would acknowledge their sin and turn to the living God.

Amos, Hosea, Isaiah, Jeremiah, Ezekiel, Second Isaiah—in that great succession God was leading mankind forward in the Truth till Amos' Yahweh, the God of Justice has become Second Isaiah's Yahweh, the Deliverer of Mankind. There we see demonstrated in history the fact that religion is essentially dynamic,—drawing its energy from man's ever-growing experience of God. This is as true of the twentieth century as it is true of the eighth century before Christ. Nay it is truer of us to-day, for while they progressed *unto* Christ, we progress *in* Christ. Let us make no mistake about the progress of Christianity—one generation is not bound to be better than the one that preceded it; it *ought* to be better. Whether we add our mite to the store of faith and love that we inherit from the prophets and saints, depends upon our loyalty to Christ. Like them we must be willing to venture all for God and to suffer in God's Cause just as they did. The strength and quality of our convictions are the measure of our capacity for experiencing God.

Now let us consider the contribution of Hebrew Prophecy to the Social Problem. What a passionate concern the Hebrew Prophets had for the poor, whether citizen or peasant! It is not too much to say that if the post-Reformation Church had had the love of the people that reigned in the hearts of the Hebrew Prophets, the Social Problem as we know it to-day would not exist. Why is it that while they were so sensitive to social injustice, the Church has so often failed to realise that social evils exist at all? Why is it that while they never failed to threaten God's judgment on social iniquity in high places, the Church has by her silence so often acquiesced in it? This, I think, is a matter of religious experience. God laid hold of them, and they

could not but speak. It was not that they were mere automata, for sometimes it was a very crucifixion for them to act upon their God-given convictions. They felt that they had to get God's will done, although in so doing they procured for themselves poverty, hardship, social ostracism and sometimes death. They knew themselves to be God's men and to Him they owed everything. So no matter who were the sinners—whether they were unjust rulers, corrupt judges, luxurious society ladies or greedy capitalists, the prophets threw upon them the white light of God's Righteousness. The prophets declared that such iniquity, if not repented from, would issue in the ruin of the State. Such a society would die of internal corruption.

How different has been the attitude of the Church to the social sin of this age! The ministers and leaders of the Christian Church are so involved in modern civilisation that too often they are unable or unwilling to criticise it. Here is the minister of a rich suburban church in industrial England: Some of his deacons are the industrial magnates of the place. Others are rich shop keepers who hate strikes because they spoil trade. Three-quarters of the minister's stipend is given by these men. An industrial dispute breaks out revealing grave social injustice in the factories belonging to the deacons of the very church. The minister knows it, but he keeps dumb, because if he tells the truth, he will be asked to resign, and so will lose his family comforts and his social position. He is afraid to act upon his convictions, and so his convictions gradually vanish away. The message of the prophets to the modern church confronted with the Social Problem is "Trust God, be not afraid." Let ministers and people do what is right and leave the rest to God. And the first step towards the solution of the Social Problem is to accept the test which the Hebrew Prophet applied to the civilisation of his day, Does the social order make for the well-being of *all* the individuals of which it is composed? It is not enough for the Christian Church to confess that Western Civilisation does not make for the well-being of the majority. It remains for the Church to evoke that spirit in humanity which of itself will develop a new and righteous order of society. This new spirit will come as each individual Christian envisages aright all his social relationships and sees that his various needs are met by the labour of men and women whose deepest needs are identical with his own. He will never forget how great a debtor he is to the miner, the shop-keeper, the artisan and the domestic servant. He will always see them as men and brothers.

Recognition of the Sovereignty of God finds clear expression in the foreign policy which Isaiah urged upon Hezekiah. World politics in the eighth century were determined by the expansion of Assyria. As she expanded westwards, annexing the smaller western Asiatic States, she came into conflict with Egypt, who sometimes exercised suzerainty over the small south-western states of Asia, and preferred to keep them as buffer states between herself and advancing Assyria. So by frequent intrigue amongst her neighbours on her north-west frontier, Egypt was continually attempting to raise up combinations of states against Assyria. In Judah as elsewhere there was a pro-Egyptian party which sought by the help of Egypt to repel the onrush of Assyria. In 734 the Kingdoms of Syria and Israel entered into a coalition against the suzerain power of Assyria, and were anxious for Judah to

join them. Under the influence of Isaiah, King Ahaz of Judah refused to enter the alliance, and so Syria and Israel declared war upon Judah. It was a time of great national stress and anxiety. Isaiah counsels resistance to Syria and Israel and offers to the wavering King Ahaz a divine sign of God's favour. This Ahaz refuses, pretending to do so on religious grounds, but actually because he is reluctant to accept the prophet's direction. The prophet, however, is not to be denied, and the sign of Immanuel—God with us—is given to the King:—The Prophet declares that there is a young woman in Judah (not, as our version reads, a virgin) whose faith in God is so great, that she will proclaim God's sufficiency for Judah's need in the name she will give her new-born child "Immanuel"—"God with us." She has no fear for her country, herself, or her infant, for God-with-us is their sure defence.

Isaiah's conviction that the only protection of a nation is its spiritual resources is illustrated by his prophecies when Sennacherib was threatening to destroy Judah. Once more the pro-Egyptian party are active in Judah. They have been successful in getting an embassy sent to Egypt, which laden with rich presents shall seek the aid of Egypt against Assyria. Isaiah sees that the Egyptian alliance is not only useless for military protection, but that it marks a faithless revolt from Yahweh. He calls Judah to return from Egypt to Yahweh, with the words (Isaiah 30, 14):—

"In returning and rest shall ye be saved
In quietness and confidence shall be your strength"

In another place he contrasts the physical resources of Egypt with the spiritual strength that comes to those who trust in God (Isaiah 31, 1-2):—

"Now the Egyptians are men and not God,
And their horses flesh and not spirit,
And when Yahweh shall stretch out his hand,
Both he that helps shall stumble
And he that is helped shall fail,
And they shall all fail together."

And Isaiah leaves us in no doubt as to the real protection of a nation. The people who walk in the way of God, the nation which submits to the rule of righteousness—that people need no army or navy to defend them from foreign aggression. There abides within them that life which is immortal because it is the life of God. History abundantly demonstrates the truth of Isaiah's principle. The Assyrian Empire, against which his country was struggling, the most militaristic of all the World Empires, passed swiftly away, and is now unknown save to a few scholars. The imperial might of Greece could not save it against the assaults of Rome. The imperial might of Rome could not protect it from the attacks of the Goths. So we pass on through the ages to the British Empire which is saving itself not by military might but by transforming itself into a Commonwealth of Nations.

There is embodied in the second chapter of the book of Isaiah the prophecy of one who lived probably in the fifth century. It universalises Isaiah's principle of the spiritual strength of a nation:—

"And it shall come to pass in the latter days
That the mountain of the Lord shall be established,
In the top of the mountains,
And be exalted over the hills,
And all peoples shall flow unto it,
And many nations shall go and say
Come, let us go up to the mountain of the Lord,
And to the house of the God of Jacob,
And he will instruct us in his ways,
And we will go in his paths,
For from Zion shall go out instruction,
And the word of the Lord from Jerusalem.
And he shall judge between many peoples,
And arbitrate for strong nations,
And they shall beat their swords into ploughshares,
And their spears into pruning hooks.
Nation shall not lift up sword against nation,
Neither shall they learn war any more."

This vision of a World Peace shows the world as a commonwealth of nations, because each nation acknowledges a higher sovereignty than its own, namely, the Will of God. Or, to put in familiar words the cry "My country, right or wrong" must find no response in the nations. The love of country must submit to the love of Right. The first step towards International Peace is that nations should surrender that national pride which involves contempt for the rights of other nations. The next step is for the nations to throng to that Jerusalem where God judges between the peoples. Stripped of its accidental elements this prophecy means that God will reveal His will, namely the Right, to the nations as they meet together before Him. How utterly this vision of Isaiah challenges the international situation as we see it to-day; Germany, who by military might grasped at world power and dominion, is now followed by France blind to the plain lesson of Germany's defeat. The nations languish for spiritual leadership. Where is the nation that will hearken to the voice of Isaiah and cease trusting in the might of army and navy? It is supremely for the British and American peoples to lead the way. It is for the Christian Church in our countries to recognise that our governments so far from trusting in the protection of Public Right still look to armies and navies to defend our countries. Our governments are, of course neither better nor worse than we deserve. They give our respective countries the armies and navies which public opinion declare to be necessary. It was because public opinion showed the governments of Britain and U. S. A. that the rivalry of naval armaments must cease, that the Washington Conference

achieved the limitation of Capital Ships in the recent Naval Agreement between the Great Powers.

Public Opinion in our home lands has however, only begun to be aroused. It is the work of the Church to convict the nations of the folly waste and danger of armaments and to demonstrate the truth of this vision of Isaiah to the peoples. The Church has to help our people to read the signs of the times.—These are that armaments make for war, and that war so far from righting international wrongs, only creates still greater wrongs. Then the Church has to train our nations in Isaiah's positive conception of Peace. She has to shew men that Peace is not merely not-War, but Brotherhood, a Brotherhood under the Banner of God. She must call men everywhere to realise that Brotherhood of the Nations which will mean life and abundant life for all men in every nation. She must show them that Kingdom where every man's work is ennobling, where every man's leisure is pervaded by a high and noble Art, and where every man's home is a happy kingdom. She must tell men plainly that the present International Order can never issue in that happy consummation. More than that, the Church in Britain and America must attempt a *great venture*. She must lead our people to something higher than mere worldly prudence. We are continually being told by certain experts that our armaments must not fall below a certain limit, for below that minimum they say we shall be in danger of suffering wrong at the hands of other nations. Is this counsel of worldly prudence a true one? It is false, for the God of Right will protect and save those who do right. Let therefore the Churches in Britain and America so inspire public opinion that it shall lead our Governments to lead the world in a wholesale reduction of armaments. Just as till recently they were joined in a rivalry of hate and suspicion in increasing armaments, so now, let them compete in the reduction of armaments until the world is left with a small international and military force for police service. I am convinced that America and Britain ought to give the nations such a lead, and I am persuaded that they would not be slow to accept it.

The world-view of Second Isaiah is a genuine contribution to modern life characterized as it is to-day with the passing away of much that seemed destined to persist for all time without the appearance of any permanent substitute. National boundaries are being made and remade, the habits and customs of Society in some parts of the world seem to have been thrown into the melting pot, while order and justice seem entirely to have forsaken others. This is an age when cynical selfishness and brutal materialism are too often the ruling principles of Society. In China, for instance, how often one hears good men say of their country that it is doomed. To a world in danger of being submerged in this welter of sorrow and despair, this world-view of Second Isaiah comes like a ray from heaven. This prophet was an exile and almost certainly born in exile. He had always lived in a world that was dominated by the might of Babylon, the mistress of Kingdoms. In Babylon itself many of his countrymen despairing of Yahweh have gone over to the service of heathendom, but Second Isaiah is confident of the future, because God reigns and his gracious

purpose is even now in process of accomplishment. This prophet was composing his poem-oracles about the year 540. His vision had been kindled by the rise of Cyrus, who having conquered Media and Lydia, was turning south to attack Babylon. The prophet predicts the fall of Babylon before Cyrus and further declares that Cyrus shall liberate the Jews from Babylon. More than this he proclaims the glorious future of Israel and the whole world. He says that Yahweh, having through Cyrus set free Israel, will send forth Israel as his missionary to the Nations. The prophet saw the nations thrown into confusion, doubt and fear, as the Babylonian World Empire gave place to the Persian. He saw the peoples seeking deliverance at the hands of gods whom they had made. In passages of supreme irony he sets forth the folly and unreasonableness of those who look to the gods they have made for help. He declares that there is only one Saviour. He is Yahweh, the Eternal God, who neither faints nor grows weary, and he calls all the nations to flee to God for refuge.

The prophet's world-view is well illustrated in his prophecies concerning Cyrus, and in his interpretation of Israel's history. Cyrus is one of the most significant figures in pre-Christian history. We first hear of him as king of Anshan, an Elamite principality bounding the northern extremity of the Persian Gulf. In 553 he rises against the Median Emperor, Astyages, and in 550 he is completely victorious. He enters the Median capital, Ecbatana, without serious opposition. This he makes his summer capital, while he retains the Anshan capital city of Susa, as his permanent capital. The kings of Egypt, Babylon, Sparta and Lydia, viewing the rise of Cyrus with misgiving, form a coalition to crush him. Before, however, their plan can be carried out, Cyrus in 547 leads his army the long journey into Lydia where an indecisive battle is fought with Croesus, the King of Lydia. The latter then expects Cyrus to do the customary thing, and take his army into winter quarters. Cyrus, however, unexpectedly follows up the Lydian army and defeats it outside Sardis in 546. By this victory Cyrus became the master of Asia Minor. In 539 he turns south to the conquest of Babylon, which he incorporates into his empire after a campaign lasting at most only a few months. It is significant that the contract tablets of Babylon show that the commerce of Babylon suffered not a day's suspension during its conquest by Cyrus. Babylon, like the other great capital cities of his conquests, readily submits to this new world conqueror. The explanation of this is no doubt partly found in the policy which Cyrus adopts towards the states he conquers. His method is one of conciliation. In the religious sphere, for instance, he supports the worship of the state. Moreover, he reverses the Assyrian policy of taking into exile the conquered peoples. Thus when he enters Babylon in 539, he sets forth a proclamation ascribing his victory to Marduk, the god of Babylon, and declaring the liberation of the peoples captive in Babylon. Such is a brief outline of the career of Cyrus, which we obtain from contemporary inscriptions. No wonder that Greek literature celebrates him as the ideal King. What does Second Isaiah, writing shortly before the fall of Babylon, make of him? He is introduced into the prophecies in these words, which the poet puts into the mouth of Yahweh (Isaiah 41, 1-4):—

"Come unto me silently distant lands,
Let the nations wait for my argument,
Let them draw near, then let them speak;
Let us come together to the tribunal.

Who has roused up one from the East,
Whose steps victory attends?
Who delivers nations to him,
And subdues kings before him?

His sword makes them as dust,
His bow as driven stubble.
He pursues them—advances unscathed,
The path with his feet he does not tread.

Who has wrought and done this,
Calling the generations from the beginning?
I, Yahweh, the first,
And with the last, it is I."

In this his first poem on Cyrus, Second Isaiah shows his keen appreciation of Cyrus' military genius. Such is the mobility of his army and such its power, that victory, like a faithful hound, attends his steps. And this power of Cyrus that is issuing in world-empire, is the *gift of Yahweh*. Why has Yahweh so endowed Cyrus? This question is answered in the long poem on the mission of Cyrus (Isaiah 44: 24—45: 13), where he declares that Cyrus is the friend of Yahweh, and the Anointed of Yahweh. The prophet calls Cyrus the friend of Yahweh because Yahweh has chosen him to do his pleasure. What this means, the second, third and fourth strophes of the poem indicate:—

"Thus says Yahweh to his Anointed,
To Cyrus whose right hand I have grasped,
In that I subdue nations before him,
And I ungird the loins of kings,
In that I open doors before him,
And that gates may not be shut,
Myself I will go before thee
And will level the mountains,
Doors of bronze I will shatter,
And bars of iron will I hew down.

And I will give thee concealed treasures,
And what is buried in secret places,
That thou mayest know that I am Yahweh,
Who calls thee by thy name—the God of Israel.
For the sake of my servant, Jacob,
And Israel, my chosen,
I called thee by name, giving thee a noble title
Though thou hast not known me
I am Yahweh, and there is none else,
Beside me there is no God.
I gird thee, though thou knowest me not,
That they may know from the rising of the sun to its setting
That there is none beside me,
I am Yahweh, and there is none else,
Who forms the light and creates the darkness,
Who makes happiness and creates calamity,
I, Yahweh, do all these things."

These three strophes disclose an unprecedented attitude towards a non-Israelite who is actually styled Yahweh's "Messiah." The prophets had spoken previously of nations being the instrument of Yahweh's wrath. Here the prophet not only speaks of one who is chosen as an instrument of grace for Israel, and through Israel for all men, but one who in the doing of Yahweh's task shall learn of Yahweh. Cyrus has been endowed with military and imperial supremacy for the sake of Israel. He shall conquer Babylon, and set Israel free. Then shall Israel, restored to his own land, become the missionary of the nations. It is interesting to note that this message concerning Cyrus was badly received by the captive Jews, who frankly disbelieve that Yahweh shall choose a Gentile king to be the deliverer of His people Israel. The prophet replies in anger:—

"Thus says Yahweh, the Holy One of Israel, and his Maker,
Concerning the things to come, will you question me?
Concerning the work of my hands, will you command me?
I have made the earth,
And I have created men upon it,
'Tis my hands have stretched out the heavens,
And all their host I have ordained.
I have raised him according to my fixed purpose,
And all his ways I will make smooth.
He shall build my city,
My exiles he shall set free."

Just as the Jews were reluctant to own that Cyrus had been raised up by God and endowed by God for his world-wide purpose of Grace, so the Church has often failed to realise that God sometimes raises up servants outside her borders. Just as God raised up Cyrus to restore Israel, so he raises up men, who, although outside the Church, minister to the redemption of society. Consciously or unconsciously, they further God's good purpose. For instance, no one would accuse Darwin or Huxley of being friendly to the Church, but all students of religion would acknowledge their debt to such men of science for their elucidation of the principle of evolution, which has proved as formative for Religion as it has for Natural Science. That God has servants without the Church is illustrated in the sphere of politics in the Labour Movement. While no one would claim that the British Labour Movement has any special enthusiasm for the Church, still most would admit that in spite of all its faults, it is the herald of a new and better social order. So then, the great prophet of the Restoration reminds us that whatever may appear to the contrary, all is well because God rules, and because He is ceaselessly working out His purpose of Grace through men of good-will everywhere, who are in their various measures the agents of God's Kingdom, no matter whether they are in the Church or not.

In conclusion, let us notice briefly Second Isaiah's interpretation of Israel's history. He was always faced with the captive Jews' question:— "Why has Yahweh allowed us to suffer these fifty years of exile? Why has He forsaken us?" And it was for want of an adequate answer to this sad cry of the heart that some Jews had gone over to Babylonian heathendom and others had grown cold in the Faith. Let us bear in mind the materials Second Isaiah had to work with, in seeking to find an answer to this problem of faith. The primitive explanation of suffering is that it marks God's displeasure or anger. It is for this reason that the African lives ever in fear of the gods, for he believes them to be so easily offended, that they answer an affront with dreadful punishment. Then a complication is brought into the problem through society bulking so very large in primitive man's life. Perhaps his clan has sinned, or some member of his family has sinned—it is all the same—he suffers as a member of the group. Such ideas of suffering are common to primitive Hebrew religion as to primitive religion in general.

Jeremiah made the first big step towards the solution of the problem by finding that a man was master of his own fate. He, like his successor Ezekiel, denies the truth of the current proverb, "The fathers have eaten sour grapes and the children's teeth are set on edge" (Jeremiah 30:29). Further, in reference to the Exile, he declares that the Jews are only reaping the consequences of their sin. A generation later, however, Second Isaiah found it impossible to reply to enquirers that the Exile was simply the result of Israel's sin. In fact, when he first of all proclaims that Israel is soon to be set free, he plainly says she has received of Yahweh's hand double for all her sins (Isaiah 40:2). If Israel had received double for her sins, how did that square with Divine Justice? The prophet supplies the answer in the Fourth Servant Poem, which beginning with chapter 52:13, continues throughout chapter 53. There the prophet gives a new meaning and value to Israel's

sufferings:— Yahweh first speaks predicting the exaltation of his suffering servant, Israel (52:13-15). Then with the first verse of the 53rd chapter, the nations begin to make their confession:—

“Who could have believed what we have heard,
And upon whom has the arm of Yahweh been revealed!”

The nations then express their contrition for their rejection and bitter persecution of Israel. They remember with shame Israel's silent sorrow and confess that Israel was suffering in their stead. The poem closes with a short speech of Yahweh's where He declares that His Servant Israel, who has died in exile, shall be raised to a new and glorious life. So the great contribution of Second Isaiah to life and religion is his discovery of the principle of vicarious suffering—a principle of life so fundamental and so universal that it found its full and perfect expression in the death of Christ. And it remains true to this day, that the only way by which love can overcome sin is to suffer for it. There is nothing so antagonistic to mere worldly prudence as vicarious suffering. There is nothing more difficult than for good men to suffer for evil men, for the wise to suffer for the foolish, or for the happy to give themselves for the wretched. That this is the only way to conquest is seen in the self-offering of Him, Who for the joy that was set before Him, endured the cross, despising shame, and has sat down at the right hand of the throne of God.

The Romance of New Testament Scholarship.

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My subject is the Romance of New Testament Scholarship. Should the element of romance be lacking in its treatment, the fault is mine. Halting periods and lame imagination may conceal it, but the story is a truly romantic one.

As this learned audience is well aware, a common Greek language, common culture and easy intercommunication, all contributed to the formation and general acceptance of our cherished New Testament literature. Rome's tolerance of local customs and respect for religious observances afforded a favourable opportunity for these writings to take shape in a remote province of Palestine.

We shall have occasion to speak of the New Testament Canon. The word may require a little explanation lest some of us should be more familiar with canons of a clerical caste than with the technical use of the term in the present connection. There exists in Hebrew a noun “Kane” which meant originally a reed. In Greek “Kanon” is any straight stick, like a yard stick or a scale beam. Later the word came to signify a plumb-line, a level, a rule, anything which was a measure for other things. Then it was applied to a rule or order which told a man what was right or wrong. Christians, in turn, baptized this useful word into the church. Paul uses it. Clement of Rome, in a letter which passed between Rome and Corinth, uses it in a way which may not quite strike a responsive chord in some quarters, of “women who are under the canon of obedience”!! Without further enlarging upon the history of the word we may state that by the third century it had come to denote the rule of the church; the custom and general doctrine of the church. Presently the books of the Bible were described as “canonical”. The reason for this description was probably that they were felt to be fitted to serve as a measure for faith and conduct.

Now we possess very little information about the making of books at the beginning of the Christian era. Such bits as we have are picked up in the byways of ancient Greek literature, in chance scribblings on old bindings, on the fly leaves of old books, in all sorts of unexpected places. We safely infer that, for the ordinary citizen in the provinces, in small towns, in villages, it must have been very difficult to have books made. The Christians in particular were, for the most part, poor and unlettered. Trained scribes were probably not very keen to copy Christian books in a time when the Christian name was anything but an honourable one.

At the same time certain great centres became famous. Does the Emperor Constantine, now turned Christian, desire some special copies of the New Testament for private use, or for gifts to his court circle and friends,

he issues a command from his capital at the imperial city to Eusebius the great church historian resident at far-off Caesarea in Palestine. Here is a rare library; here are the finest known copies of the Scriptures. Here the mighty Origen once lived, taught and gathered about him disciples. Eusebius can command the services of the best scribes to write for his Emperor.

We know for a certainty that, at a later date, the copying of the books of the New Testament was mainly the work of monks. In many manuscripts it is recorded that the writer is just on the point of becoming a monk. So frequently is this fact mentioned as to suggest that the novice, as a part of his probation, undertook to copy certain books of the New Testament as proof both of his proficiency in letters and his devotion to the sacred volume.

Now the first Christians, doubtless, were not asearch for books. Why should they be so? Had they not among them apostles, or men who had seen and heard apostles? Were one to ask about their sacred writings they must have pointed to the Old Testament, with no thought that anything else might be required. Certain it is that neither Paul nor Peter carried about a New Testament. Had they done so it must have been on their backs and not in the girdle, for the rolls of that day were neither issued in "sleeve" nor "pocket" editions.

With the possible exception of the Epistle of James, some of Paul's letters were the first of our New Testament books to be written. The veteran missionary was not provided with a stenographer and typist. He employed an amanuensis, probably, because defective sight or some other disability made it difficult for him to write Greek rapidly. If he actually possessed the long beard with which Christian art has always adorned him, we can see Paul pace the floor, meantime stroking his beard as he dictates to Tertius. He only makes an exception in a delicate letter like that to the Galatians, too private to be composed by another.

Now suppose Paul wants to write a letter to Rome. You can easily picture Tertius slowly preparing pens, ink and paper. We are familiar with the process. Paul, with his impetuosity, is not easy to "take" and not disposed to be over-patient. The paper, or papyrus, as it is called, according to the description in Pliny's "Natural History", comes from a plant especially abundant in Egypt. It has a three-cornered pith stem. This stem is cut crosswise into lengths of fifteen or twenty centimetres, and then these, in turn, into thin flat strips like tape. Next these tape-like strips are laid vertically side by side till there are enough for a leaf of the required size. Other similar strips are laid across them horizontally. Between the two layers is a thin glue or paste. The large leaves thus made up are then hammered or smoothed with pumice stone. The result is a good writing surface, such as we found in birch bark, in school-boy days.

Paul's letter is not written at a sitting; he must return to his tent-making with his fellow-craftsmen, Aquilla and his spouse. But once completed, Phoebe carries the precious document to Rome. Look in upon the company of Christians there, on the first Lord's Day after the good deaconess arrives and you will see what kind of reception it evokes. It is

read throughout by an elder, or other leading man. They wish to know all that Paul has to say. Individuals, too, are eager to know who has been singled out for special greetings. The interest of the hearers is sustained to the very end. But what happens then? We are not, for the moment, interested to know whether the Romans will hear and heed the instruction of the great apostle. Our quest has to do with the papyrus roll; what becomes of it?

It is not a time of many books; there are no daily newspapers. These followers of "Christus" live in different quarters scattered throughout the city. It is neither easy nor safe for them to come together in a large company; they must meet in small groups; the mailed fist is ever before their eyes. Each time the letter is read, in whole or in part, it must be opened and then rolled up again. Curious fingers unroll it for no good reason at all. In spite of the injunction to be careful, the stiff dry, fibres, of which it is composed, are bound to suffer injury. In time it becomes almost illegible. But one day along comes a Christian from Ephesus, or Corinth, or Alexandria. He is bent upon securing a copy for his own circle. And so, for one reason or another the letter begins to be copied.

The probability is that the original letter may have been left to perish in some out-of-the-way corner, even before the writer's career came to its tragic close. On any reckoning some ten years must have elapsed between the writing of the letter and the martyr death at Rome. It may well be that, as they began to recover from the shock caused by the cruel extinction of the apostle whom they loved and leaned upon, the deserted band would cherish, as a priceless inheritance, the rich bequest which he had unwittingly made to them. Did they institute a search for that priceless original manuscript? I doubt it very much; relics were not treasured in their day. It is probable that the last vestige of the original writing had vanished within a hundred years or more.

Some fifty years ago a skilful rogue took a few leaves of a papyrus to England, where he sold them as a treasure to a wealthy merchant, for a handsome figure. The papyrus contained some genuine writings, of a late century, which had nothing whatever to do with New Testament times. Underneath these appeared to be other large, rather dim letters, said to contain passages from the original writings of Matthew, James and Jude. But expert investigation soon proved that these large letters were on top of the original writing and, in origin, several centuries later. Much as we should treasure them, should they exist, so far as we know, no original New Testament manuscripts have survived. Though even here one must speak with caution, in view of the astounding discoveries which are being reported almost daily in the press! It is of interest to note that more than once a project has been put forward to revive the manufacture of papyrus and use it for bank notes which would defy imitation. Exit the counterfeiters!!

The time must soon have come when Christians began to realize that the expected return of their Lord was to be delayed. The church was reaching out to new lands; it was necessary to give their writings more

enduring form. It was possible now, after the lapse of the initial period of spreading the faith, to use parchment—a material with which we are more familiar. The Greek name, pergamini, is derived from Pergamus, the name of the city where it is understood to have been invented. Parchment was made of sheepskin, or goatskin, stretched tight, dried, smoothed and rubbed with chalk.

Such were the first materials on which the New Testament books were written. No others existed. If a governor of that day posted up a notice from his yamen his scribe wrote it on a big piece of coarse papyrus. If a citizen wrote a note to his wife or mother, or a youth to his fiancée, he, doubtless, searched for a finer bit, but it was still papyrus. There are not a few of such fragments in existence today, saved as by mere accident, out of the dust and debris of ages. One such illustrates from real life, in the year I B.C., our Lord's inimitable parable of Luke 15. A prodigal son writes to his mother: "Antonius to Nilus his mother, many greetings—Continually do I pray that thou art in health; I make supplication of thee daily to the Lord Serapis. I was ashamed to come to Coranis (probably the name of his native village) because I walk about in rags. I write to thee that I am naked I beseech thee, mother, be reconciled to me . . . Furthermore I know what I have brought upon myself. I have been chastened every way. I know that I have sinned." and so it goes on. If this most human document had been preserved in a real literary work we should, long ere now, have had a whole bundle of literary monographs to prove that Luke's parable was derived from it.

Now what is the aim of the New Testament critic? It is here, as in all textual criticism, to ascertain, if possible, the text which really represents what the original author wrote; the practical problem which actually confronts the investigator is how to remove from a host of manuscripts of varying source and date, the corruptions which have crept into the text. The process, in brief, is usually described as follows:

(1) A study of each manuscript by itself, correcting obvious mistakes such as the unintentional repetition of a phrase, the confusion of words ending in a similar sound or syllable—known in technical terms as "Homoioteuton"—writing a word once only when it ought to be repeated, known as "Haplography", a tendency to replace other vowels by the vowel iota, or to write one vowel for another—known as "Itacism"—; any one of these mistakes might easily occur in the writing of a careless or drowsy scribe.

(2) A comparison of manuscripts to which this process has been applied—Common error implies common origin. Thus the process goes on until all known manuscripts are put into their respective groups, each with a presumably different archetype.

(3) The archetypes are then compared and a provisional text constructed out of them.

(4) Last of all follows what is known as conjunctural emendation—an attempt to explain or amend all the passages which still seem corrupt.

Of course intentional alterations will also occur. A scribe who is very familiar with any particular text may alter the one which he happens to be writing, in order to bring it into harmony with the one he knows best. This is specially apt to happen when, as is often the case, Latin and Greek texts are written in parallel columns, or in the great variety of polyglot editions. It might seem too, that doctrinal bias would tend to give rise to certain alterations. It is known, for instance, that about 140 A.D. Marcion edited a New Testament, to suit his own views. Orthodox and heretical scribes alike, must often have wished to make alterations in the text, at a critical passage. Fortunately the extreme vigilance with which each one of these parties favoured the other, prevented such alterations being made. As a matter of fact, the total number of variations of any vital significance in the New Testament, as compared with what are to be found in manuscripts of other great works, is exceedingly small.

Since the above process of textual criticism only came into vogue at a later period we shall first return to the history of the formation of the New Testament Canon. Here we shall deal with a few of the great figures who contributed toward this end. There were giants in those days. Their very names are imposing and sonorous: Clement, Ignatius, Polycarp, Hermas, Justyn, Papias, Irenaeus, Tatian, Dionysius, Theophylus, Origen, Tertullian, Eusebius, Athanasius, and a host besides.

From these I select first the heretic Marcion, not because of special interest in his peculiar views, the limitations of which are sufficiently evident, but because he may fairly be estimated as the most active and most influential man bearing the Christian name, between Paul and the great Church Father, Origen. A further interest attaches to Marcion as the first Church Reformer.

He was born in Sinope, Asia Minor. He is said to have quarrelled with his father, a wealthy ship-owner. At all events he left the parental roof and arrived in Rome about 139 A.D. Here he attached himself to a group of Christians, at the same time making them a handsome gift of about ten thousand dollars gold. He was evidently a man of vigorous independence and accustomed to think for himself. Particularly through contact with Gnosticism, the "Tao-yuan" of his day, he became convinced that Christianity was too much under the influence of legalism. This he conceived to be due to excessive regard for the Old Testament. Whereupon the church, about 147 A.D. excommunicated him. Nothing is said about what they did with his generous money contribution! Marcion straightway set about gathering his followers into a church of his own. He must have a New Testament. So he proceed to make one by a selection from the gospels and epistles—a sort of "Shorter New Testament". He included the letters of Paul, with the exception of the Pastorals, and the Gospel of Luke; but the latter was shorn of all passages which implied that Christ regarded the God of the Old Testament as His Father, or in any way related to Him. This movement constituted a real danger to the young church. It would have completely severed Christianity from its historical background. That its influence persisted is shown by the fact that churches of this sect were found in Syria as late as the fifth century.

What specially interests us is that here, for the first time, we find a selection of books made for inclusion in a clear-cut canon. This is our first known New Testament. The principle of selection turns upon the opinions of one man, and his judgment is clearly open to question. But the whole movement bears testimony to the mass of New Testament literature in existence. It also serves to show how tenaciously the Christians clung to the particular books which they had already begun to regard with special favour. A movement so well led and so stormy, yet succeeded in making no lasting impression upon the general contents of the New Testament. Moreover, it demonstrates with the utmost clarity that up to that time no canon had been decided upon by the church in general.

From the time of Marcion onwards, as the voluminous writings of the church fathers show, the bounds of the New Testament were in a constant state of fluctuation. Now it expands to include a favourite Gospel like the so-called "Gospel to the Hebrews," or a strange book packed with visions and parables attributed to the Shepherd of Hermas. Now it contracts and excludes our Epistle to the Hebrews, or the book of Revelation. Again it changes, and 2nd and 3rd John, 2nd Peter, James, and Jude are all relegated to the borderland of disputed books. Of course all our information as to the movement toward definition of the content of the New Testament literature must be obtained from chance remarks, from quotations, from letters, from references in treatises by the great church fathers.

But such material is abundant. What is very evident is that throughout the first two centuries of the Christian era and more, no one could point to a fixed collection of books and say, "This is the New Testament." Justyn may have possessed a New Testament; Irenaeus had one, but it was different. The church in North Africa had a collection; the church at Rome had another and slightly different one. We vex ourselves over differences of interpretation of this passage or that. What must have been the state of affairs when not even the limits of the documents upon which the church was to base its doctrine had been determined? But the New Testament survived and was handed on as a priceless treasure to future generations. The lesson "he who runs may read."

We turn now to one of the shining lights of the early church. Origen was born of Christian parents, probably in Alexandria, that world centre of new thought and sound learning, from which the church received an influence almost beyond our power to estimate. He must have begun very early the study of philosophy. He was a youth of intense feeling and eager mental curiosity, as remarkable for early precocity as for later ripeness of scholarship. In 202 A.D. persecution cost his father his life; the lad only escaped the same fate through some clever strategy on the part of his mother. At a very early age he reconstituted what is known as the "Catechetical" school. Such was his success and popularity that a jealous bishop, Demetrius, took steps to have him banished. Origen went to Caesarea, where he found a congenial home and once more assembled a company of disciples about him. He studied, taught, preached, but was soon caught in the great Decian persecution of 250 A.D., was imprisoned, tortured and finally died as a result of the

sufferings which he had undergone. No man of purer spirit and nobler aims adorns the history of the early church.

Let us catch a glimpse, if we can, of this great man at his work. We shall see how he dealt with students of theology in his day. Fortunately we are able to see him in the most vivid way, not as ecclesiastics pictured him but as his own students thought of him. For there is still extant a valedictory address delivered by a member of the graduating class of 233 A.D., or thereabouts. This whole human document is full of interest. It shows how the call of the law school at Beirut, or the rival school of theology in Alexandria was in the ears of his students, and how Origen went steadily forward meeting these counter-attractions by the charm and vigour of his own personality and the wealth of his scholarship. But now let us hear Gregory, the young valedictorian. As the manner of such is, he feels it incumbent upon him to make reference to the head of the school . . . "Origen," says Gregory, "took us in hand as a skilled husbandman may take some field unwrought . . . He put us to the question, and made propositions to us, and listened to us in our replies . . . He set about clearing the soil, and turning it up, and irrigating it, and putting all things in movement"—a good way to begin with a new class, is it not? "And thorns and thistles, and every kind of wild herb or plant in our mind he cut out and thoroughly removed by the process of refutation and prohibition, sometimes assailing us in the genuine Socratic fashion, and again upsetting us, . . . until by a kind of persuasiveness and constraint he reduced us to a state of quietude under him, by his discourse, which acted like a bridle in our mouth. And that was, at first, an unpleasant position for us, and not without pain . . . and yet he purged us. And when he had made us adaptable, he dealt liberally with us and sowed good seed in season." The process was painful, but the aim to cultivate sound capacity to judge truth and no mere flippant versatility is evident.

Then listen to Gregory's recital of the great master's parting injunctions to graduates. "He deemed it right for us to study philosophy in such wise, that we should read with the utmost diligence all that has been written, both by the philosophers and by the poets of old . . . He thought that we should obtain and make ourselves familiar with all other writings, neither preferring nor repudiating any one kind, whether it be philosophical discourse or not, whether Greek or foreign, but hearing what all men have to convey. And it was with great wisdom and sagacity," says Gregory, "that he acted on this principle, lest any single saying given by the one class or the other, should be heard and valued above others as alone true, even though it might not be true, and lest it might thus enter into our mind and deceive us" . . . "To us there was no forbidden subject of speech; for there was no matter of knowledge hidden or inaccessible to us, but we had it in our power to learn every kind of discourse, both foreign and Greek, both spiritual and political, both divine and human. And we were permitted with all freedom to go round the whole circle of knowledge and investigate it, and satisfy ourselves with all kinds of doctrine, and enjoy the sweets of intellect . . . In brief he was truly a paradise to us, after the similitude of the paradise of God." And then he describes the leave-taking: "We have also needs of truth which thou hast made us know as our possession, and all that we have received from

thee—those noble deposits of instruction with which we take our course; and though we weep, indeed, as those who go forth from home, we yet carry those seeds with us” Happy the college, in our day or any other, whose valedictorian can speak with truth of its professors in terms like these.

As is abundantly clear, Origen was a man of many-sided scholarship, but the field to which he devoted special attention was that of textual criticism and exegesis. Among his productions was the monumental “Hexapla,” giving the Hebrew and four parallel Greek translations of the Old Testament, and a long series of commentaries and briefer notes treating nearly the whole range of Scripture. His “Contra Celsum,” in reply to the ablest criticism of Christianity which heathenism had produced, that of the Platonist Celsus, was the keenest and most convincing defence of the Christian faith that the ancient world brought forth. Origen it was who carried forward the process of making the New Testament by a great step. His writings furnish testimony for the authenticity of Jude, Hebrews and Revelation, and a somewhat more wavering witness for James, Second Peter and Third John.

Among those whose influence in the church, during the early centuries, was most marked we must also place Athanasius, the greatest representative of the Egyptian branch. Most of us are at least acquainted with him in the proverb “Athanasius contra mundum,” if in no other way. Friends and foes alike have described him with minute detail. In stature he was little more than a dwarf, but of angelic beauty in face and expression. A quaint story is told of his boyhood. One day the good bishop of Alexandria, as he sat at his window looking over the seashore, was attracted by the play of a group of children on the sands. He at once sent a member of the clergy to investigate. Caught red-handed the children at first denied that they were playing at some religious ceremony; but later they confessed that certain of their number had been duly immersed, a boy, Athanasius, acting as bishop. So impressed was the superstitious bishop that he declared the ceremony valid. From that day forth he took the embryo successor in office under his special care.

In relation to our present quest Athanasius specially interests us because, as bishop, he regularly sent out a pastoral letter to his flock at Easter. In his letter of 367 A.D. he gives a list of the books of the Bible. He writes thus “Some have turned their hand to draw up for themselves the so-called ‘Apocrypha’ and to mingle these with the inspired writ It seemed good also to me . . . to set forth in order, from the first, the books that are canonized” He enumerates all the books of our New Testament, and proceeds: “These are the wells of salvation, so that he who thirsts may be satisfied with the sayings in these. In these alone is the teaching of godliness heralded. There are also other books beside these, not canonized but set by the Fathers to be read”. Here the New Testament books are all placed on the same level and all others outside.

So the process went on until the day of Jerome and the great Augustine who was born in 354 A.D. How one is tempted to linger by the way. What a story is that of Augustine who, after a wild youth and a half heathen early manhood, was baptized at Milan in 387 and became bishop of Hippo. Read

his “Confessions”, if you wish to know the man. That document has taken a first place in the world’s literature of devotion, because it touches both the heights and the depths of a true religious experience. Sensitive as he was to the intellectual influences of his time, Augustine yet set before him as the one aim in life, the knowledge of God. It would scarcely be possible to over-estimate the influence of that royal soul upon religious thought during the centuries which have intervened between him and us.

In his list of books Augustine includes all the writings of our New Testament. He puts James at the end of the Catholic Epistles, thus giving first place to Peter. It may have been this fact, as well as the character of its contents, which centuries later led Martin Luther to describe the Epistle of James as “an epistle of straw”. Erasmus, Luther, Calvin and many more besides, have freely expressed their opinions about the relative value of different New Testament writings. But to all intents and purposes the New Testament canon was closed with Jerome and Augustine. It is to be noted, however, that Augustine speaks of some of the books in question as “to be held to be of equal authority” with those which had been more readily recognized. He has no thought of a canon, in the technical sense of the term. Thus by turning back the pages of history we see that God has watched over the truth that the early Christians passed on to us through many vicissitudes. The New Testament is not a ready-made document but a great deposit of truth. It is ours, in turn, to take the truth, live the truth, and pass on the truth. Subsidiary questions will find their answers.

The Roman Catholic Church finally fixed the canon by the action of the Council of Trent in 1546, making the Old Testament, Apocrypha, and the New Testament all a matter of faith. An authentic text was also determined by that Council.

We have already spoken of the method of Textual Criticism. The material upon which scholars set to work consists of a mass of Greek Manuscripts, Versions, Lectionaries or Service Books, and Patristic Writings. Greek manuscripts are of two classes, large letter or Uncials, and running hand or Minuscules. Of the large letter type there are some seventy two known manuscripts, more or less complete, and of versions, Latin, Syriac, Egyptian a great abundance. On these the investigator must set to work. But before we begin to describe what scholars of more recent date have accomplished in this field, we must pay a passing tribute to a pioneer, Erasmus, the great figure of the Renaissance. Of him one writer has said: “Whoever has looked upon the portrait of Erasmus—that portrait which he himself was so reluctant to sit for—must have wished to acquaint himself with the soul that dwelt behind those brightly intelligent but melancholy and sceptical eyes. Whoever has considered that large eloquent mouth, whose proportions are preserved by the finely-cut curve which denotes scholarly taste, and whose massiveness is relieved by the humorous ironical smile which plays about the upturned corners of the lips, must have said to himself: There is a man who has known and thought much, but who has strength enough to be free and airy in his movements, with all his burden of knowledge—a man who must have been the best of company while living, and who must have dropped from these lips pregnant sayings which cannot die”. And the tribute is deserved;

his is verily one of the great faces of all history. At the same time the facts of the life of this vagabond scholar show it to have been one of the most significant ever lived. Erasmus, in the midst of the fiercest strife over all Europe, was wooed by both parties as essential to their success but persistently refused to ally himself with either. A man whose output in writing is something stupendous, who was the radiant luminary of the intellectual life of a continent, who led the way to a fresh study of the early Greek and Latin writings, the results of which are evident in the whole world of Christian thought today, this man deserves our attention. Moreover his genial humour, pungent wit and lively learning are still a delight to all who read him. How one is tempted to spend time over this rare genius.

The visits of Erasmus to England, his friendship with More and Colet, his letters full of what he found there—from these I permit myself only a few lines. Here is some advice to a student, half serious, half comic: "Listen to your lecturer; commit what he tells you to memory; write it down if you will, but recollect it and make it your own. Never work at night; it dulls the brain and hurts the health. Remember above all things that nothing passes away so rapidly as youth". Here is his tilt at the theologians. "I used to think that the story of Epimenides was a fable. I know better now. Epimenides lived to an extreme old age. His skin, when he died, was found inscribed with curious characters. It is said to be preserved in Paris in the Sorbonne, that sacred shrine of Scotist divinity, and to be as great a treasure there as the Sybil's book at Rome. Epimenides was a Scotist theologian he composed mysteries which, as he was not a prophet, he could not himself understand. The Sorbonne doctors consult the skin when their syllogisms fail them. No one, however, may venture to look in till he is a master of fifteen years standing; if younger men try they become blind as moles".

Erasmus began to print his edition of the Greek New Testament in 1515; it was finished by the 1st of March 1516—he, meantime, residing at Louvain. It was not surprising that an edition turned out so hastily should have been very imperfect. He himself praised it in a letter to the pope, but elsewhere he conceded that "it was done headlong rather than edited." It is said that of Revelation he had but one mutilated manuscript. He supplied what was lacking by translation from the Vulgate, which in turn was anything but perfect as a text. It remains true, however, that by his boundless efforts Erasmus was, to use his own words, "gathering much fruit by the way for the time to come" which has been of inestimable value in sacred studies. This he gathered from the garden of the Greeks.

Of the many great Greek letter manuscripts we can only deal briefly with the one which is usually placed first in the list. Its history is associated with the well-known German scholar Tischendorf. In the year 1844, Tischendorf, who was then a young privat-dozent in the University of Leipzig, visited the monastery of St. Catherine at Mount Sinai. While there he found in a waste-paper basket, of all places, forty-three leaves of an old manuscript. He saw others which the monks, suddenly awakened to their value, refused to allow him to carry off. But Tischendorf succeeded in copying one of them. These treasures he brought to Leipzig. They proved to contain portions of the Old Testament. Nine years later he returned

once more to Mount Sinai, but only found a fragment of Genesis. He supposed that during the interval someone else had carried off the remainder. But no evidence of such a course of events having come to light, off went the enthusiast again in 1859 to continue the search.

Arrived at Sinai he spends some days, finding nothing. His camel train is already ordered; he plans to leave empty-handed. On the eve of departure he visits the room of the chief steward to bid him goodbye. While they chat together the steward reaches up to a shelf above his head and removes a bundle of old leaves. The practised eye of the scholar, now grown rich in experience of manuscripts, sees at once the nature of these leaves. Yes, it is what he has been seeking all these years. He is permitted to take the find to his room. To his intense joy it contains the whole of the New Testament, much of the Old Testament, the letter of Barnabas, which up to this time is not known in Greek, and the Shepherd of Hermas. The delights of discovery are upon him; he spends the whole night writing feverishly to copy the Epistle of Barnabas, not knowing whether he should ever again see the manuscript after the next morning. In the morning he endeavours to get possession of the collection. The monks vote upon the question; but there is a majority of one against him.

In despair Tischendorf withdrew to Cairo, where, from the vantage ground of a sister monastery, he carried on protracted but ultimately successful negotiations for the manuscripts, which he bore home to Europe in triumph in September, 1859. The manuscript finally found a resting place in the Imperial Library at St. Petersburg. The very latest news about this precious manuscript is that it has come safely through the recent troublous times in Russia, and is in good condition, in spite of Communists, Bolsheviks, Reds and what not.

The New Testament, Barnabas and Hermas fill 147½ leaves of this manuscript. It is known in the field of New Testament scholarship as the Codex Sinaiticus and designated by the symbol Aleph, the first letter of the Hebrew alphabet. Four different scribes have been employed upon it. The date to which the original belongs cannot be definitely fixed, but it is probably about 331 A.D., hence it constitutes one of our very earliest documents. It was edited with extraordinary accuracy by Tischendorf and has since been available for the use of New Testament scholars.

Before Tischendorf came Tregelles, Bentley, and Bengel, the saintly scholar, whose commentaries are still a living contribution to New Testament learning. After him by far the most outstanding men are Westcott and Hort, whose Greek New Testament most of us have handled and perused. This great work, published in 1881, represents twenty-eight years of joint labour. It is the glory of Cambridge, where they resided, and of English scholarship in general. Together with their book on the canon of the New Testament it will long remain a standard. A later edition of the New Testament in Greek was issued in 1897, the work of Nestle of Maulbronn. In pre-war days it was understood that Von Soden of Berlin had a further edition in view.

If time permitted we should like to dwell upon a few of the results of this kind of critical study. It has frequently been supposed that textual critics endangered and damaged the text. Their collection of variant readings has been looked upon as a sign of the disintegration of the text in their hands.

But those who entertain such fears forget that the scholars do not invent the various readings. They only take the trouble to compare texts and to appraise the value of the testimony to various readings. The only alternative would be to live in blissful ignorance of what are right or wrong readings—in other words to take less interest in the reliability of the texts of our Christian documents than do Shakespearian scholars in the writings of their master. The science of true textual criticism is not the enemy but the handmaid of a genuine Christian learning.

It only remains to mention a young American scholar, Caspar Rene Gregory, born in Philadelphia and trained in Princeton. Gregory arrived at Leipzig in 1873 and never left it again. He became associated with Tischendorf, laboured with him for a time, and subsequently became his literary heir. This young enthusiast soon knew more about manuscripts than any other living man. He travelled incessantly to such centres as Paris, Oxford, Cambridge, where manuscripts were to be found; he went in quest of these treasures to Mount Sinai. His magnum opus was to have been an international edition of the New Testament, in which he sought the cooperation of no fewer than four hundred scholars. Alas, this has now to be numbered among the many enterprises of scholarship which have been frustrated by the great war.

So thoroughly German did he become that, though he spoke an American blend of German, Gregory refused to speak English. He captivated German students by his remarkable personality and his democratic views. It was easy for one who had first breathed the free air of America to be at home with the progressive party in German politics. Inside organised Christianity, too, he went far in urging the church to meet Socialists half way. When war broke out in 1914, as Gregory was long past the age for military service, it might have been expected that he would have no part in the struggle. But a volunteer of sixty-seven years who could express in vigorous language his own attitude toward the enemy, must be reckoned as an asset. He did issue a declaration of war which singled out Britain for special attack. He was soon found in the ranks as a private and rose to be an officer. He was at Neufchapel when fighting was at the hottest. Here, on the 9th of April, 1917, a shell burst through the wall which separated his sleeping quarters from the place where his batman lay; a splinter entering Gregory's side caused his death the same day.

It is to be noted that America entered the war on the 6th of April, three days earlier. A son and daughter of Gregory were in America at the time; he had nephews in the American army. It was already certain that some of his own kith and kin would be crossing the Atlantic to fight against the land of his adoption. The tragedy of it. He must have known that America had declared war. But let us remember him, not for these last days, but for his incessant labours and sacrifices as a scholar, in seeking to clear the sacred text of the accumulated variations of the centuries.

We believe that these men who wrought so diligently upon the Word of God through all the years were animated by genuine love of truth. May we humbly and reverently follow in their footsteps, confident that ever and anon new light will break forth from the sacred page, for those who have eyes to see it. "So ends this strange, eventful history."

PRACTICAL DIETETICS* OR WHAT TO EAT IN 1924

BY

Wm. H. Adolph, PH. D.

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One cannot but tremble who finds himself faced by the culinary representatives of so many Tsinan households. Do not raise your hopes by believing that the speaker is prepared in fifty or sixty minutes to solve all the dietetic difficulties of the Chinese cook. Instead, I ask that we just allow ourselves in a conversational way to ramble around over the food question, and to touch upon some of the recent discoveries and the new points of interest.

Sir William Ostler says, "Ninety per cent. of all conditions other than acute infections and contagious diseases are traceable to diet." And another authority remarks, "Malnutrition is wider in incidence and more devastating in issue to a community than food-borne disease." This is our text! Just as preventive medicine rises in importance, just so rapidly does the science of correct eating and correct foods demand a hearing.

First, let us review the composition of some of our important foodstuffs (Figures I. and II.) Remember that we still express the composition of foods in terms of five constituents: protein, fat, carbohydrate, water, and ash. Food chemistry has not yet seen fit to change this method of calculating the actual contents of a foodstuff. Unfortunately, the analytical data here presented is mainly for foreign foodstuffs, because that has been subject to more thorough chemical study. Corresponding data on the foodstuffs of China is being gradually accumulated. Our own Laboratory of Chemistry has set itself the task of carrying out an analytical study of a large number of these foods peculiar to China, and it is possible to report that substantial progress is being made.

Figure III. expresses the composition of the human body in terms of these same five units. Naturally we ask ourselves,—is this then the ratio in which we should consume these five classes of food materials? The reply is: this method of reasoning would do us just about as much good as examining the chemical composition of an automobile, and from that deciding what kind of fuel was needed to make it go, and no more!

Our conception of how the body acts in relation to food has changed somewhat. We used to think of the body as a steam engine which consumes so much fuel and produces a proportionate amount of work. This analogy is being replaced by the more accurate figure of the body as a gas engine. The fuel—fats, carbohydrates, proteins—is not burned under the boiler, but, like the gasolene in the gas engine, is converted through a chemical reaction into energy, heat being a by-product. The proteins and ash constituents are lubricants, and the vitamins, newly discovered, would seem to act like the

*Reprinted from The China Journal of Science and Arts, the diagrams being supplied from blocks kindly lent by that journal.

ignition spark, which latter makes possible the actual running of the engine. It is the use of this analogy that has enabled certain advertisers to term yeast the new "spark plug food."

FIGURE I.
Chemical Composition of Common Foodstuffs

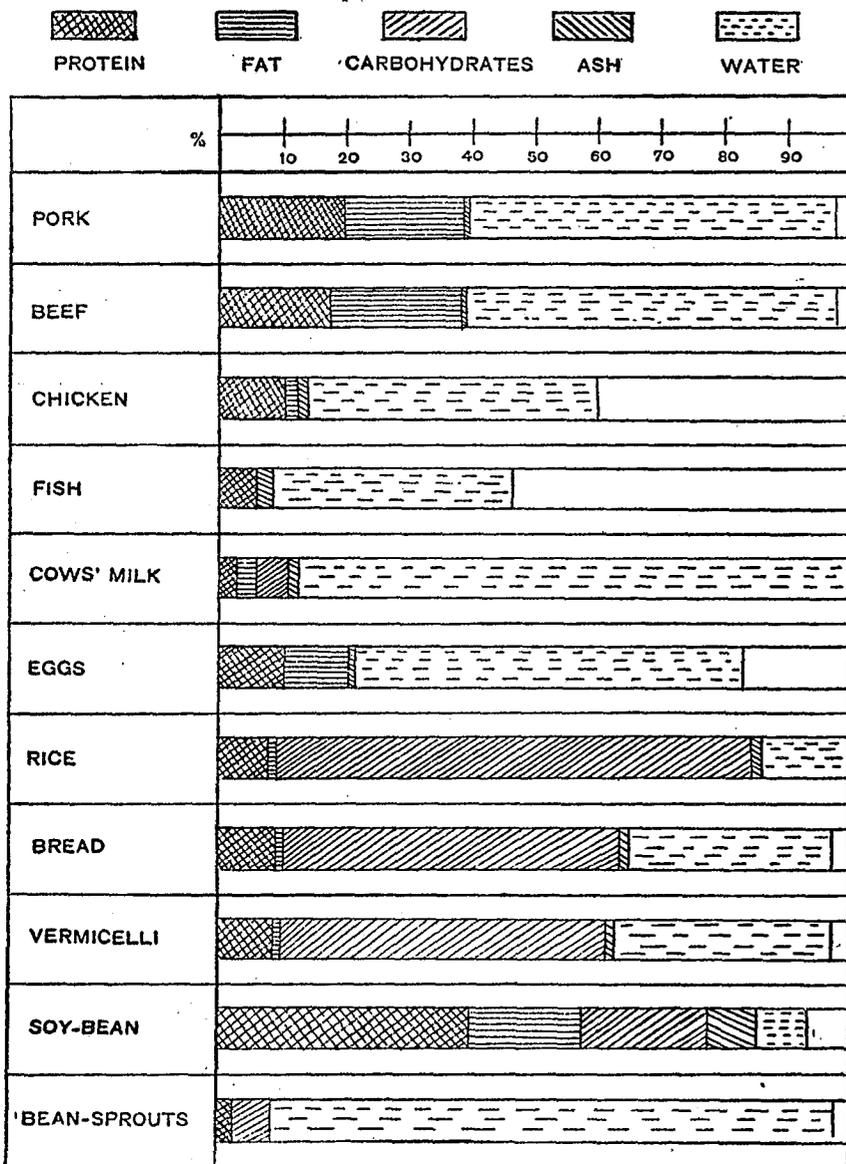


FIGURE II.

Chemical Composition of Common Foodstuffs

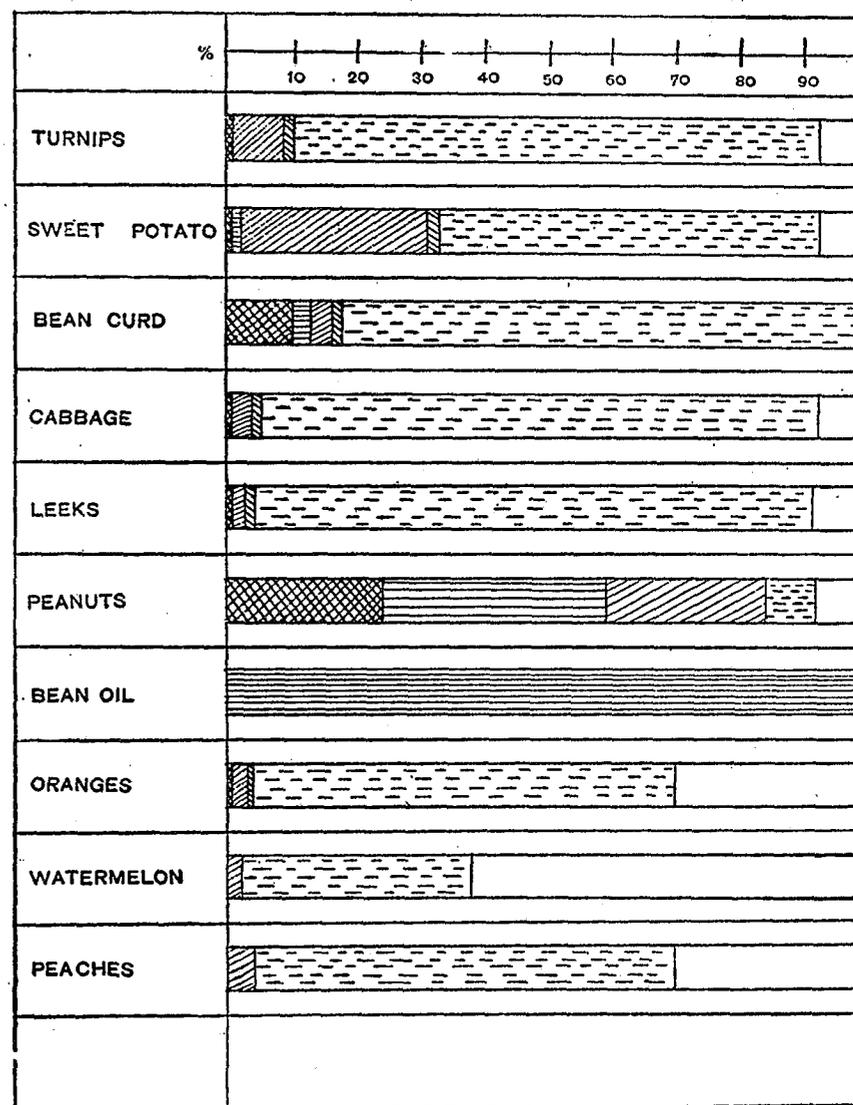
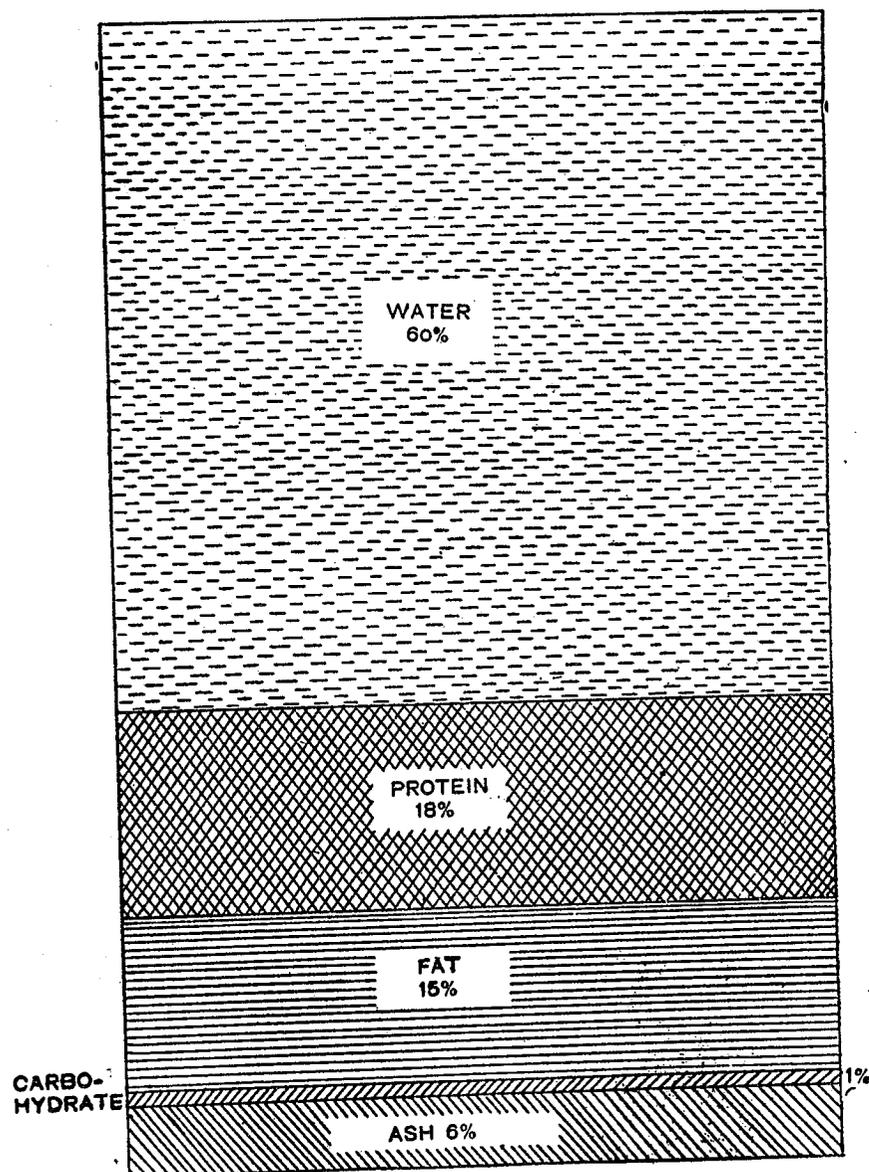


FIGURE III.

Chemical Composition of the Human Body



In touching upon the recent advances in food chemistry, we shall confine attention to two topics: (1) proteins, and (2) vitamins.

PROTEINS.—The chemist of a few decades ago used to think that protein was protein. We now know that it is not! To be more exact, it is now known that there are very many kinds of protein; and these many varieties are distinguished chemically by the fact that they seem to consist of and be built up from about seventeen different chemical units. These unit constituents (Table I.) are called in chemistry "amino-acids," and are referred to here as the protein building stones. Now, a protein would be regarded as a complete protein which contains all of these seventeen units, at least all of the important ones, and enough of each one. Casein and ovalbumin, the important proteins of milk and eggs, are of this description, and these are both animal foods. Unfortunately, the vegetable proteins do not seem to compare so favourably with those from animal sources.

Table I.
PROTEIN
"BUILDING STONES"
AMINO ACIDS

	Ovalbumin (Egg)	Casein (Milk)	Zein (Corn)	Gliadin (Wheat)	Glycinin (Soy-Bean)
Glycin	0	0	0	0	
Alanin	2.2	1.5	9.8	2.0	
Valin	2.5	7.2	1.9	3.3	
Leucin	10.7	10.5	19.5	6.6	
Prolin	3.6	6.7	9.0	13.2	
Aspartic acid	2.2	1.4	1.7	0.6	
Glutamic acid	9.1	15.6	26.2	43.7	
Phenylalanin	5.1	3.2	6.6	2.3	
Tyrosin	1.8	6.5	3.5	1.2	
Serin	?	0.5	1.0	0.1	
Oxyprolin	—	0.2	—	—	
Histidin	1.7	2.5	0.8	0.6	1.4
Arginin	4.0	4.8	1.6	3.2	8.1
Lysin	3.8	7.6	0	0.2	9.1
Tryptophan	present	1.5	0	present	1.1
Cystin	?	0.1	—	0.5	1.2
Ammonia	1.3	1.6	3.6	5.2	2.3

Wheat, in the first place, we of the Occident have been in the habit of regarding as one of the most important protein foods, and rightly. Incidentally, it is to be noted from Figure I. that wheat is rich in carbohydrate and protein, but somewhat lacking in fats. Therefore, we have fallen into the habit of eating our bread with butter—an excellent habit. But the important point which we are asked to grasp from this chart of the protein building

stones is that wheat has its shortcomings. We note that gliadin, the important protein of wheat, is weak in certain of the amino acid units. It is to be noted at the same time that the soy-bean, the amino-acid analysis of which has so far been only partly completed, is well fortified in those units in which the wheat is weak. This is the scientific basis for the new soy-bean bread, which consists of 75 per cent. wheat flour and 25 per cent. soy-bean flour. And this was the composition of the French war bread used by the allied armies during the Great War. There is every reason to believe that this kind of mixed bread is a more complete food than bread made from pure wheat flour. China and the Orient is the portion of the globe where the soy-bean and soy-bean flour are familiar food materials. We have had occasion to show many times that *mo-mo* made from such a mixed flour make an entirely acceptable product. Another glance at this amino-acid table will convince us of the logic that suggested the addition of milk in bread making. Milk contains a more complete protein than does the wheat alone. The character of the protein we are eating, particularly if our diet is a monotonous one, is a question which is worthy of more attention.

In the second place, we are barbarians in the way we mill our wheat and prepare it for sale on the modern market. China is fast becoming the victim of the bolted flour which we of the Occident have invented.

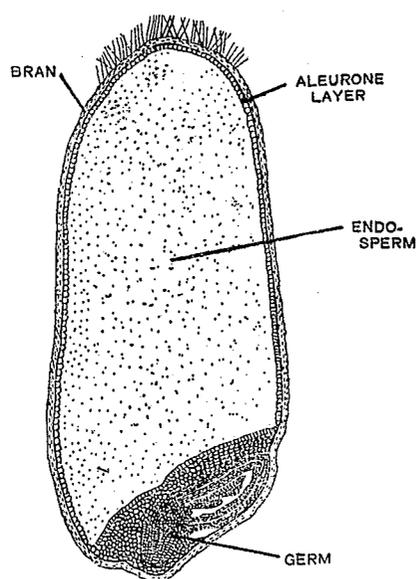


FIGURE IV. Grain of wheat (Longitudinal Section)

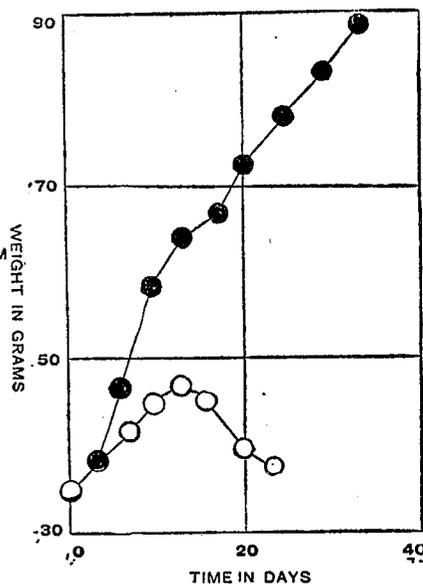


FIGURE V. Growth curves of white rats with and without vitamins: upper curve with vitamins; lower curve without.

Figure IV shows a grain of wheat in cross section. The outer layer is that which is removed by the modern milling methods, and is then called bran. Now this layer is richly equipped in a variety of these precious proteins, but of course we remove it first because it would spoil the whiteness of our flour which we like to think should be snow white. In addition to this, the vitamins have been removed with the outer layer, and we suffer from their absence. Malnutrition of children is being traced in an alarming manner to the advent of bolted flour. Tribes of Eskimo and other peoples who maintained a healthy existence on a variety of natural foodstuffs, show declining physiques as soon as they are drawn within the pale of our modern civilization with its artificial flour and mill-made diets.

Are we going to let the same thing happen in China, and are we going to use bolted flour simply because it looks whiter? There is a big opportunity for us to use whole wheat flour on our own tables, and to recommend strongly its use among our students and associates. Our cooks, of course, will be staggered as we insist on *black flour*, which is the common term on the street for whole wheat flour, but it is worth while. Our *mo-mo* should likewise be made of this whole wheat flour.

Vitamines.—What are vitamins? We do not know! They were "discovered" about ten years ago. They were discovered by observing the difference in nutritive value between a "purified" foodstuff and a natural foodstuff. In other words, at the present day in nutrition studies a certain food which produces perfect growth is declared to contain these hypothetical vitamins. A corresponding food that does not produce these fortunate results will be said to lack these vitamins. This is the experimental method par excellence. There are many difficulties in the method, but the general character of the results obtained is indicated in the curves shown in Figure V.

There are in general three diseases, so-called "deficiency diseases," which are due to a lack of vitamins, and since it is simplest to suppose that each of these diseases is due to a different variety of vitamin, we speak of vitamins A, B and C. Vitamin A is the vitamin that is found in cream or butter fat. Vitamin B occurs in vegetables, and in the outer shells of seeds. Vitamin C is found in fruits and green vegetables. Whatever the vitamins are, their importance cannot be doubted. Other food factors being equal, the vitamins represent the difference between a food which nourishes the body, and one which does not nourish it. Table II. indicates the distribution of the three vitamins in a number of the more common foods.

No one knows what a vitamin is. In lengthy attempts to isolate a vitamin, the vitamin often has an exasperating way of disappearing altogether. It is simplest to assert that there is at present no pure vitamin in captivity. Whatever it is, it occurs in foodstuffs in only minute quantities. It has been estimated that one pound of dried yeast, which is a substance rather rich in vitamin, contains no more than a milligram of the active vitamin.

Table II.

VITAMINES IN COMMON FOODSTUFFS

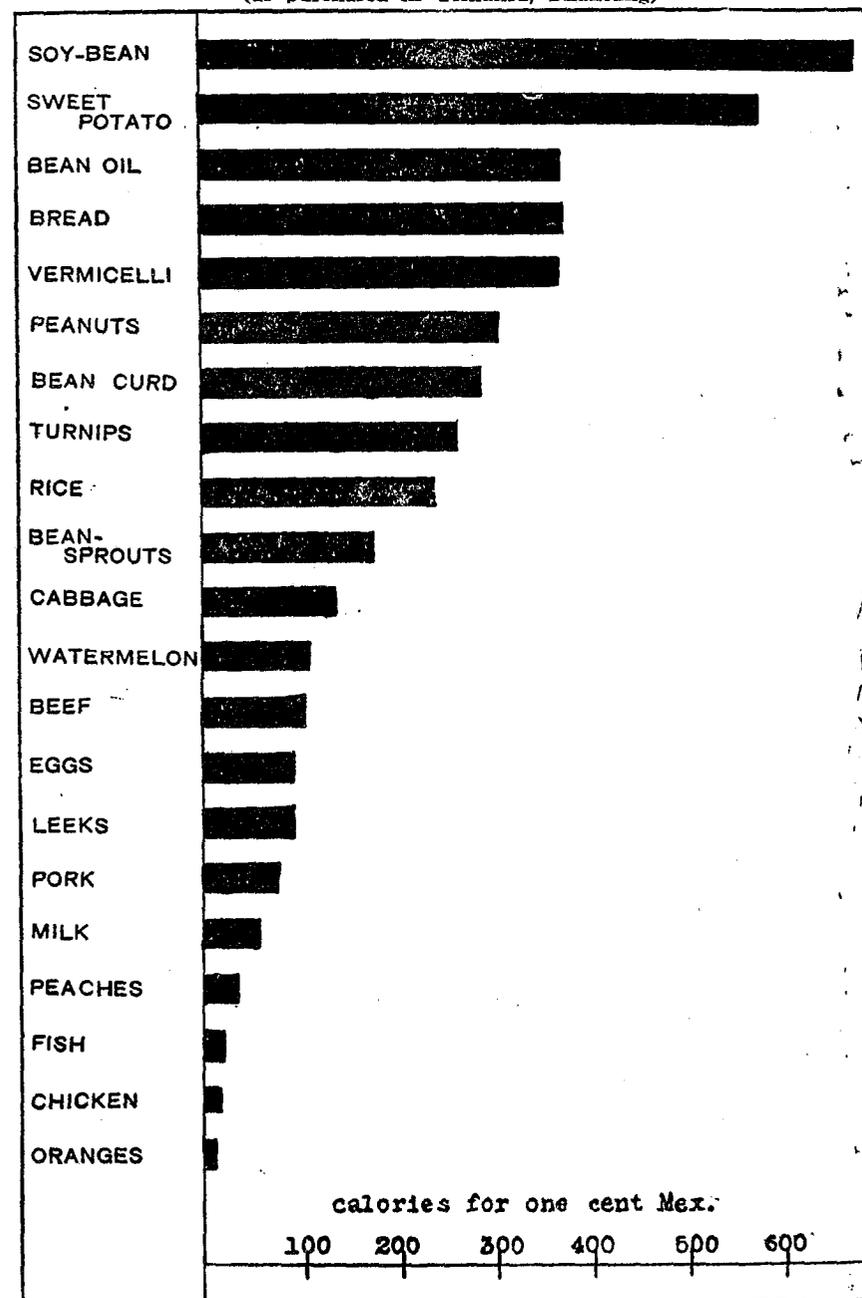
	Vitamine A	Vitamine B	Vitamine C
Cabbage	***	***	****
Celery	?	***	?
Lettuce	**	**	****
Spinach	***	***	***
Potatoes	0	***	**
Sweet Potatoes	***	**	?
Bread (white flour)	0	*	0
Bread (whole meal)	*	***	0
Kaoliang	*	**	0
Mung Beans	*	*	0
Rice (polished)	0	0	0
Rice (whole grain)	*	***	0
Soy-Beans	*	***	0
Soy-Bean Sprouts	*	**	**
Wheat	*	*	0
Butter	****	0	0
Milk	***	***	**
Eggs	****	**	0
Oranges	0	***	****
Persimmons	0	0	**
Yeast Extract	0	***	0

Vitamines are strangely sensitive to certain factors. Because of the destructive action of heat, it is advised that we use care in the cooking of foods. Milk should be boiled not too long. Do not indulge in prolonged heating, or heating in such a way that the milk or other material which is being cooked is exposed to the air or to oxygen at a high temperature for too long a time. Vegetables should be cooked enough to soften them only. Some of the brands of milk powder and some varieties of canned goods are prepared in a way which tends to destroy the vitamins. These manufactured foodstuffs still require much chemical study before we can assert that they are as satisfactory nutrients as fresh foods.

The vitamine chemists give us the following advice:—Each adult per day should consume a half pound of greens and raw vegetables, with the juice of a medium sized orange, and should add to this a quart of milk. These items, experience shows, will furnish sufficient of each of the vitamins, or an ample A-B-C three-cornered diet.

The rage for vitamins is used by the proprietary medicine manufacturers to thrust a whole host of new fangled products on to the market. "Vitamon," "Vitafood" are some of them. A few tablets of either of these is guaranteed to bridge over all short-comings in the diet which might be due to a lack of vitamins.

FIGURE VI.
Fuel Values of Common Foodstuffs
(as purchased in Tsinanfu, Shantung)



Food Economics.—The larger questions of food production and supply that have come to the front during the war have their counterpart in every home. Do we spend our money wisely? Figure VI. gives an idea of food values in calories per one cent Mex. as purchased in Tsinan. "Counting calories" has its shortcomings, and there are a number of important qualitative factors which it does not include. It remains, however, the most important unit at our command in food science.

What we need in food is *energy!* So that in addition to these various other essentials such as vitamins, we must consider how we can get in the simplest way, and in the most economical way, this fuel and energy that we need. Professor Soddy, in his book "Science and Life," makes the brave prophecy that in future we will not need to consume laboriously so much food each day, but that we will be able to replenish our bodily energy in the same way that a storage battery is recharged by taking hold of the poles of a battery for a few minutes. Some of us may be glad that this invention will not come in our day.

Now, what shall we eat in 1924? It is evident in the first place that the *kind* of food is important, perhaps more important than the *quantity*. If we need more actual experiment, it is in accumulating information on the physiological behaviour of feeding stuffs rather than in attempts to devise new mathematical expressions for feeding standards and calorie counting.

There may or may not be such things as vitamins. However, the proposal that there are vitamins has caused a host of profitable experiments—feeding experiments with animals which have proved that certain natural products have superior properties as nutrients.

The newer knowledge of nutrition therefore teaches us: *milk, fruit, vegetables*—these three are especially rich in vitamins and calcium. The war taught us to use less meat, and less sugar, and at the same time *more milk, more fruit, more vegetables*. Each generation has theorized on foods and finally come back to the declaration that milk is the most complete of the foodstuffs. The astounding fact, of course, is that China, at present, amounts to nothing as a dairy country!

A simple way of expressing the new findings of nutrition is:—(1) a salad dish containing raw vegetables twice a day, (2) greens such as spinach, cabbage, etc., once a day, (3) a quart of milk per day. "A quart of milk a day" (or children, a pint of milk per day) has become a by-word. Lusk's sane advice to the housewife is "buy three quarts of milk before you buy one pound of meat." Milk, of course, does not necessarily mean fresh milk. The better brands of canned milk, and powdered milk will fill this requirement. It is in place here to make mention of a very excellent book which treats many of these important food questions from a practical standpoint. It is Rose's "Feeding the Family." It is a book which can be used readily in the home.

Table III.
EXPENDITURE FOR FOOD OF THE TYPICAL FAMILY IN
SHANTUNG AND IN AMERICA

	Shantung	America
	%	%
Meat and Fish	6	33
Milk	0	10
Eggs	2	5
Bread, Cereals, Beans	72	13
Butter, Fats, Sugar	4	16
Fruit and Vegetables	14	16
Other Foods	2	7

Per Capita Expenditure Per Day in Shantung=\$0.15 Mex.

Do we ever stop to think, or even to calculate how we spend our money for the different varieties of food? Table III. shows how the average American family distributes its expenditure for foodstuffs. Meat in America represents far too high a percentage of the total expenditure for food, 33 per cent. This could well be cut in half. The rule during the war was, *less meat*. First, spend at least as much for milk as for meat; secondly, spend at least as much for vegetables and fruit as for meat. One of the big arguments against meat is its high cost. We do not get from meat anything at all commensurate with the high price we pay for it. Eggs, in China, where eggs are not expensive, are much to be preferred to so much meat. Yet on many of our tables in China we pass eggs by as entirely too common! A second column shows how the Shantung family spends its allowance for food. These figures are taken from some of our recent studies on the Shantung dietary.

China has such a large population that we must also study this from the question of food supply. An acre or a *mow* of ground will produce only so much food or nutrient. Man may consume this nutrient directly as food, or feed it to cattle and recover it as meat, or even as milk. In this sense the steer, or the cow is spoken of as a *converter*. Grain eaten directly as food may be represented as an efficiency of 100 per cent.; consumed as milk would mean an efficiency of 18 per cent.; while if recovered as meat, the calculated efficiency will be 3.5 per cent. Meat apparently is our least efficient food from the standpoint of national economy.

Finally, addressing foreigners resident in China, we would recommend Chinese foodstuffs—local produce. Millet for breakfast is certainly equal to oat-meal purchased from America where foods are high priced, not to mention the cost of transportation to the Orient. How many of us have overcome our prejudice enough to even try out all the varieties of vegetables which appear on the Chinese market? The people of China

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Per Capita Expenditure Per Day in Shantung=\$0.15 Mex.

Do we ever stop to think, or even to calculate how we spend our money for the different varieties of food? Table III. shows how the average American family distributes its expenditure for foodstuffs. Meat in America represents far too high a percentage of the total expenditure for food, 33 per cent. This could well be cut in half. The rule during the war was, *less meat*. First, spend at least as much for milk as for meat; secondly, spend at least as much for vegetables and fruit as for meat. One of the big arguments against meat is its high cost. We do not get from meat anything at all commensurate with the high price we pay for it. Eggs, in China, where eggs are not expensive, are much to be preferred to so much meat. Yet on many of our tables in China we pass eggs by as entirely too common! A second column shows how the Shantung family spends its allowance for food. These figures are taken from some of our recent studies on the Shantung dietary.

China has such a large population that we must also study this from the question of food supply. An acre or a *mow* of ground will produce only so much food or nutrient. Man may consume this nutrient directly as food, or feed it to cattle and recover it as meat, or even as milk. In this sense the steer, or the cow is spoken of as a *converter*. Grain eaten directly as food may be represented as an efficiency of 100 per cent.; consumed as milk would mean an efficiency of 18 per cent.; while if recovered as meat, the calculated efficiency will be 3.5 per cent. Meat apparently is our least efficient food from the standpoint of national economy.

Finally, addressing foreigners resident in China, we would recommend Chinese foodstuffs—local produce. Millet for breakfast is certainly equal to oat-meal purchased from America where foods are high priced, not to mention the cost of transportation to the Orient. How many of us have overcome our prejudice enough to even try out all the varieties of vegetables which appear on the Chinese market? The people of China

have a very large variety of vegetables and cereals as raw materials. Moreover the Orient has had many more centuries of experience with these foodstuffs than the Occident, and much of it is valuable. One is surprised to find how seldom bean curd, one of the treasures of China, appears on the table of the foreigner. Instead of that we use *foreign* products. We prefer *foreign* gelatine, the result of prejudice, and spurn the local product. We buy elaborate cooking oils labelled "made in U.S.A.," which are nothing but some of China's vegetable oils sent to America and poured into American bottles. We, of course, buy the oil back again, and pay liberally for freight both ways into the bargain. Most of the possibilities of the world immediately about us remain untried!

The Prevention and Cure of Cancer

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The saying, "Give a dog a bad name and hang him", is nowhere more true than when applied to the subject of to-night's lecture. Cancer has got a bad name; its reputation for painful killing is so deep-rooted and widespread, that it has formed a barrier which all the resources of modern medicine have so far failed to break down. It is my task to-night to attempt to dispel some of the shadows which have gathered round the disease, by explaining as simply as I can its real nature.

The cure of cancer is now ceasing to become a purely medical problem, to be solved by biologists, pathologists and surgeons, and is becoming a problem in psychology, and education, to be solved by publicists, schoolmasters, and perhaps, when enough people are alive to the facts of the situation, by legislators and statesmen.

This may sound a bold thing to say, but I hope to be able to bring evidence before you proving that it is possible at present to cure 75% of cancer cases with a mortality of under 5%.

Possibly your attitude to the subject of this paper will be that of one of the most enlightened persons of my acquaintance who, on seeing my title, said, "Of course this is perfectly absurd".

Now, it was a favourite saying of Dr. Maguire, a great American surgeon of the nineteenth century, that the most useful thing one man can do for his fellows is to see a thing clearly, and to say it plainly.

Here is a plain statement, susceptible of the fullest proof. Out of every hundred people in our community, ten will in all probability die of cancer, and of those ten, seven or eight could be cured or their disease prevented with the present methods at our disposal. All that is required is an intelligent facing of the facts about this disease, and efficient medical attention.

The total death rate for the last eleven years in the United Kingdom was 466,000,—nearly half a million people. Of these, 43,000 died of cancer, 19,000 males and 24,000 females. Moreover, although taken altogether ten per cent of the population die of cancer, a greater proportion of adults so die. I should like to say again that a large proportion of these are either preventable or curable.

The Executive Committee of the British Empire Cancer Campaign have recently published a statement based on the last census. They say that during the year 1921, in Great Britain, of persons over 30 years of age, one out of every seven died of cancer.

The figures I have given make it plain that the question is not merely one of interest to doctors and scientists; it is of concern to every one of us, and to one person in every ten it has direct and very personal interest.

Surgery and medicine have very little further to advance along technical lines, as far as the type of case we see at present is concerned. It is nearly impossible to make operations more extensive and thorough than they are at present, and it is unlikely that the operative mortality in the average good risk will fall much lower than its present very small figure. Other methods of curing cancer do not at the moment show promise of producing anything as good as the present surgical results. We have therefore to resort to an educational campaign for its victims before we can get much further on.

This brings me to the first point I wish to bring home before I say any more,—which is, that early cancer and late cancer are, as far as results and cures are concerned, two entirely different diseases. To quote a well-known authority on cancer in England, who, speaking of cancer of the tongue says: "An early superficial cancer on the free part of the tongue should be, and is, curable in practically all cases. The general conviction of the incurability of cancer is founded on the results of operation on the average fairly advanced case, and until this conviction is shaken, I fear the public will remain relatively indifferent and pessimistic as to the advantages of early treatment. Every surgeon of any experience is aware that, as regards its accessibility to treatment, early cancer is a totally different disease from even moderately advanced cancer, but I am very doubtful as to whether we shall be able to enforce the fact by direct statement so long as the treatment of advanced cases furnishes the public with so many terrible object lessons in the apparent intractability of the disease."

The problem we have before us, then, is one of changing the whole attitude, not only of the physician, but of the patient, to cancer. Here is an example of the present point of view:—I have frequently heard it said that such and such a patient has a lump, or some disquieting symptom or other, but she won't go to the doctor as she is afraid he will say it is cancer. What we have to do is to strip this disease of its fear complex and bring all the facts about it into the open. We have to change the attitude of the patient, and often, I regret to say, of his doctor, from one of "wait and see" to one of "look and see." Then, and only then, shall we be on the way to curing cancer.

The results of this present day point of view are appalling. Somewhere about half the cases of cancer are far too advanced to think about curing them by the time the patients appear. Of the remaining half, approximately two-thirds have about a 30% chance of cure, and the remainder about a 60% chance. These figures are rough estimates based on impressions formed in O. P. D. work, but I think they will not be found far wrong. The heart-breaking part of it is that it is all the result of fear, carelessness and crooked thinking, which could be avoided in a large percentage of the cases.

There are signs that we are entering on a new phase, and that a realisation of the importance of early diagnosis is slowly permeating through the medical profession. In America we see an increasing insistence on the use of detailed and specialised laboratory methods for exact diagnosis, and in Great Britain there is in existence at St. Andrews University a complete medical unit under the supervision of Sir James Mackenzie, for the investigation of the early symptoms of disease. The establishment of this institute is, I think, one of the most important advances that medicine has made in the last 25 years, for it is a milestone on the road to progress, a concrete and tangible expression of a changed point of view.

Let us for the moment leave generalities and come to some more detailed consideration of the disease, first in outline, and then in some particular cases.

Cancer is a degeneration. It most often occurs at that period of life when our biological work is done, and, as far as nature is concerned, we are of no use. From her point of view we are on this planet to reproduce our kind, and when we are past doing that, our tissues begin to lose their firm hold on their appointed form and to stray from their former habit of exactly reproducing their kind when attempting to recover from any kind of injury. Cancer is commonest in those organs which have soonest finished their work, the reproductive organs of women; and after these, it appears most often in that organ so much more abused than any other,—the stomach.

The greatest number of cases appear at the age of fifty, and therefore at that age it behoves us not to wait and see whether we shall get it or not, but to look and see that we have not got it, for of people who survive till the age of fifty, a great deal more than 10% die of cancer.

From the biological point of view, cancer presents another interesting feature. It used to be generally stated by biologists that acquired characteristics cannot be transmitted. In cancer we see a cell taking on foreign characteristics in response to some environmental stimulus and transmitting it to its offspring until the organism from which it sprang is destroyed.

To sum up, the tissues from which cancer grows, in their normal process of repair, tend to reproduce themselves more or less exactly, or if the injury is too gross, they are replaced by scar tissue, but when we reach the age at which their biological work is done, there is a tendency to atypical reproduction, in which an atypical cell continues to reproduce itself atypically and grows at the expense of the organism, eating into or eroding it as it enlarges, till it finally kills the host on which it preys.

This will serve as a general definition, but, if we wish to be a little more concrete, we must plunge for a while into the realms of pathology, in order to get a clearer idea of what cancer means.

Our body is made up of three kinds of tissues; each has its separate function, and, within small limits, its own way of reacting to long continued injury. Early in our pre-natal development, three layers can be distinguished,

and each later produces its own type of tissue, and under appropriate conditions, its own type of malignant tumour. From one of these layers develop the cells which actually touch the outside world, that is to say, cover the exterior of our body and provide our mucous membranes. From it is also developed the glands which are, in many cases, ingrowths from this layer, and it is the tumours arising from this latter tissue which concern us now, and which are the cause of so much human suffering.

These Carcinomata, as they are called, all have something in common, both from the point of view of their recognition, pathology and onset. They begin in some tissue which has previously been the seat of disease, usually some chronic inflammatory process, which has been present for years, and which may have healed up and broken down many times. When this occurs on open surfaces, such as the tongue, intestinal mucous membrane, or lip, we can watch the gradual transformation of the disease from a simple chronic inflammatory process to that of a malignant growth.

Let us take, for instance, the case of cancer of the lip. We see an old man who for years has been smoking a clay pipe. The stem of the pipe gets shorter as the years go by, and consequently, as he smokes it, hotter and hotter. One day he notices that his lip is cracked, the crack being just on that part with which he habitually holds his pipe. If we were to look at this under the microscope we should just see that the mucous membrane was broken at this point. Perhaps he stops smoking for a day or two till his lip has healed, and then continues to smoke again. Soon, from force of habit, the pipe returns to its old comfortable spot and again the lip cracks. This time it is not so painful, and takes longer to heal. This cracked lip may be present for years, and if, after some time, we were to look at it again under the microscope, we should see a very different kind of thing. All round the crack would be congregated thousands of white blood cells, trying vainly to assist the sore to heal, but, as well as this, we should notice that, in their efforts to bridge the gap of broken mucous membrane, the delicate epithelial cells which line our lips had increased in number and thickness. We might also see that they had a tendency to grow down to the deeper layers of the lip.

If we were to persuade our friend to give up his clay pipe and indulge in some other form of smoking, or even to have a few teeth extracted so that his pipe was more comfortable in some other position, the small ulcer would, given time and a little attention, heal up quite satisfactorily. But, with all the perversity of human nature, he will not; he only has a small sore: it doesn't hurt him, or anyone else, so why should he worry?

We pass on another few years, and our friend reappears. This time his sore has a more permanent appearance about it. It is hard, and somehow looks as if it goes deep, and has a tendency to bleed. We look at it and tell him that he ought to let us cut out that small sore, but as a rule he won't allow this procedure; he wants medicine to take for it, an ointment to put on it. If we were again to have a section at our disposal we should see a very different state of things. Those epithelial cells which before were

just thickened, and a little angry looking, have at last wakened up and begun to grow. They have branched out and grown deeper into the lip, and there is nothing to check them since they have thrown aside all the restraints imposed by the necessity of keeping to their original form, and have, so to speak, got out of the control of the usual mechanisms which the body possesses for keeping cells in their proper place. The only thing we can do for the patient is either to find some means to kill them, an end which has not yet been achieved, as what will kill them will also kill the patient, or to cut away the tissue in which they have grown, leaving a wide margin around the farthest palpable edge of the ulcer. If this is done, the patient can be assured of a permanent cure. But if he will not believe you, as he often will not, possibly because you are not willing to stake your reputation on his ulcer being malignant, or the certainty of its cure, he will go away for another year or so. One day he appears again because his ulcer has been showing a tendency to bleed and has got a bit bigger lately; also he has noticed, while shaving, a small hard lump in his neck which he feels as the razor goes over it. He still has no pain and no discomfort whatever. We look at this and tell him that he has to undergo an operation, both on his lip and on his neck, and that he has got cancer. We remove the ulcer and every gland that we can find in a large area around, but we can only assure him that he has a 20 to 30% chance of a permanent cure whereas, if he had taken our previous advice, we could have promised him a permanent cure in between 90 and 100% of chances, according to the age of the disease.

If we now use our microscope we see that the undisciplined epithelial cells have penetrated the lymphatic capillaries which are present in all our tissues, and have followed them until they reach their destination, the nearest glands. What will happen next depends on time. The growth may spread to more glands, or even outside the glands, and the only course we have open to us is to remove the primary growth, again with a wide margin, irrespective of what disfigurement may result, together with its corresponding lymphatic glands, trusting to Radium or X-Rays to kill any stray cells that may be set free or missed during the operation. His chances of cure simply depend on whether it is possible to remove the disease completely or not.

The figures I have given are taken from a recent analysis of more than 500 carefully followed up cases of cancer of the lip. Of cases in which there were no glands involved, 91% were cured; of those with glands only 18.1% were cured. Now here is the point I want to emphasize. The average duration of all these cases was 2½ years before operation. It is impossible to devise any more radical operation, with a much lower death rate than we at present possess, and there is no other method which as yet produces better results than I have just quoted, but it is possible to do away with that two and a half years of waiting and medicine. There is no reason for it but ignorance, neglect, stupidity, self deception and fear.

The example which I have just quoted is not an isolated one, nor, as I hope to show you later on, do the figures materially differ for cancer arising

in other parts of the body. Cancer of the lip merely happens to be a convenient, and easily understood, peg upon which to hang my text.

Cancer is practically always preceded by chronic irritation of some kind or other. There may be, and in fact are, other factors which enter into the problem, but there can be no doubt that in nearly all cases there is what may be called a precancerous stage, which, if adequately dealt with, will often prevent cancer appearing at all. It is moreover a longstanding chronic condition which, as a rule, gives rise to very little inconvenience on the part of the patient.

After this precancerous stage then appears what may be called early cancer, often to the naked eye indistinguishable from the original precancerous lesion, but giving rise to great suspicion in the eyes of the initiated on account of its hardness and tendency to be fixed, and its resistance to treatment. Cancer in this stage can be cured, with results which will compare favourably with the cure of any other known disease, i. e., in about 90% of all cases, its cure simply depending on early diagnosis. This is a fact neither known nor appreciated by the general public, and until it is known by everybody, and these early stages radically dealt with, we shall still be spending our time and money looking for new and miraculous cures for a condition which, in its very nature, is unlikely to be susceptible to any method of cure when its late stages are reached.

The third stage is that in which the neighbouring lymph glands are involved. In this stage about 30% are curable, but these figures are not of much help or comfort to any particular sufferer as they depend on the degree of involvement and the rapidity of growth. There is in the vast majority of cases no reason why it should ever reach this stage, only those causes which are within the control of the patient and his doctor.

Lastly we get a stage in which the disease is frankly inoperable, and generally speaking, only capable of relief by one palliative measure or other. I should think that about 40 to 50% of all cases which reach the surgeon have already arrived at this stage, and it is to this fact that the general hopeless attitude of everybody is to be attributed. It is only when this stage is reached, that the patient has pain and symptoms which wake him up, and then he realises the calamity which has befallen him.

The early symptoms of cancer may now be summed up; a lesion of some kind, extending over a number of years, giving rise to very little trouble or inconvenience, followed by a small hard lump or ulcer. If the latter is present it is often characterised by bleeding. Again practically no symptoms. To find it we must look and see; often an operation involving practically no suffering and a very small mortality is necessary. But the penalties of failure to do this at the proper time are that 10% of the population die of cancer.

There are certain popular misconceptions about cancer which require correction. The first is that it is painful. This is responsible for much of the late diagnosis, operative mortality and the bad results. Only late cancer, and it would not be far wrong to say only incurable cancer, gives rise to pain. If only pain were an early sign of cancer the whole aspect of the cancer problem would be changed.

Another delusion productive of great harm and very widespread is that cancer is constantly associated with wasting and makes rapid progress. These two symptoms are constantly associated with the disease in its latest stages but are not seen at all in early cases.

One frequently hears people say that cancer is contagious, and also that it is hereditary. These two popular conceptions probably have the same cause. As we have seen, cancer is a very common disease and it would be strange indeed if, putting all question of relationship on one side, we were not to find it quite commonly occurring in one or more members of the same family, and occasionally to find a house in which each successive occupant for some years had cancer. I will leave it to the mathematicians to work out the probability of cancer occurring more than once in any given family. The necessary figures are easily obtained from the Registrar-General's office. As far as I know, there is nothing in the nature of what may be truly called evidence to support either of these notions.

Time after time people have described a parasite which has been associated with cancer, but none of them have yet been made to answer any of the tests necessary to establish anything more than a casual connection. It may turn out to be that the casual agent in cancer formation is a parasite, either visible under the microscope, or, what is more likely, belonging to the group of ultraviolet, or filter passing organisms, but even if this be so, there are two other factors of immense importance, found so constantly associated with the disease, that their significance cannot be underestimated by anyone whose outlook is any wider than that of the mere purveyor of prescriptions.

These two factors we will consider in a little more detail as they are of importance with regard to the question of prevention. They are, the presence of an acid environment, and what, for want of a better term, may be called chronic irritation. Whatever the prime cause may turn out to be, they can never be left out of account in any consideration of its aetiology, and I am sure that, even if the cause is found, it will not alter the main argument of my thesis.

For two thousand years people have speculated about the origin of cancer. Galen held a theory somewhat analogous to the present Chinese doctrine of the yin and the yang; he taught in essence, that some kind of "ch'i" had got at loggerheads with its fellow gases and the result was a general disturbance of bodily functions. Paracelsus thought that the salt balance of the body was upset, and textbooks sometimes put this into modern medical terminology by saying that the balance of power between different types of cells is disturbed. This may or may not describe what happens, but it is a long way from explaining it.

In the sixteenth and seventeenth centuries cancer was often referred to as an act of God in punishment for sin. For instance, cancer of the tongue was said to afflict those who spoke against the church, a view that the church, not always strictly scientific in its interpretation of phenomena, did not discourage.

Here is a translation which Sir D'Arcy Power has made from Paul de Sorbant, a German physician writing in 1672, in his "Universa Medicina". "We saw"; he says, "an ulcer of the tongue degenerating into cancer in the noble baron Vertemali, which caused such a haemorrhage from destruction of the sublingual arteries and veins that the patient was suffocated. He recognised with great penitence that the cause of this cancer was a divine punishment because he had often abused the clergy." Benetus, about the same time, in his book called "Medicinae Septentrionalis Collatitia", describes a case of what he calls "Tumor Linguae Miraculosa". Here is a translation of part of it. "There was lately a certain baron who had a very poisonous tongue. He not only directed his jibes against all and sundry, but he kept his most venomous shafts for the clergy and those who devoted themselves to God's service. He was caught at last in the very act, by a holy brother of good repute as he was peeling this cursed bell, who said to him: "Your foul tongue has overlong deserved that punishment from an offended God which it will shortly receive". The Baron went off undismayed, but a few days afterwards a small swelling began to grow on the side of his tongue. Little by little it increased in size until it became an inoperable cancer, and at length the tongue having become incurved, twisted and drawn back to his throat, miserably afflicted, but penitent and confessed, he was summoned before the Great Judge who calls his servants to a most strict account".

This may all seem very far away and out of contact with our present-day thought, but it was only two years ago that a dear old lady wrote to the Cancer Hospital Research Department two pages of closely written typescript, the gist of which went to say that she was withdrawing her usual subscription this year, as after giving the matter a great deal of thought she had come to the conclusion that cancer was caused by the consumption of alcohol, and she proposed to forward her usual subscription to the local Temperance Society which really was striking at the root of the problem. They wrote and pointed out that cancer was very common in cats who were strict prohibitionists! She did not reply.

Let us come back again from theory to fact, and consider some of the factors which we know constantly to be associated with cancer, and which we are justified in regarding as being in many cases more than predisposing causes.

The most important of these is chronic irritation. We find that almost every cancer is preceded for a longer or shorter period by what may be called a precancerous condition. The more our knowledge increases the more we are finding out that this holds good.

The commonest sites for cancer are the womb, the breast and the stomach. These together account for more than 60% of all cancers, and far below them in frequency we find the tongue, the lip, and the bowel, and various gland cancers.

Cancer of the womb is constantly preceded for many years by disease, palpable and curable, often the result of childbearing, and the place where it occurs is bathed in an acid medium.

Cancer of the breast is also constantly associated with preceding chronic inflammation, this condition itself producing as one of its by-products a highly acid substance, further to irritate the delicate cells already near the end of their tether. Mechanical irritation, beyond a doubt, is an important factor. Although in civilised countries the disease is distressingly common, in those countries where the breasts are habitually uncovered, cancer of this organ is extremely rare. The habitual friction of modern clothes predisposes cell growth, infection from whatever cause is given a foothold, and after years of abuse, the cells lose the impulse to normal reaction and at last turn and slay their victim.

There is evidence that about two thirds of all the cases of cancer of the stomach originate in an old gastric ulcer, and the constant eating of hot food is perhaps enough to account for the remaining third. These delicate gastric cells, more abused than any other cells in the body, are bathed in a highly acid medium. It is no wonder that their departure from their appointed path accounts for 30% of all cancers in men, and in women as well, if we except the two conditions just mentioned.

In cancer of the kidney, pelvis, and the gall bladder, stones are nearly always present to initiate the irritation.

In cancer of the tongue, syphilitic or other preceding conditions are nearly always there, whether it be the irritation from raw alcohol, hot tobacco smoke, or a broken tooth. It is interesting to note that until syphilis appeared in Europe, cancer of the tongue is practically unrecorded in the existing literature. We have no need to go any further for examples of these precancerous irritative conditions. They are all curable or removable, but as they do not as a rule give rise to acute painful symptoms, severely inconveniencing the patient, they are difficult to treat, and the unfortunate is patient told to wait and see, and is given medicine which may for a while relieve him but seldom has much chance to cure or prevent the fate which is slowly overtaking him.

So far the evidence which has been brought before you, that chronic irritation has a casual connection with cancer, has been of a circumstantial nature: it has often enough been found in what we may call suspicious circumstances, but that does not prove that by itself it can directly cause the disease. If a man is seen hanging about the place where a burglary has been committed, it does not prove that he participated in it. He may be a burglar, or he may be what lawyers call an accessory before the fact, and before we can feel reasonably sure that he is a guilty party we must, unless we can actually see him committing the crime, find that whenever he is present, and he has a chance, a burglary takes place.

Now in scientific investigation we can do what is in ordinary life not possible, we can take our burglar, arrange a set of suitable circumstances and see what happens and with what degree of regularity thefts occur. In the last four or five years something like this has been done on a large scale with cancer, and there is accumulating a large body of evidence which suggests that, given suitable circumstances, chronic irritation will, with a fair

degree of regularity, produce cancer, at least in some places, and if it will do it in some places there is no reason to doubt that, under circumstances which for the minute we do not quite understand, it will do so in all the places where cancer is found.

That this is so has not yet been completely proved, but I think there is a good deal of evidence along that line. It has been known for a great number of years that certain skin cancers are constantly found in people whose occupations necessitate their skin being in contact with certain chemical irritants. For instance, the workers in shale oil are often afflicted with cancer of the skin. In the spinning industry, when reaching over to deal with the machinery, a place on the worker's leg is always rubbing up against an oily spindle. This process goes on for years at the same spot, and these people are found frequently to get cancer, beginning at the irritated place. Some aniline dyes are excreted in the urine and growths of the bladder are very frequent in aniline workers. In India some native tribes carry little metal boxes containing charcoal next to their skin in order to warm themselves, and the warmed spot frequently becomes the seat of a malignant ulcer. Further, in chimney-sweeps whose skin is always more or less impregnated with charcoal, we find that in those places where the soot is difficult to wash completely away and often is not cleaned off for years at a time, cancer frequently develops. Finally we have the well-known example of skin cancer among X-Ray workers, and mouth cancer in those who chew betel nut.

Now it is just this type of cancer that we have the opportunity to imitate in the laboratory. Dr. Leitch of the Cancer Hospital has taken rats, guinea-pigs and rabbits, and day after day for months, soot, tar, oils and all the irritants he could think of were respectively painted on some selected part of their bodies. At the Cancer Hospital he started using tar to paint on the under surface of the bodies of white mice. This was done every morning for several months, and in a large percentage of cases, small warts were produced. The fate of these warts varied; some of them disappeared, but others progressed to the formation of true cancer. The results of these experiments made it extremely probable that the irritants were the direct cause of the cancer. Of course it is not proved, for it is possible to assume that there is some ubiquitous other cause, only waiting till the tissue resistance is lowered enough by the irritants to get its chance to act. Another interesting fact transpired as the result of this work, that some of the animals in whom the warts disappeared developed cancer a month or so subsequent to the disappearance, showing that the predisposition to cancer formation is acquired long before the growth actually appears.

In human beings the process of cancer formation in response to chemical irritants takes much longer to produce any results, often twenty to thirty years, and it is preceded by much the same sort of preliminary skin reaction as in animals.

In looking for a proximal cause for cancer production, we should not, I think, look for a common cause in all cases, but try and find anything which will produce the necessary previous irritation.

It has not, I think, been established beyond a doubt that chronic irritation is the sole exciting cause of cancer,—this in the nature of things would be very difficult to prove,—but it has been shewn that its presence strongly predisposes to new growth formation.

The problem now arises as to how we are going to put this knowledge to use in the prevention of cancer. In order to answer it we will consider in some more detail the three commonest cancers met with, namely the breast, womb and stomach, and see how it would apply to them.

Now in cancer of the breast we have this outstanding fact that almost all the cases show for some years beforehand obvious signs of chronic inflammation of the breast, and in nearly all of them, when examined microscopically, this precancerous stage can be seen.

Obviously this is the time to deal with the disease, and the way to do it is systematically to examine microscopically, by a procedure in itself devoid of all risk, except the very small one due to the administration of a general anaesthetic, every doubtful malignant breast afflicted by chronic mastitis. This may seem a revolutionary thing to say, but if we set ourselves to deal with this plague in the same logical manner that we sit down to deal with any other pest, and follow all the known facts about it to their inevitable conclusion, we are driven to it, and we shall see that there is no other course open to us but to deal in a wholesale manner with the precancerous condition. To do this we shall have to undertake a long campaign of education. One of the leading authorities on breast cancer in America, did in his own district undertake such a campaign, with the result that, from the enthusiastic propaganda of one man, the proportion of precancerous to fully developed malignant lesions which appeared at his clinic, rose in six years by 13%. In twenty years the proportion of fully developed cancer to pre-malignant lesions dropped from 90% to 78%.

I am quite sure of the fact that the adoption of this proposal would mean operations upon a number of breasts which would never become cancerous, but there is, as far as I can see, no help for this, any more than we can help vaccinating a large number of people who will never have smallpox, or, when we isolate diphtheria contacts, disturbing also a large number of people who will never get diphtheria. The public have been educated to regard these precautions as natural and proper, and as a rule raise no objections to their being carried out. Dr. Bloodgood, to whose educational work I have just referred, states that "If any woman could be kept under sufficiently close observation, she could be practically assured against death from cancer". I think every other surgeon of experience would agree with him.

So much for prevention and the precancerous lesions. Let us come to the question of the cure. Here we find that the chances of cure in any particular case simply depend on the stage at which the case appears for treatment. We can for convenience divide cases into two groups, those which have glands involved and those which have not. By this I mean those which have glands so grossly involved that they are appreciable to

the touch. Quoting Dr. Bloodgood again, he finds that of those cases with gland involvement, 23% only are cured after seven years, but in those without gland involvement 65% are cured.

But here is the fact which ought to rouse us to action: the average duration of the disease in these cured cases was 9 months,—nine precious months in which that remaining thirty or forty per cent might have been cured if they had only been treated earlier. Or if they had been properly examined still earlier by a trained person, the disease could have been dealt with earlier with a still better chance of ultimate cure.

I think it is Dr. C. H. Mayo who has said that there is no reason on earth why about 95% of all cases of cancer of the breast cannot be permanently cured.

I have spoken in detail of cancer of the breast but when we come to deal with cancer of the uterus we shall find that the facts are almost exactly analogous, only that the results of indecision and delay are even more deplorable. We find that, by the time they come for treatment, about half the cases are quite incurable, and those which are operable are as a rule a great deal further advanced than we see them in cancer of the breast. In spite of this we find that out of 200 consecutive cases no less than 40% were cured, that is to say, that they had no recurrence within seven years. All the cases which were operated on had had quite definite symptoms for six months. In other words, the patient herself should have come for examination six months before she did, and if she had been examined in a proper routine, the disease could have been discovered long before that.

Since this lecture was delivered, but before publication, a report of a series of cases has been published by Professor Faure, a distinguished French gynecologist, which so exactly illustrates my views that perhaps I may be forgiven for inserting it in the text. He has taken 96 cases of cancer of the uterus and has divided them into good cases, mediocre cases and bad cases. It is significant that there were only 21 good cases, 35 mediocre cases and 40 bad cases. The good cases are what I have called early cases, the mediocre cases correspond to moderately advanced cancer and the bad cases to those which are on the border line between operability and non-operability. His total results approximate very nearly to most other published lists but their analysis is very significant. Of the good cases there was one operative death; of the remainder 75% were cured and 25% recurred.

Of the mediocre cases there was an operative mortality of 8.57%. Of those surviving the operation 62.5% were cured and 37.5% recurred. In the bad cases there was a post-operative mortality of 22.5%, only six were cured and 25 recurred. That is to say, respectively 19.35% cured and 80.65% recurred. These figures tell their own tale.

With this hopeless condition of affairs it is no use saying the results are bad. They are, but it is not the fault of doctors, or the methods at their disposal, but the misfortune of the patient and her lack of proper education.

Cancer of the uterus is in many cases preceded by precancerous lesions all amenable to various kinds of treatment. Again, the only way to deal with it is not to wait and see whether a patient has got cancer but to look and see that they have not. Until this is our attitude, the results are not likely to be much better, whatever the means at our disposal for its cure.

Finally, turning to another great group of cancers which make up 30% of them all in men, (and in women too, if we exclude the two previously mentioned types), we find exactly the same condition of affairs.

In two out of every three cases of cancer of the stomach there is evidence that it has arisen in an old ulcer, and Dr. Mayo has suggested that eating hot food may account for the remaining third. It is moreover the experience of all surgeons who systematically submit all gastric ulcers upon which they operate to microscopic examination, that about 20% of them all are malignant.

We have before us the plain fact that from 10 to 20% of all chronic ulcers which have come for surgical treatment are already malignant and can only be cured by a complete removal. Another fact also requires taking into the most serious consideration, and that is, that it is the considered opinion of by far the large majority of experienced surgeons that exploration and some form of operation is the best treatment for every case of chronic gastric ulcer which has recurred once, or at least twice, after a thorough course of medical treatment. (The term "chronic gastric ulcer" is here used in its strictest scientific sense, and by it is meant, an ulcer whose diameter in any one direction is more than a centimeter and whose edges are hard and thickened.) In spite of this, a distinguished surgeon recently put on record that every case of gastric ulcer upon which he operated had on an average been cured nine times. Why is this? The reason is clear. In nearly every case the symptoms of gastric ulcer (and remember 20% are already cancer) can be relieved for a time by palliative treatment, and once again the deluded patient thinks he is cured.

There is no need for me to draw the lesson from this. I have put before you the facts and you can draw your own conclusions. There is only one gleam of hope that I can see on the horizon, and that is, in dealing with the disease in an early stage by radical measures, and, in 20% of the cases, thus combining prevention with cure.

Again we must alter our attitude. We must look and see, instead of "dope" and see. Once symptoms of this disease have recurred after efficient treatment, there is only one good reason for not looking and making certain, and that is when the risks of looking exceed those of the lesion being malignant, that is to say, somewhere between ten and twenty per cent. At present, the risks of looking are about 0.1%, and the risks of removal of a cancer about 3%, taking all cases, most of which are at an advanced stage. The operative risks of earlier cases are less than this, and to this must be added about a two per cent risk of a further operation being necessary,—in all, not exceeding five per cent.

I am aware that the adoption of this policy will mean a few unnecessary operations. I know that it will mean operating on a few cases that would otherwise get better by themselves, or by other means. But until it is

adopted, there is, as far as I can see, no prospect of reducing the death rate from cancer of the stomach. For so long as indiscriminate medicine-taking has precedence over exact methods of investigation and treatment, so long will cancer of the stomach continue to make up 30% of all cancers. Again the question is largely out of the hands of the doctors. As long as patients come to a doctor wanting "a bottle of medicine, doctor, just to help me carry on", so long will they get it, as the doctor finds it hard to refuse, for he knows the patient will go from doctor to doctor till he gets what he wants.

I have taken and dealt in some detail with the three commonest types of cancer but the same arguments apply to them all. The problem is not so much how to cure cancer,—it can, and is being constantly done by one method or another,—but how shall we educate people so that we can get it early. The problem is one of diagnosis, and is mainly to be solved by education and courage, and not hesitation and fear.

No statement of the cancer problem would be complete without some mention of two methods of treatment which have recently come much to the fore, namely the use of X-Rays and radium.

To give any really useful account of them is very difficult as no really satisfactory groups of cases have been published, and one can only talk from one's own experience and that of acquaintances who have been working with it.

The action of both these methods of treatment is in essence the same. It has been found that X-Rays and Radium have the power of destroying living tissue when exposed to their action for varying lengths of time. Fortunately, cancerous tissue is destroyed before normal healthy tissue, and it is the aim of the treatment to expose the growth to that dosage of Rays which will kill the malignant tissue but just fall short of doing harm to the normal tissue. Sometimes this is more easily done with X-Rays and sometimes with radium; it all depends on the position of the growth. This all sounds very attractive, and one would think that, on the surface of things, with such a weapon at our disposal, every case could easily be efficiently dealt with. But, like many other superficially attractive things, it is found on further examination to have its drawbacks. Although a proper dose of X-Rays will kill cancer tissue, a smaller dose will stimulate it to further action. Further, these Rays have, comparatively speaking, a very low penetrating power. They are absorbed and rendered inactive by thin layers of metal, skin or any tissue.

Now, as has already been explained, a malignant growth, as well as extending superficially, tends to spread very deeply and also to involve neighbouring structures, and when X-Rays or Radium are applied to it, we find that in some cases it will deal with the more superficial parts of the growth but leaves the deeper parts untouched, or even more active than before. All kinds of methods have been tried to get over this, such as burying radium in the substance of the growth, or by using very big doses, applied to various aspects of the growth, but, so far, although there have been some very encouraging results, this problem has not been solved.

As I have said, it is extremely difficult to estimate the exact value of this treatment as no figures are of any value till seven years have elapsed after treatment and no such figures have been published. There can be no doubt, however, that an occasional case has been cured, but it is the experience of all that the results of radium treatment do not approximate in any way to the percentage of cures obtained by surgery, even in those types of cancer which react best to X-Rays or Radium.

Dr. Knox of the Cancer Hospital, London, who has had much experience of high tension X-Rays, says that the treatment of malignant disease by X-Rays has not yet reached that stage where it ought to be given to any operable case instead of an operation. I think this opinion may be regarded as an authoritative statement of the situation as it at present stands.

This is not all, however; X-Rays and Radium have a very important place in the treatment of cancer, and as far as we can see at present, the future path lies in a judicious combination of one or the other of these with surgery, for early operable cases, and their prolonged and intensive use in those advanced cases which cannot be removed by other means. A few advanced cases have even been rendered operable by this means.

In combination with surgery it has its very greatest use and that is the prevention of superficial recurrences. In every operation, in spite of the greatest care it is impossible to avoid the setting free into the tissues of a few cancer cells which may grow later into a recurrence. Post-operative radiation bids fair to abolish this type of recurrence, which formerly accounted for a good percentage of all recurrences.

From time to time many methods have been brought forward which have for a little while promised well, but so far none of them have produced results in any way to be compared with the complete removal of the growth by surgical means.

I have not dealt with them in any detail here because, whether ultimately we use drugs, surgery, violet leaves or any of the recently popularised methods of "taking thought" to cure the disease, the main point of my thesis to-night will still hold good, and that is, that by far the most important factor in the cure of the disease is that of early diagnosis. This lies in the hands of the public far more than in those of the medical profession. If they want early diagnosis they will get it, when they insist on it, just as they get anything else they insist on, from self-government to prohibition, no matter how good or bad it may be for them.

Briefly stated, most cases of early cancer are curable, and the diagnosis of early cancer is only to be made by looking instead of waiting. On these facts certain constructive proposals can be based. They are so simple that they are not likely to be heeded for some time to come, as the public has always preferred Abana and Pharpar, rivers of Damascus, to washing in Jordan, and I suppose always will do, till we reach a more enlightened age.

Nevertheless I believe it is true, and without exaggeration, to say that about 90% of all cases could be cured or prevented if the following rules were generally adopted:—

If every person over forty were routinely examined once every six months to see that they had not cancer, or a precancerous condition, and if these when found were promptly dealt with, I feel sure that cancer of the rectum, tongue, lip, breast, skin and uterus would cease to be the plagues they are at present.

Similarly, if every patient who had taken more than a pound of Bismuth to relieve gastric pain were routinely explored to see that cancer or gastric ulcer did not exist, the large majority of growths in this region would be either prevented or cured. The same sort of rules could easily be devised to deal with cancers arising in other parts. What is wanted is a change of attitude on the part of everyone concerned. At its worst, a fortnight in bed, with 48 hours of discomfort, is not too great a price to pay for freedom from this disease, and, with proper examination, this would be unnecessary in most cases.

Every intelligent person is aware that, in order to ensure freedom from dental disease, it is necessary to have his teeth examined every six months, and to have small lesions dealt with in their very early stages. They have come to this conclusion because they know that neglected dental disease means pain, and they now look to see that their teeth are normal, instead of waiting for a toothache to come. It is true that there are still some of our weaker brethren who still wait till they get toothache before they visit the dentist, and for them there is nothing to be done. In the same way, if we wait for the advanced signs of cancer to develop, the position with regard to its cure will remain approximately what it is to-day.

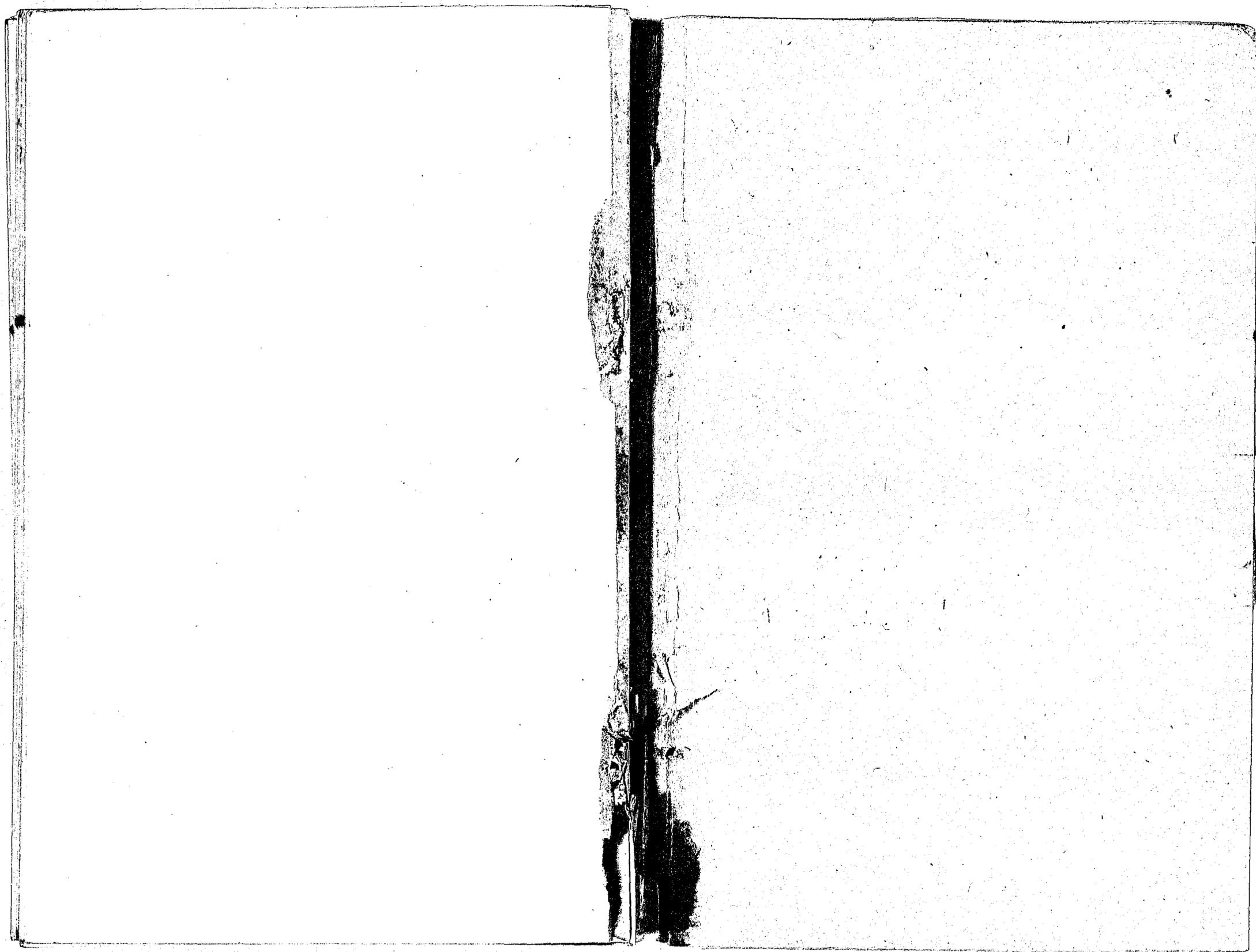
The education of the public up to this pitch is by no means an impracticable proposal. May I in closing recount what has been done in the case of appendicitis? The position with regard to appendicitis is very much the same as that of cancer. The mortality is in proportion to the number of hours during which the disease has existed. Twenty years ago appendicitis was responsible for a large number of deaths. During 1919 and 1920 there was only one death from appendicitis in a large London General Hospital, and there were at least 5 cases dealt with every week. This improvement is entirely the result of education of the public and their doctors. They know that to be cured it must be operated on early, and so we no longer wait to see whether the patient is going to die of it; if we suspect it, we look and see whether it is present or not. True, we remove unnecessarily a fair number of appendices, but by doing so, we purchase immunity from death by this disease for a much larger number of people. When exactly the same principle is applied to cancer we shall be in a position to be a great deal more satisfied than we are at present.

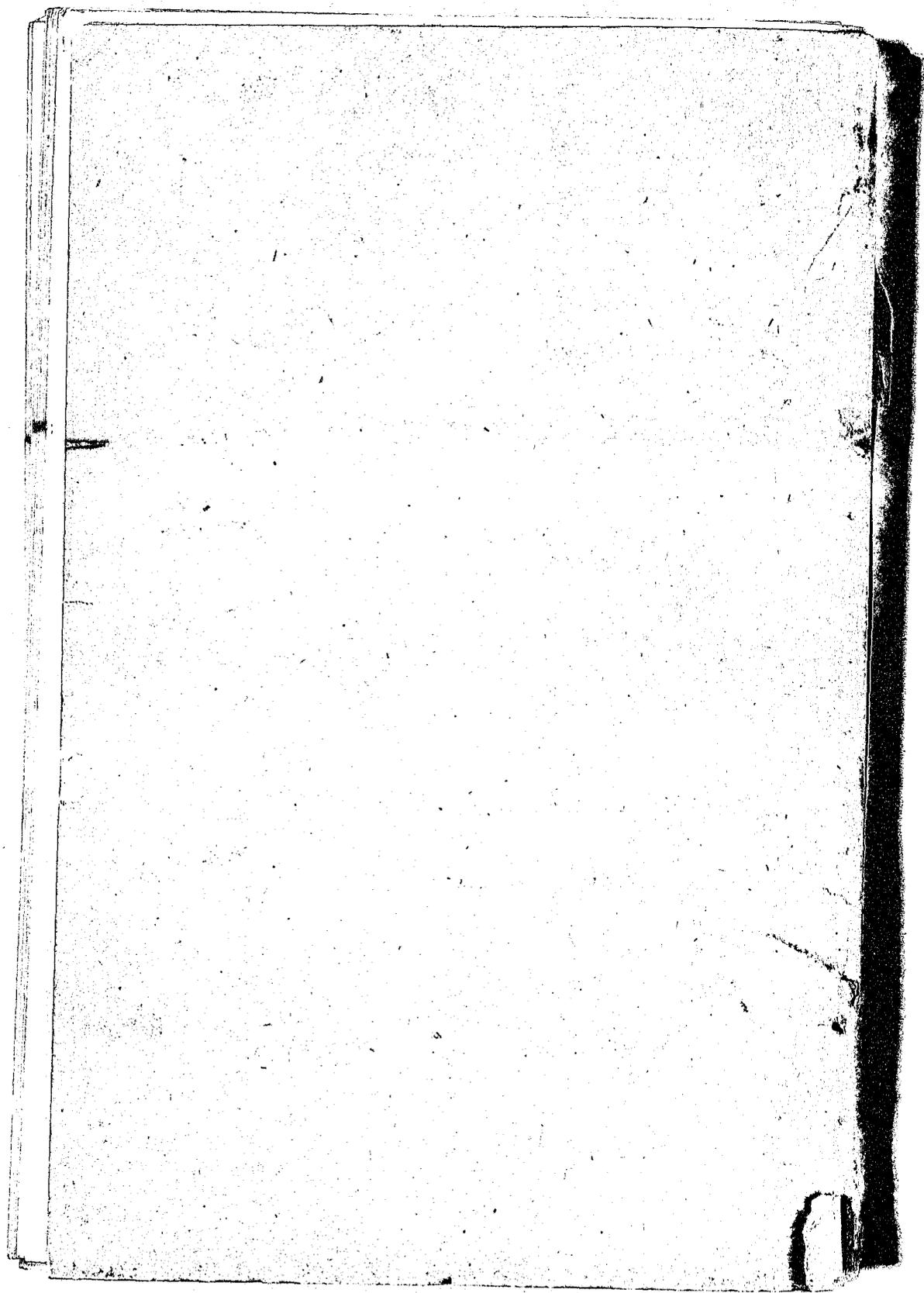
One of the most successful ways of treating a patient with fixed ideas, is by the use of explanation combined with strong counter-suggestion. This is the method of psycho-analysis and hypnotism. No patient is more

susceptible to this kind of treatment than that capricious lady, Public Opinion. If we want to realise the ideals put forward in the early part of this lecture, we must mobilise all our resources, the press, the platform, the consulting room, for a prolonged intensive campaign against this black spot on our civilization.

The object of this course of lectures is to present, in popular language, the results of scientific research. Cancer Research workers have built up for themselves a large mass of technical terminology. I ask the indulgence of the medical members of the audience, for the lack of scientific precision which my departure from such terminology necessarily involves.

In the nature of things generalisations must be inexact, but they are implicit in the task I have undertaken.

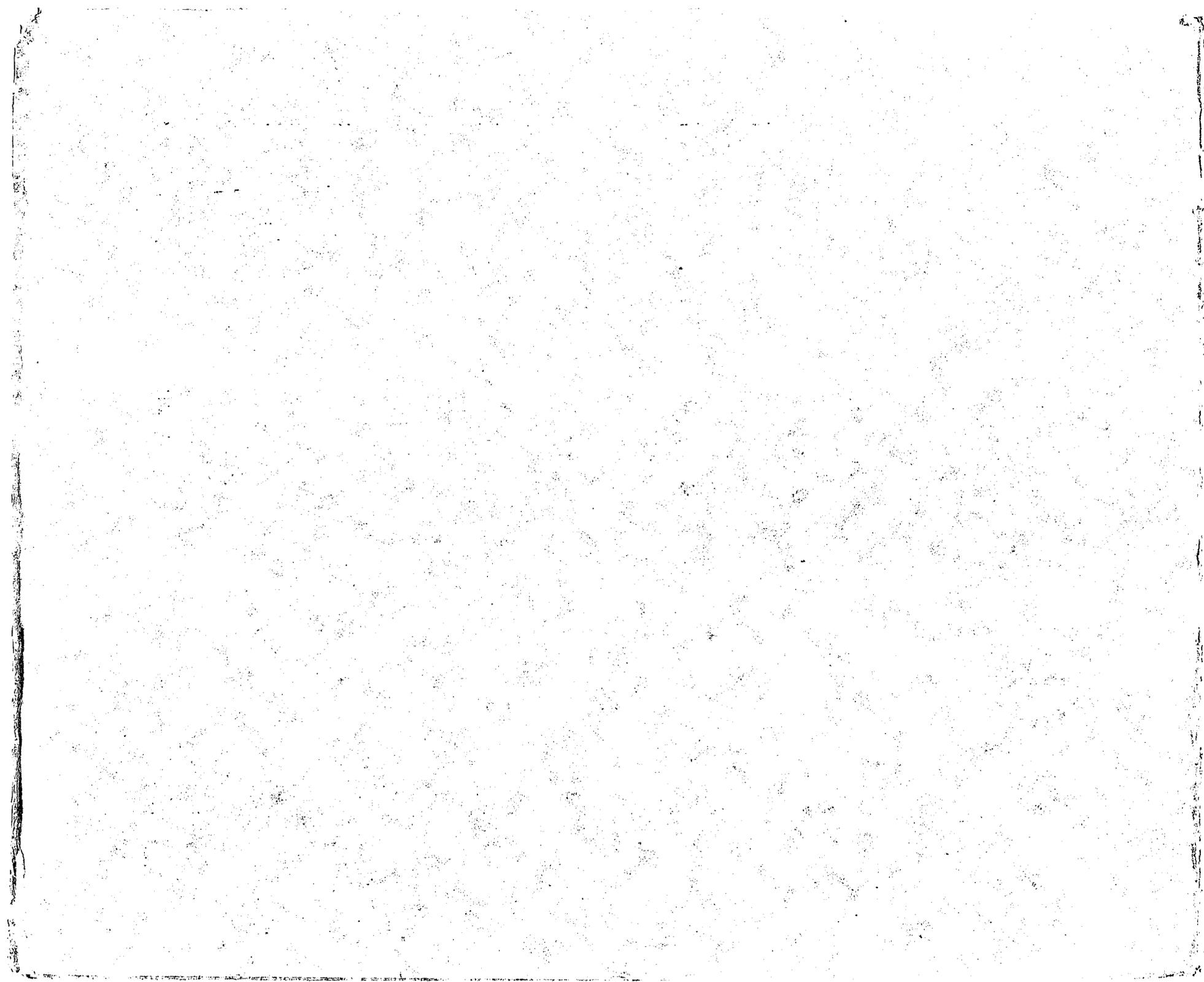




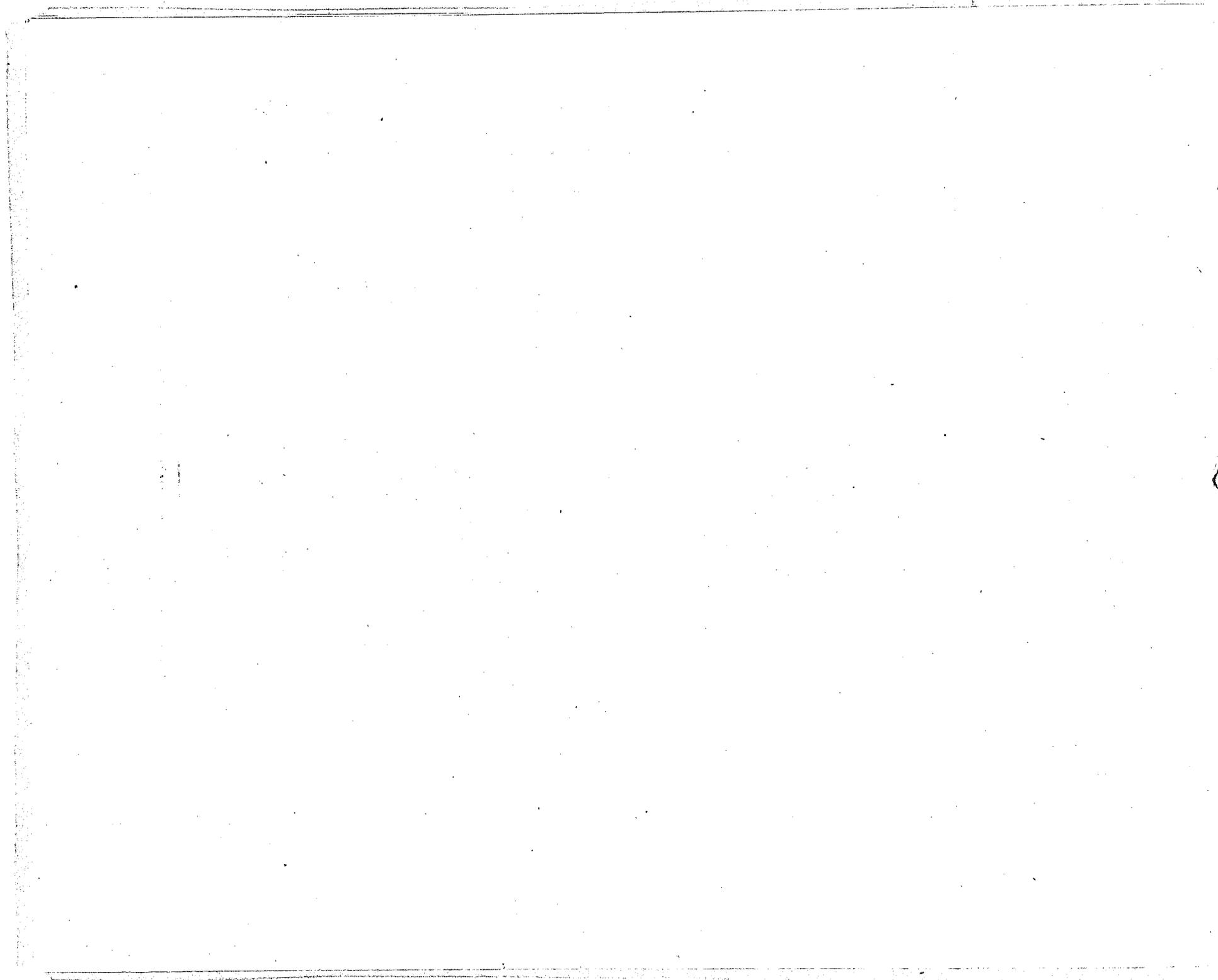
ca 1920.

*For SHANTUNG
and for CHINA*

*SHANTUNG
CHRISTIAN
UNIVERSITY*







EVERYONE TODAY HAS HEARD OF

SHANTUNG

WHICH HAS BEEN DESCRIBED AS

The Pivotal Province of China

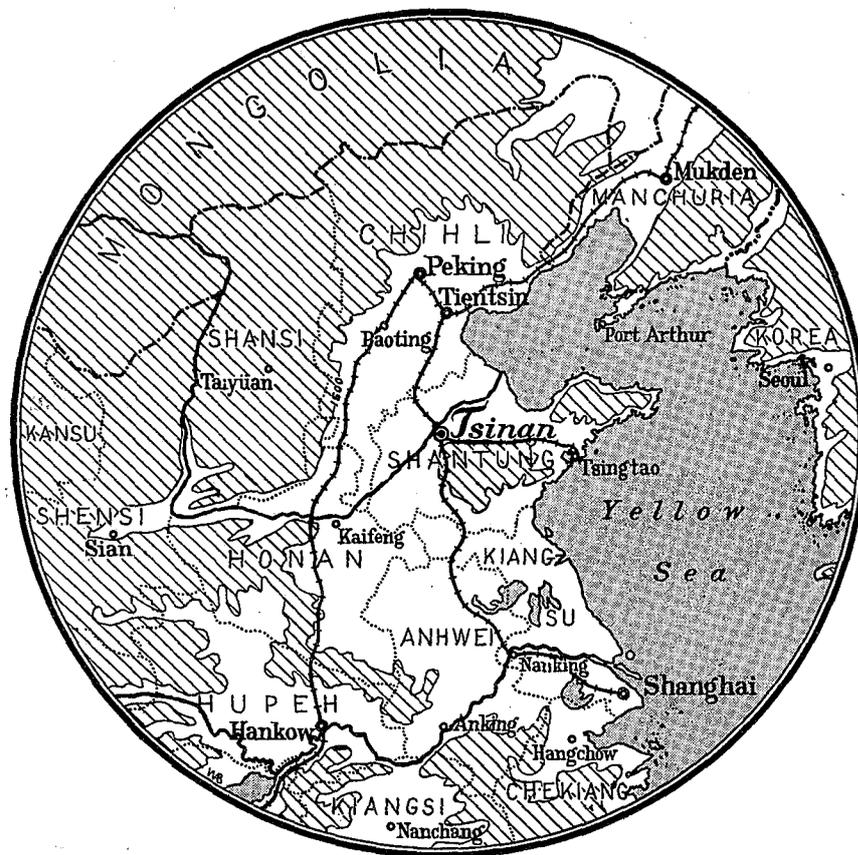
WHY PIVOTAL?

Because of its significance as China's Holy Land, the home and burial place of her greatest sages, Confucius and Mencius;

Because of its unique educational traditions;

Because of its strategic political position in China, and, in view of recent events, in the entire Far East.

WHERE IS SHANTUNG?



THE Province of Shantung is located on the north-east coast of China. Its area is 55,984 sq. mi., approximately the same as that of the State of Iowa, or the whole of England with Wales, or the combined provinces of Nova Scotia and New Brunswick. But Shantung has a population of about 35,000,000 souls, making it the most densely settled province in all China.

Its capital, Tsinan, a rapidly growing city of some 350,000 people, is situated at the junction of two important trunk railways, one of which connects it with Peking, Tientsin and Nanking, whilst the other extends to Tsingtao, the port on the eastern coast which is still held by the Japanese since its capture from Germany in 1914.

WHAT IS SHANTUNG?



THE relief map on the opposite page reveals Shantung as a part of the rich alluvial plain of North China. The province is given over to agriculture, wheat being the most important product.

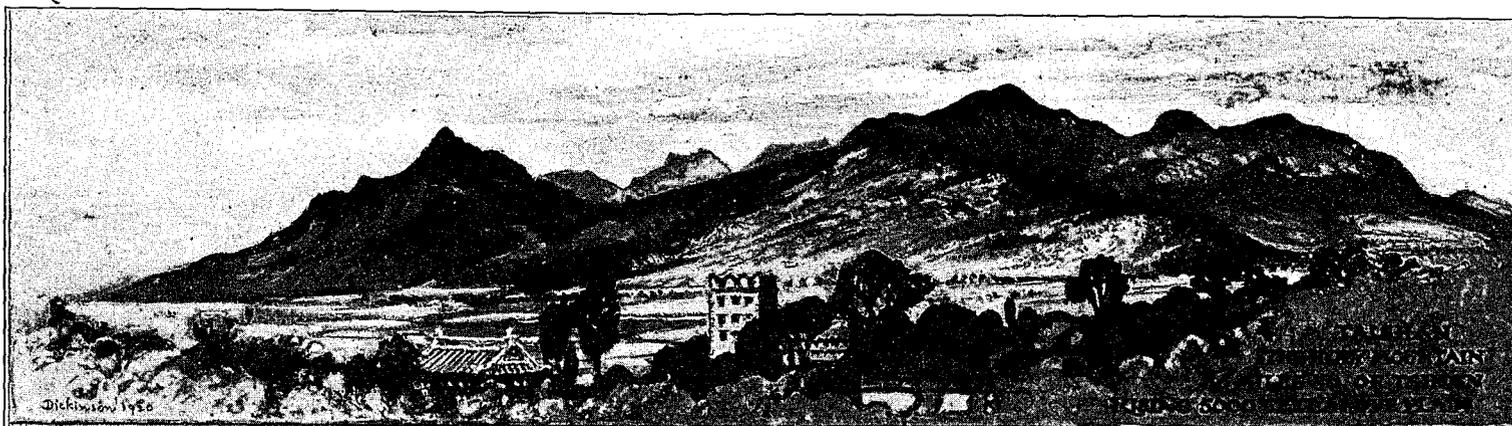
The men of Shantung are of greater stature and finer physique than can be found in any other part of China. The people are industrious, frugal, honest and always cheerful.

The economic standard is lower than that to be found in western lands, as the struggle for existence in such a densely populated province admits of little other than the most simple life.

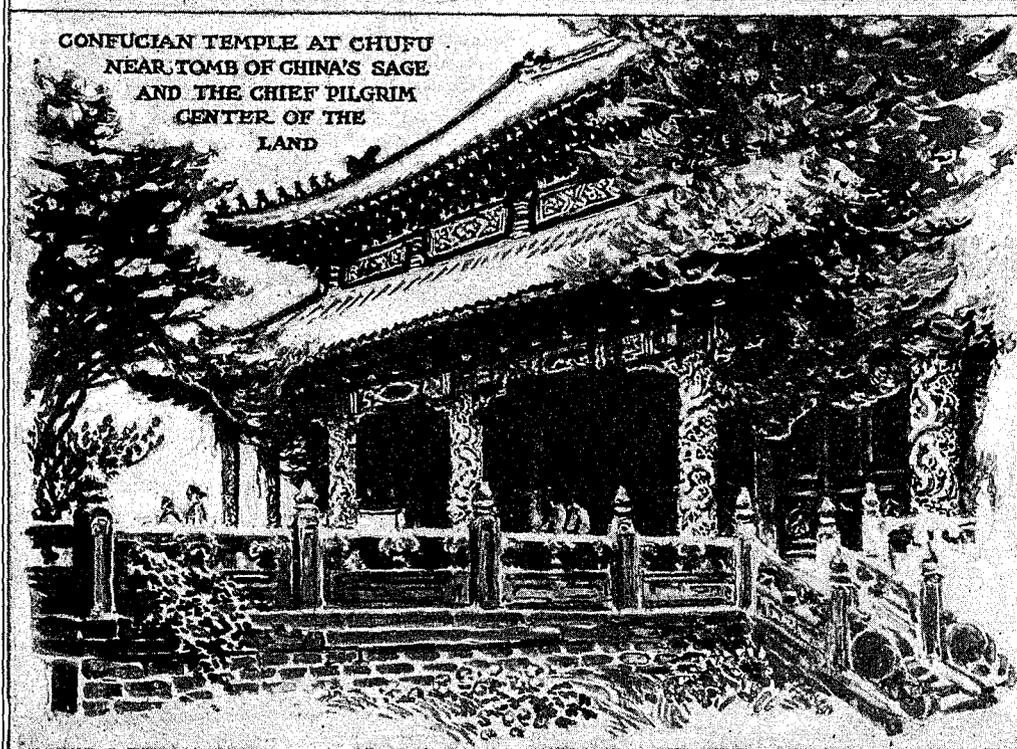
The typical scenes of Chinese life on this and the following pages will give some idea of the environment of the Chinese in Shantung.



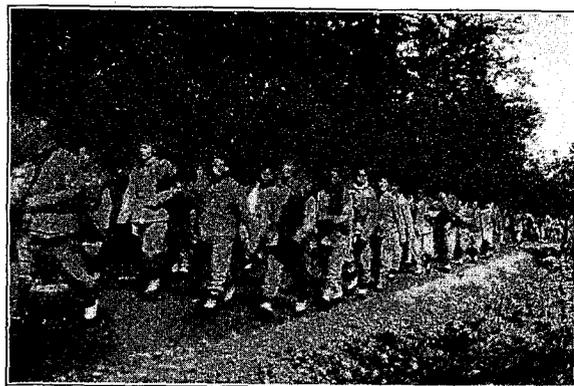
Market Place Scene, Typical of Northern China



Dickinson 1930



China's Contribution to the World War



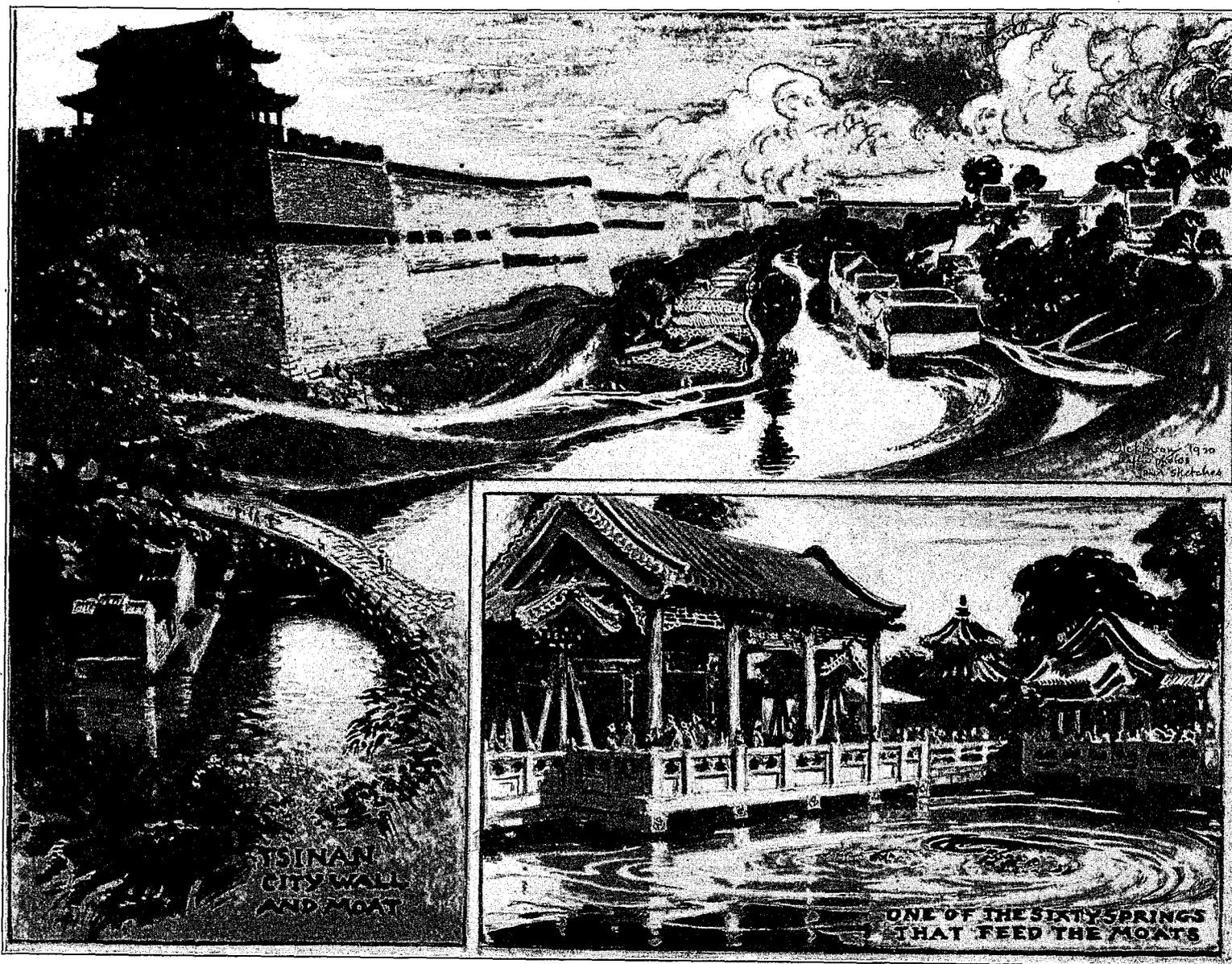
*I*T was from Shantung that over 100,000 men were recruited by Great Britain to form the Chinese Labor Corps during the recent World War, and military authorities have repeatedly acknowledged the debt which the Allies owed to their efficient work behind the lines during the critical days of 1918.

Such, is Shantung and China

*I*N the preceding pages has been presented a very brief introduction to that great province of which so many in all parts of the world are thinking today, and the question which is upon the lips of every well-wisher of China, and of humanity, is:

What Can Be Done for This People?

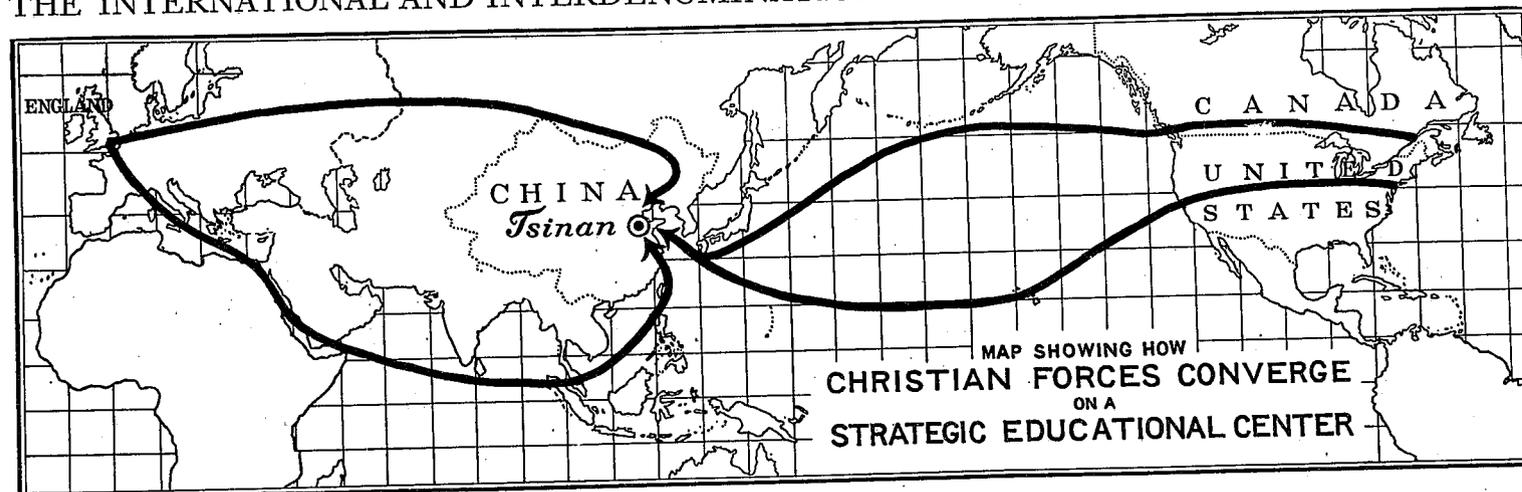
*T*HE greatest need in Shantung, and in all China today, is that of strong, well-trained Christian leaders. There is no greater contribution that can be made than the preparation of such men. And with this objective in view, there has been founded, at the capital of the province, an institution of Christian Higher Education which has grown to be a university possessing the broadest international and interdenominational basis to be found in all China today, the SHANTUNG CHRISTIAN UNIVERSITY.



TSINAN
CITY WALL
AND MOAT

ONE OF THE SIXTY SPRINGS
THAT FEED THE MOATS

THE INTERNATIONAL AND INTERDENOMINATIONAL CHARACTER OF THE INSTITUTION



INTERDENOMINATIONAL?

The Co-operating Missionary Organizations

UNITED STATES
Presbyterian Board of Foreign Missions (North)
Presbyterian Board of Foreign Missions (South)
Norwegian Lutheran Mission
Grinnell-in-China Movement

CANADA
Presbyterian Church in Canada

ENGLAND
Baptist Missionary Society
Society for the Propagation of the Gospel
London Missionary Society
Wesleyan Methodist Missionary Society
English Presbyterian Mission

INTERNATIONAL?

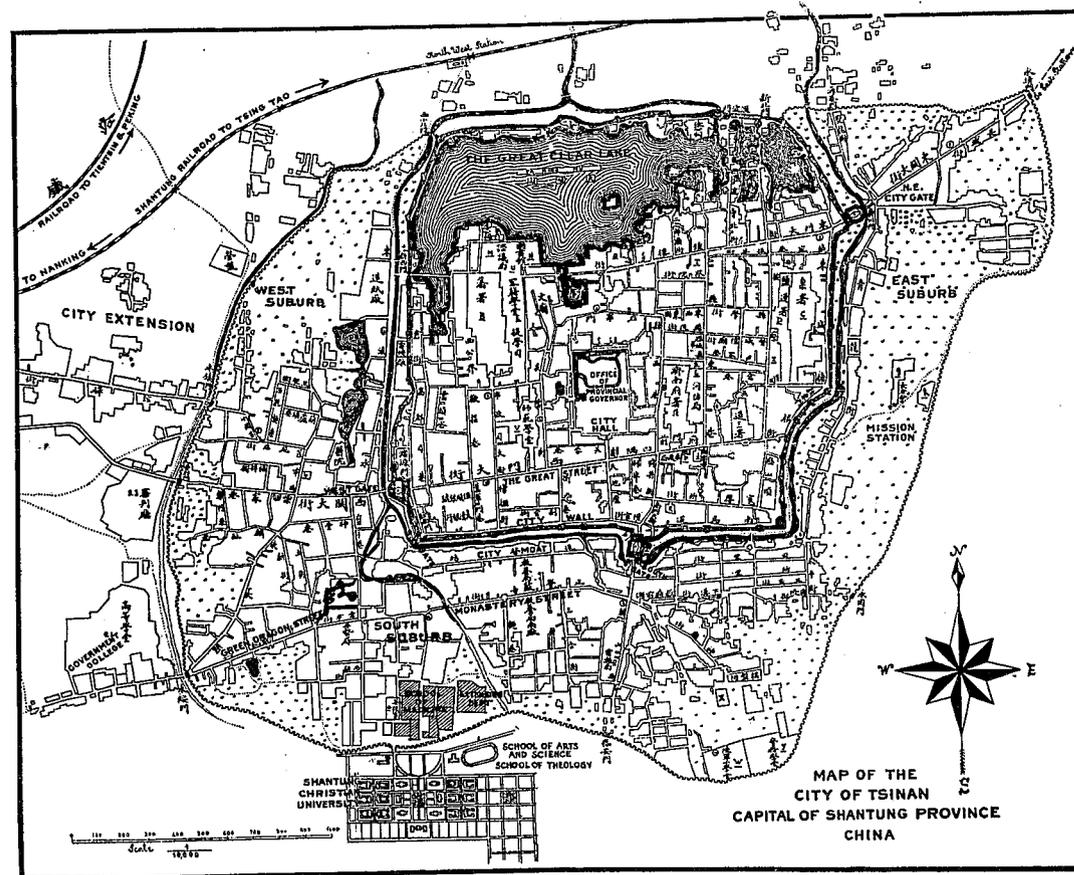
The Boards of Administration at Home and Abroad

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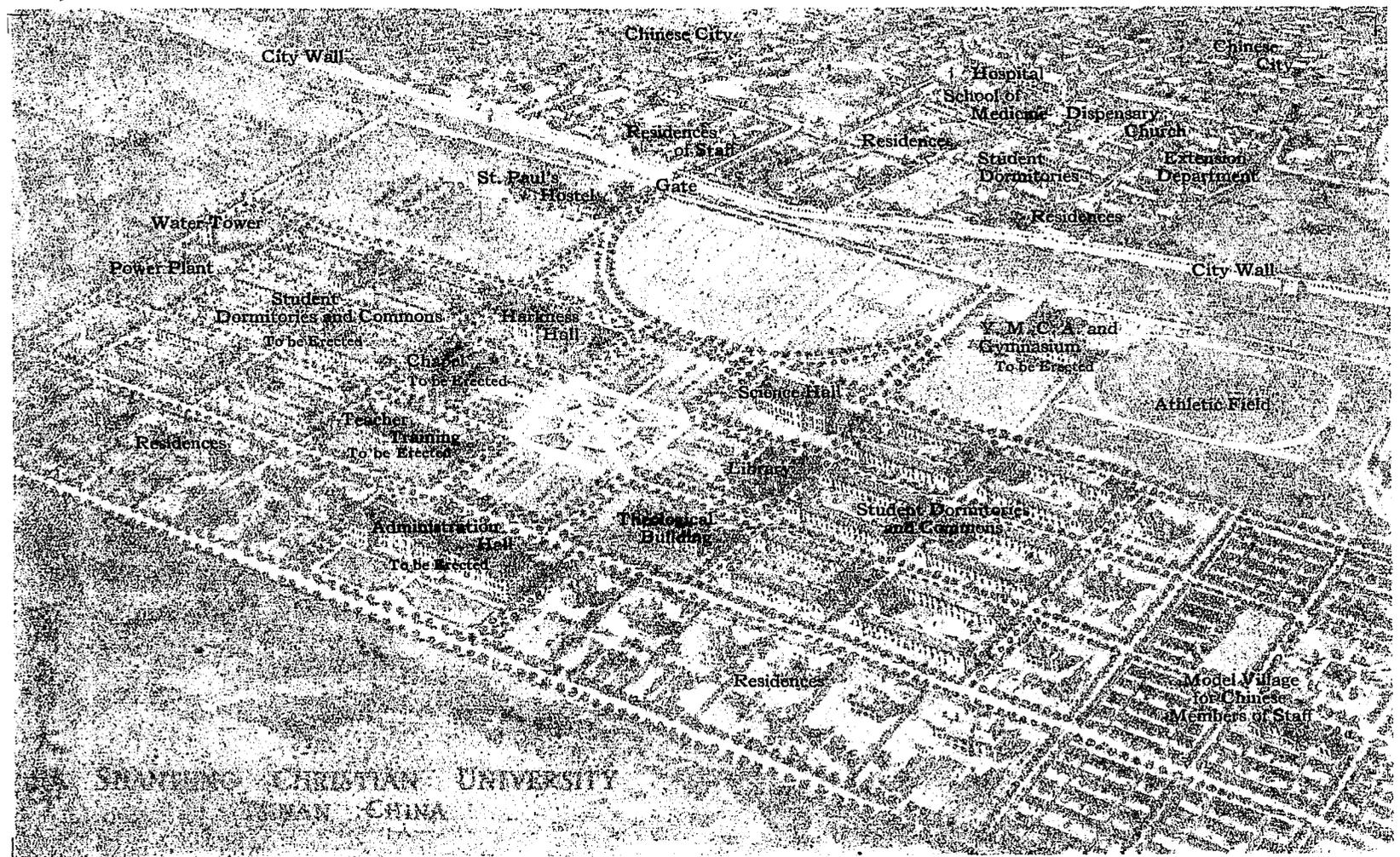
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THE LOCATION OF THE UNIVERSITY IN RELATION TO THE CITY OF TSINAN



THE University's location is ideal, being intimately connected with the centre of education and government for the province. The old Chinese city lies off to the north, while a new commercial centre with large railroad and industrial interests is being rapidly built up towards the west. Here evidences of foreign trade are numerous. But it is in the south suburb, close to the masses in the old Chinese city, that the School of Medicine with its large Hospital, and the Extension Department, are located. Closely connected with them are the School of Arts and Science and the School of Theology with a beautiful campus just outside the suburb wall.

A BIRDSEYE VIEW OF THE UNIVERSITY CAMPUS



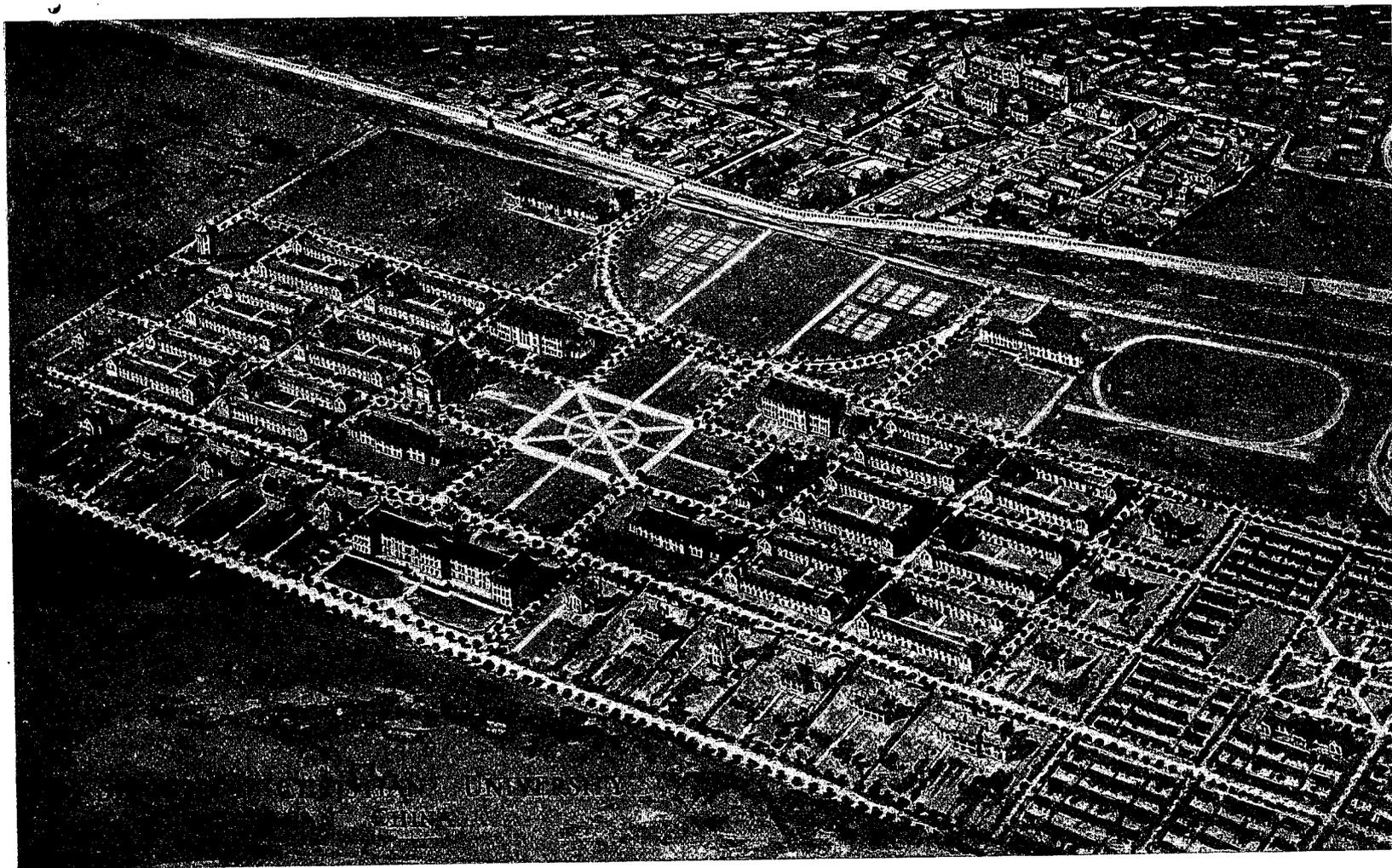
Area within the city wall with main buildings and equipment, Mex. \$440,000.

Area above the city wall, 70 acres, value of land, buildings and equipment, Mex. \$525,000.

British and American friends provided for all the University buildings within the city wall, except the laboratories of the School of Medicine and four residences owned by the China Medical Board.

Contributions from American friends provided the main buildings, dormitories, and teachers' residences for the School of Arts and Science, while British friends provided the structure of the Theological Building. The Augustana Church in Winnipeg, Canada, has been made responsible for the building of the University Library.

A BIRDSEYE VIEW OF THE UNIVERSITY CAMPUS



Area within the suburb wall—16 acres; value land, buildings and equipment, Mex. \$440,000.

Area without the suburb wall—70 acres; value land, buildings and equipment, Mex. \$525,000.

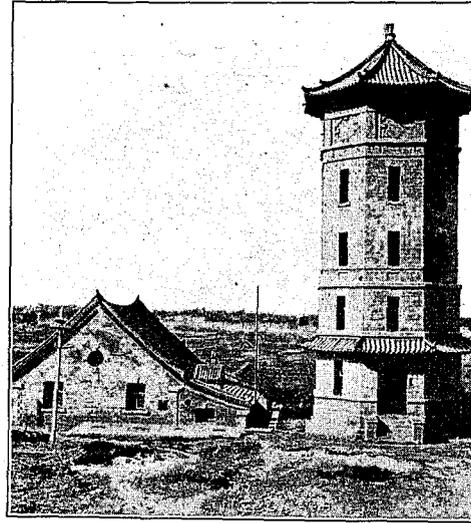
Contributions from British friends provided for all the University buildings within the suburb wall, except the laboratories of the School of Medicine and four residences erected by the China Medical Board.

Contributions from American friends provided the main buildings, dormitories, and teachers' residences for the School of Arts and Science, while British friends are financing the erection of the Theological Building. The Augustine Church of Winnipeg, Canada, has made itself responsible for the building of the University Library.

What the University is Doing

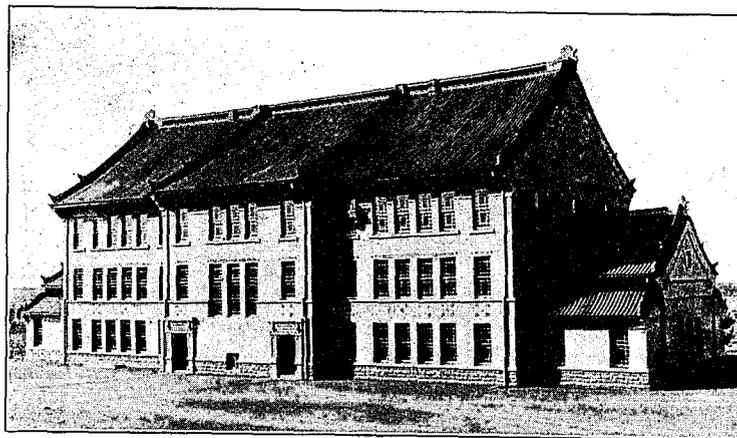
THE SCHOOL OF ARTS AND SCIENCE

THE School of Arts and Science originated with the work of the late Dr. Calvin Mateer some fifty years ago when he began with a group of six boys in his own home in Tengchow and laid the foundations of that system of Christian education which has made his name famous throughout China. The old Tengchow College will long be known as a great source of Christian leaders. In 1904 it was removed to Weihsien, and in 1917 to Tsinan, to be an integral part of the University with much wider opportunities for leadership.

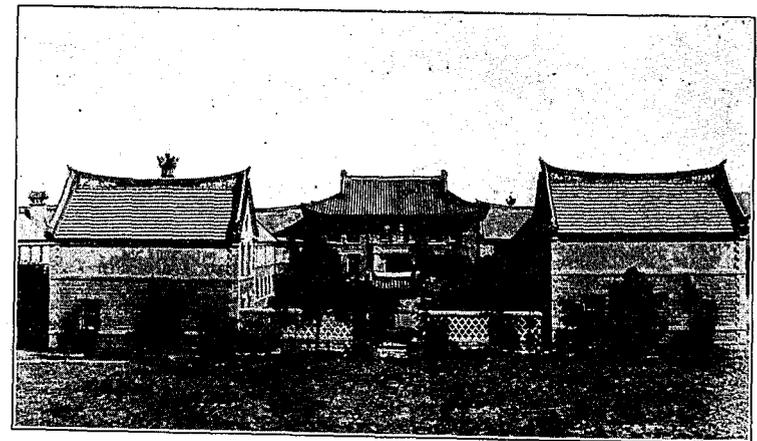


The Power Plant and Water Tower

From the first, Shantung Christian University has stood for the giving of collegiate instruction to the youths of China in their own Mandarin tongue and not through the medium of English. English is taught as a subject of the curriculum, but the stress laid on Chinese has enabled students to grasp more thoroughly the work presented and be better able to pass on to others the ideas so gained.



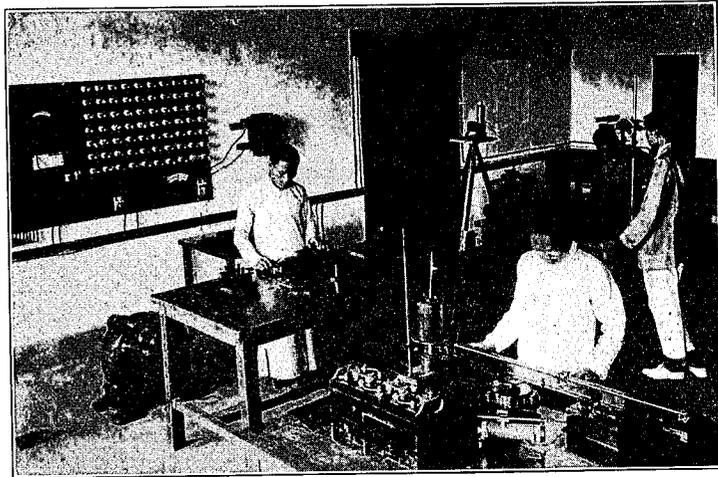
Harkness Hall



One of the Student Dormitory Courts

to Prepare Leaders of Education

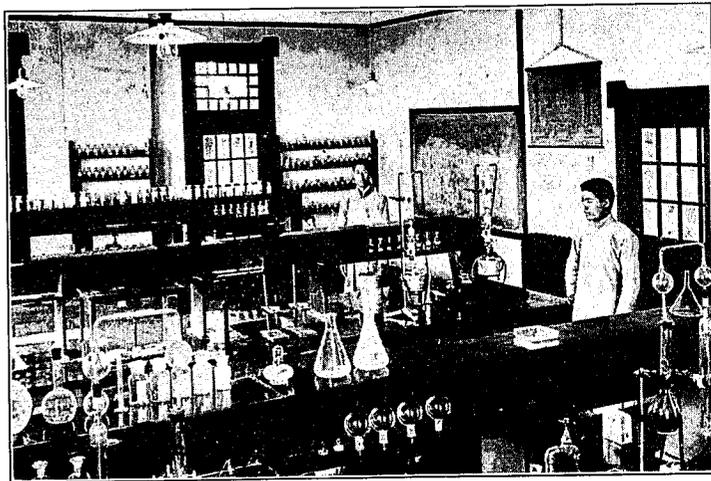
THE SCHOOL OF ARTS AND SCIENCE



One of the Physics Laboratories



A Laboratory of Biology



One of the Laboratories of Chemistry

WHEN foreign missionaries first built homes in Tsinan two-storied houses were denied them because of Chinese superstitions. Cellars could not be dug because in so doing, the cable which anchored the city of Tsinan to the pagoda on a distant hill might be accidentally cut and the city thereby slip off into the sea. Thousands of students with microscope, test-tube and measuring rod are now doing their best with western scientific knowledge to dispel such foolish superstitions. But not alone with science do they work. The School of Arts and Science has a five-year curriculum, with courses in Chinese Literature, Bible, English, Teacher Training, History, Sociology, Natural and Political Sciences and Mathematics. Since no students are admitted unless they have completed a full high school course and have passed the University Matriculation Examinations, a strong class of men is assured.

The University's Relation to

THE SCHOOL OF THEOLOGY



Students of the School of Theology

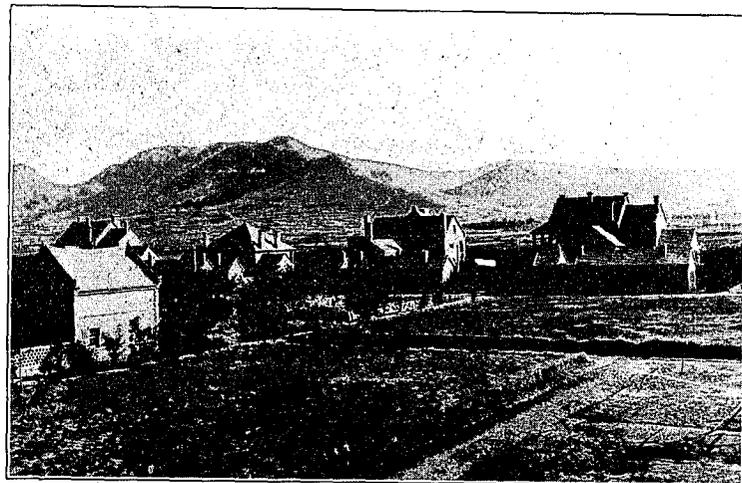
FOREIGN missions in China are the scaffolding, and the Church the permanent building. All our policy and work should be church-centric rather than mission-centric. Such were the remarks of Dr. Cheng Ching-Yi at the great meeting which gave birth to the China-for-Christ Movement in December 1919. And just as the first objective of the University is the preparation of trained leadership, so the final goal is the establishment of a well-educated, spiritual ministry for the Christian Church of China.



Pastor Ding Li Mei, among others who have gone out from the University, is one of the strongest leaders in awakening his countrymen to the claims of Christianity and in arousing the Christians to a sense of their responsibility to evangelize their own land.

the Chinese Christian Church

THE SCHOOL OF THEOLOGY



Site for New Theological Building in Right Foreground



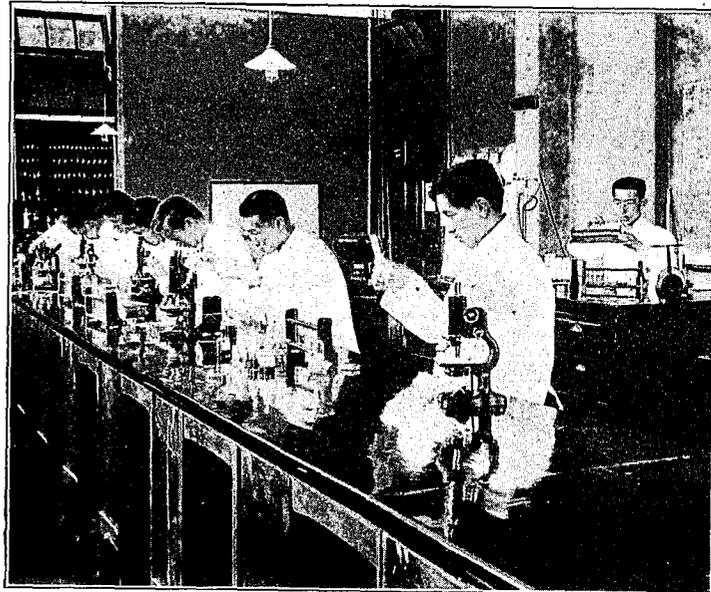
Summer School for Pastors

THE School of Theology had its beginnings in a small theological college founded at Tsingchowfu in 1885 in connection with the English Baptist Mission and enlarged in 1893 as the Gotch-Robinson College. When it was decided to establish the University at the provincial capital, a fund was raised in England for the rebuilding of the college there, but owing to the enormously high exchange during the war, this sum became inadequate, and a further sum is still required to erect the new building.

The School is now an integral part of the University, theological students, after passing the Matriculation Examination, either taking two years of collegiate work in Arts and Science, followed by three years of Theology, or else taking the full Arts and Science course prior to commencing their theological studies.

The University's Contribution to the

THE SCHOOL OF MEDICINE



The Laboratory of Bacteriology

FOUR hundred millions of human beings, and less than a thousand physicians with any knowledge of modern medicine! The problem seems almost beyond solution. It is plainly impossible to attempt to compass such a need by means of medical missionaries alone. The one hope lies in the building up of a Chinese medical profession trained in accordance with modern standards, equipped with all that the West can offer to the natural talent and resource of the Orient, and inspired with the spirit and ideals of Christian service.



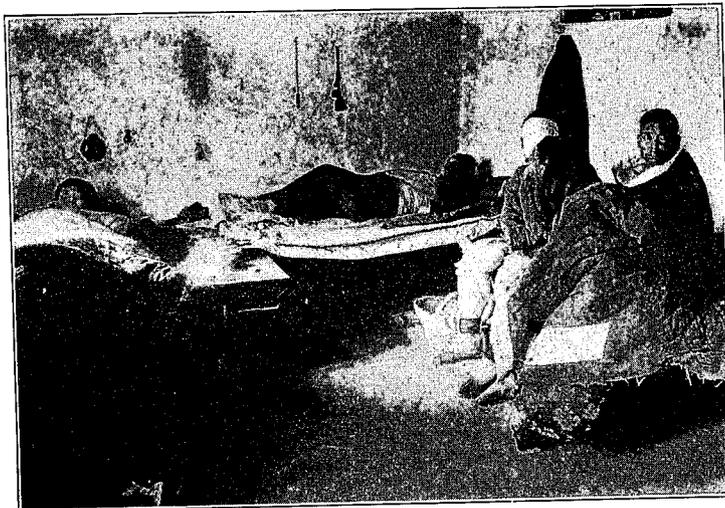
The School of Medicine



Physicians and Students at an Isolation Camp during the Plague Epidemic

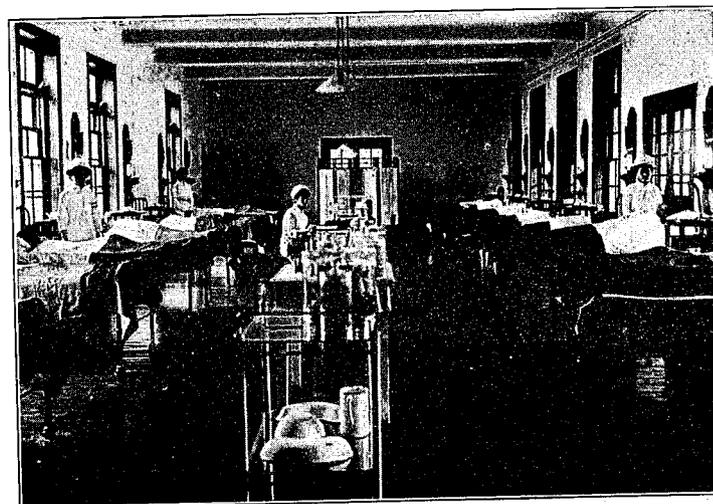
New Medical Profession of China

THE SCHOOL OF MEDICINE



A Sample of Early In-patient Surroundings

A SMALL medical school was started in 1909 at Tsinan by the English Baptist and American Presbyterian Missions. Large developments have taken place since that time, owing chiefly to the recommendations of the Council on Medical Education of the China Medical Missionary Association in 1915 and 1916, urging a concentration of effort at Tsinan of all missions interested in the establishment of a high-grade Mandarin Medical School, and to the action of the China Medical Board of the Rockefeller Foundation, in transferring sixty Mandarin-speaking students to Tsinan from Peking Union Medical College and making a generous grant towards the extension and equipment of the buildings and the support of an enlarged faculty.



One of the Five Modern Wards Now in Use

A glance at the following table will show the extent of these developments:

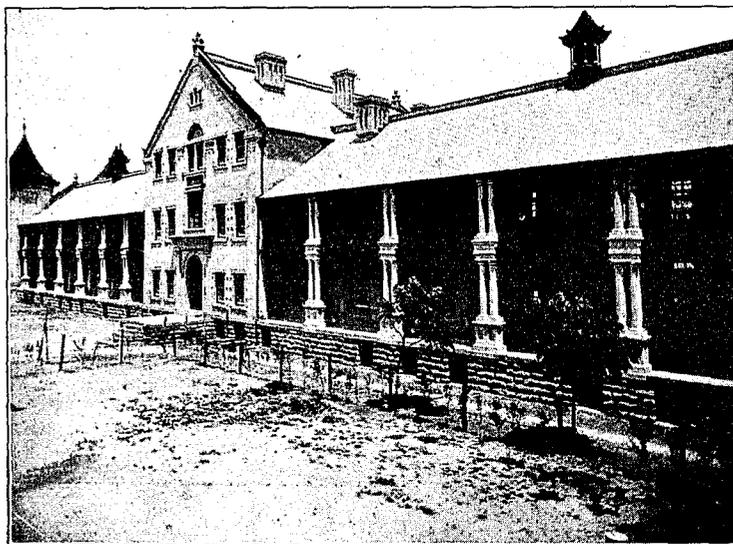
	1910	1920
Value of Land and Buildings	\$55,800	\$342,230
Laboratories with modern equipment	2	8
Whole-time Members of Teaching Staff—English and American	3	19
Western-trained Chinese	0	2
Medical Students	14	98
Pre-medical Students	0	46
Hospital Beds with modern equipment	12	110
Nursing Staff: English and American	0	5
Chinese probationers	0	34

Entrance Standards:

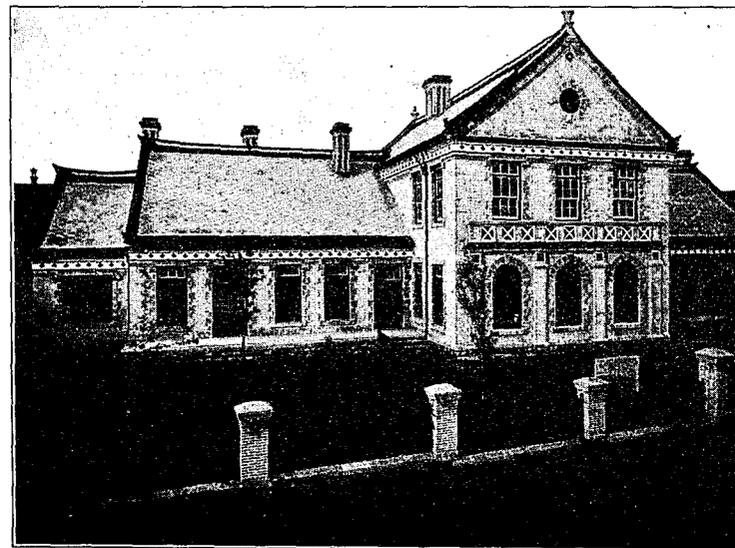
In 1910, Graduation from High School
 In 1920, Graduation from High School, followed by two years' pre-medical study

For the Relief of China's Suffering

THE UNIVERSITY HOSPITAL



The University Hospital



The Out-patient Dispensary

THE University Hospital was built in 1914 from gifts contributed by friends in Great Britain, and was opened by H. E. Chin Yun-Peng, Military Governor of Shantung and afterwards Premier of China. During the past year the hospital cared for 1,262 in-patients and 43,169 out-patients.

The hospital is fitted throughout on modern lines, with central heating, electric lights, and aseptic furniture and beds. The present accommodation is 110 beds, but this is proving utterly inadequate. Patients travel enormous distances in the hope of securing medical help, and numbers have to be turned away for lack of beds, or find it impossible to wait their turn for admission. An urgent appeal is being made for increased ward accommodations.

For the Preparation of Christian Nurses for China

THE NURSES' TRAINING SCHOOL

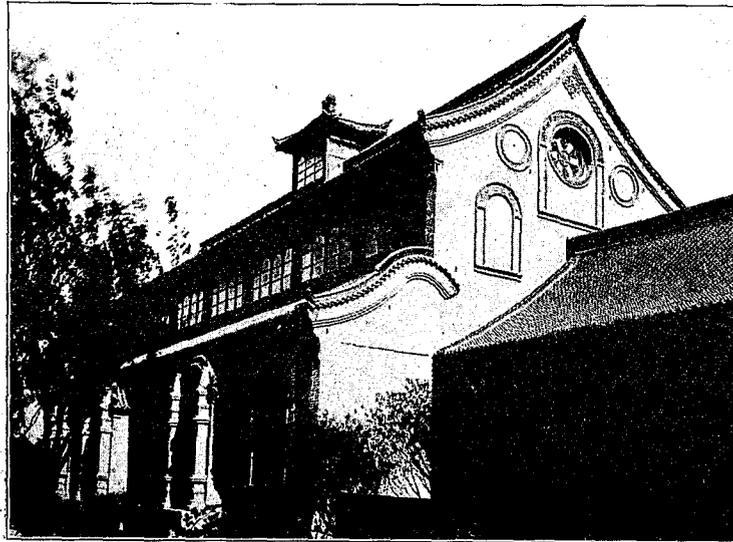


ONE of the most significant and encouraging developments of modern years in China has been the birth of the new Nursing profession, and the emphasis on social service which has accompanied it. Less than ten years ago the nursing of patients in Shantung was left to the tender mercies (!) of their friends, or to illiterate orderlies, but in 1915 when the new University Hospital was opened, the first class of educated nurse-probationers (all of them Christians and almost all graduates of high schools) was received for training. Since then a new class has been taken in every year.

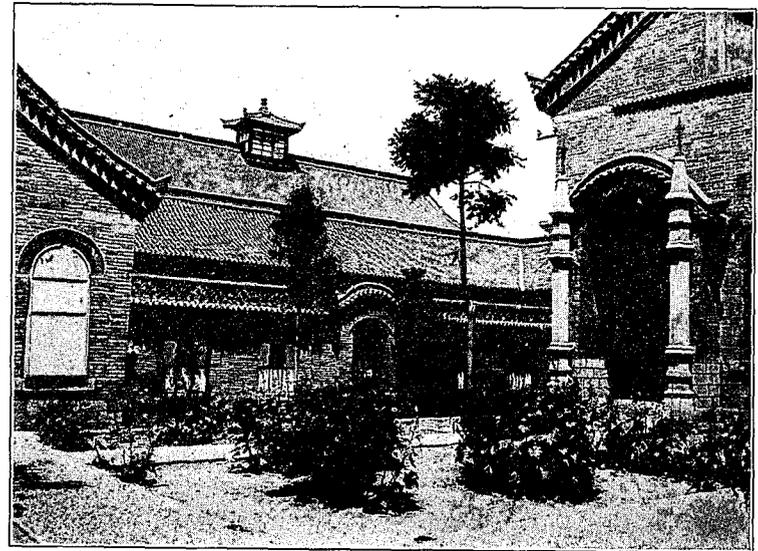
The Training School is registered under the Nurses' Association of China, and students take a four years' course of instruction, at the same time being responsible for all practical nursing in the wards and dispensary. Five instructors (all trained nurses from Great Britain, the United States and Canada) form the nursing staff, and there are between thirty and forty probationers in the school.

A Point of Contact with

THE EXTENSION DEPARTMENT



The Main Hall and Museum



Entrance to the Lecture Hall

NOWHERE else in China is there to be found a more unique or useful contribution to the social, educational and religious needs of the people than that which has been carried on for the past ten years at the Tsinanfu Institute, now the Extension Department of the University. By means of its extensive museum, striking models and instructive photographs, charts and diagrams, the Institute seeks to enlighten in all that makes for the progress and welfare of China.

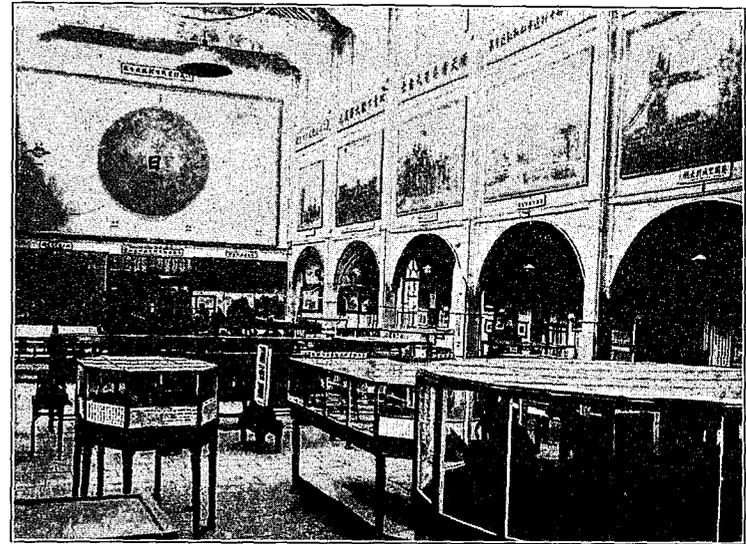
No high official takes up his office in Tsinan without paying a visit to the Institute. Students of all types are regular visitors and may be seen daily studying the exhibits. And the humblest man from the street, or the peasant woman from the village, finds an equally hearty welcome. Last year almost 500,000 people passed through this museum. All of them heard the message of the Gospel at least once, for all aisles lead to the preaching halls where evangelistic services are held at frequent periods. The end and aim of the work is distinctly evangelistic and much seed has been sown here that has afterwards borne fruit elsewhere.

All Classes of the People

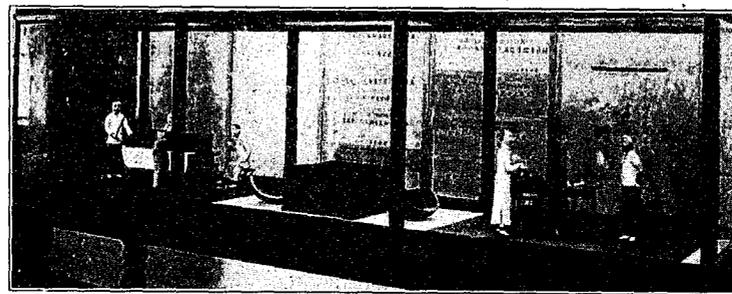
THE EXTENSION DEPARTMENT



1. To give the Chinese an idea of other races, one room is lined with various models and pictures of representatives of all other nations and lands.



2. Within some of the glass cases in this hall are splendid models, made in the Institute, showing the beneficent effects of afforestation, proper sanitation, river conservation and kindred subjects upon which the Chinese need help so badly.



3. The amount of good done by the many models and charts in the Hygiene section warrants a special word. The camera cannot show the influence of this simple teaching on the subject of contagious diseases, germ life, danger of the fly and mosquito, and innumerable like subjects, but the results have been real and widespread.

The University Staff

THE STAFF

Administration

JAMES BOYD NEAL, M.A., M.D. President.
PAUL C. CASSAT, B.A. Treasurer-Registrar.
REV. J. C. KEYTE, M.A. University Chaplain.

School of Arts and Science

REV. J. J. HEEREN, Ph.D. History.
REV. J. W. HUNTER. Art and Design.
REV. H. P. LAIR, B.A., B.D. Religious Instruction.
W. H. ADOLPH, Ph.D. Chemistry.
H. W. HARKNESS, B.Sc. Physics.
REV. ALBERT G. PARKER, JR., B.A., B.D. Sociology.
ARTHUR P. JACOT, A.B. Biology.
WANG HSI EN. Mathematics, Astronomy.
G. D. WANG. Chemistry.
FRANK E. P. KWOH. English.
THEODORE I. LINN. Geology.
DJOU GAN TING. Chinese Literature.
H. T. CHIN. Biology.
D. K. YANG. Physics.
H. C. TIEN. Mathematics.

School of Theology

REV. JOHN D. MACRAE, M.A., B.D. Dean.
REV. E. W. BURT, M.A.
REV. R. S. MCHARDY, B.Sc., B.D.
REV. LYMAN V. CADY, B.A., B.D.
MRS. W. P. CHALFANT.
E. S. NIEH.

Extension Department

REV. J. S. WHITEWRIGHT. Director.
REV. FRANK HARMON.
E. L. TANG, B.Sc.

School of Medicine

HAROLD BALME, F.R.C.S., D.H.P. Dean. Surgery.
E. R. WHEELER, M.B., B.S., M.R.C.S., L.R.C.P. Sup't
Hospital. Surgery.
R. T. SHIELDS, B.A., M.D. Histology, Embryology and
Parasitology.
WM. M. SCHULTZ, A.B., M.D. On leave.
WILLIAM FLEMING, M.B., B.Ch., F.R.C.S., D.T.M. On leave.
CHAS. F. JOHNSON, M.D. Children's Diseases; Obstetrics.
CHARLES K. ROYS, M.A., M.D. Anatomy.
WILLIAM McCLURE, B.A., M.D., C.M. Practice of Medicine.
THOMAS GILLISON, M.B., C.M. Translation Work: Ther-
apeutics.
SAMUEL COCHRAN, A.B., M.D. Bacteriology.
PHILIP S. EVANS, JR., B.A., M.D. Physiology.
THORNTON STEARNS, B.A., M.D. Surgery.
W. P. PAILING, M.P.S., B.D. Pharmacy.
LOUIS H. BRAAFLADT, B.A., M.Sc., M.D. Pathology.
P. L. McALL, B.A., M.B., B.Ch. Translation Work.
REV. B. M. McOWAN. English.
CHARLES T. Y. CHENG. Pharmacy.
PETER C. KIANG, A.B., M.D. Physiological Chemistry.
J. STANLEY ELLIS, M.A., M.R.C.S., L.R.C.P. Radiology
and Electro-Therapeutics.
LAURENCE M. INGLE, B.A., M.B., B.Ch. Anatomy.
F. H. MOSSE, M.A., M.R.C.P. Clinical Medicine.
ERNEST B. STRUTHERS, B.A., M.D. Clinical Medicine.
FRANK H. B. HARMON. Business Manager and Secretary.

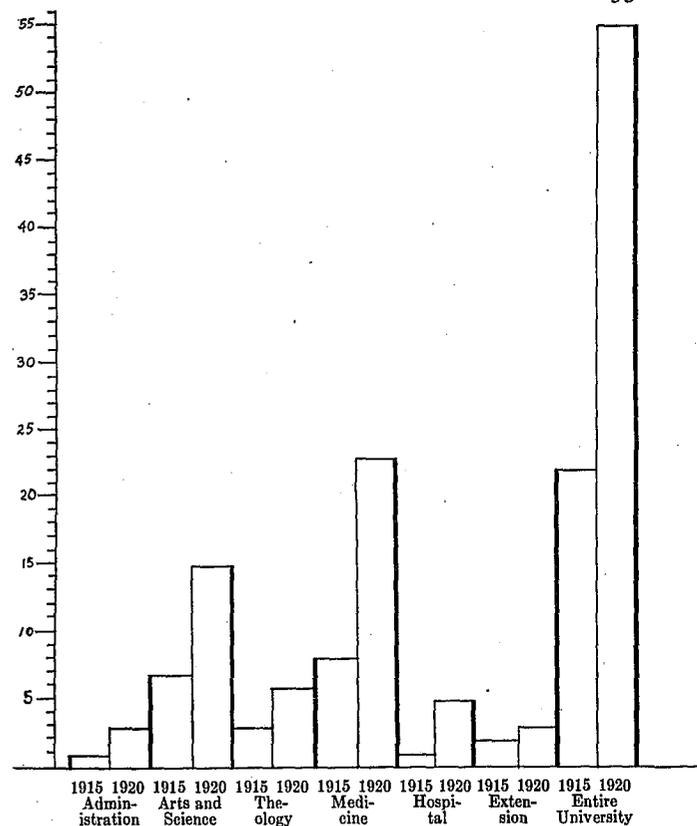
University Hospital

MISS M. F. LOGAN. Nursing Superintendent.
MRS. JEANNETTE C. RATCLIFFE. Acting Superintendent.
MISS BERTHA L. DINKELACKER.
MISS EFFIE I. DINKELACKER.
MISS ETHEL POLLARD.

The University Staff

GROWTH IN THE STAFF FROM 1915 TO 1920

	1915	1920
Administration.....	1	3
Arts and Science.....	7	15
Theology.....	3	6
Medicine.....	8	23
Hospital (foreign nurses).....	1	5
Extension Department.....	2	3
	22	55



Of this staff of 55, 12 are Chinese, five of them being returned students from America and England.

Of the 43 foreign members of the staff:

19 are from England and Scotland;

19 are from the United States;

5 are from Canada.

They represent the strongest and best educational institutions in both Great Britain and North America, the degrees which they hold being granted them by such schools as:

In England and Scotland

CAMBRIDGE
EDINBURGH
LIVERPOOL

LONDON
MANCHESTER
OXFORD

In the United States

CARNEGIE
CHICAGO
COLUMBIA
CORNELL
DAVIDSON
EMPORIA
GRINNELL
JOHNS HOPKINS
MARYLAND
McCORMICK

MEDICAL COLLEGE VIRGINIA
MINNESOTA
NORTHWESTERN
PARK
PENNSYLVANIA
PRINCETON
PURDUE
RUSH MEDICAL
WASHINGTON AND LEE
YALE

In Canada

MANITOBA
McGILL

QUEENS
TORONTO

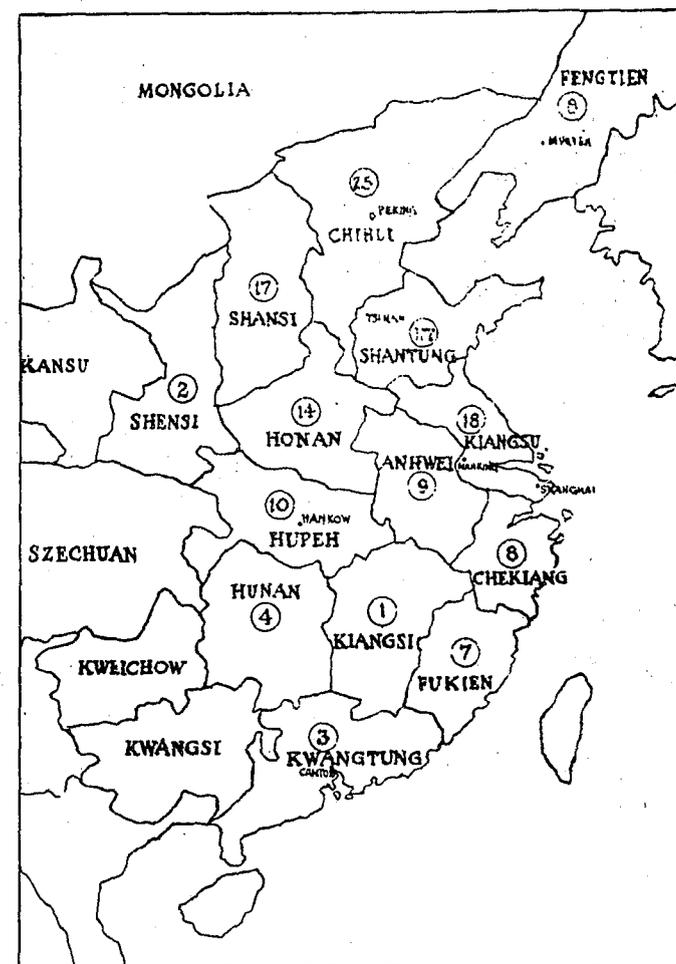
Where the Students Come From

THE 303 students enrolled last year came from 14 out of the 18 provinces of China. Over 40 per cent of the total number, and 57 per cent of the medical and pre-medical students, were from outside the province of Shantung. When the difficulties of travel in China are taken into account this is a great showing.

These students came from over seventy mission and government middle schools. The missions of eighteen different denominations are represented in the church affiliations of these students, of whom there were but 17 non-Christians.

Of the 303 students, there were 135 senior college men, 125 junior college men, and but 43 in a preparatory class, which is but a temporary measure. The proportion of students in the senior college is steadily increasing.

Although the large majority of the students come from mission schools, the doors of the University are thrown wide open to students from government schools also, who are entering in increased numbers year by year.



An Outline Map Showing the Sources of Last Year's Student Body

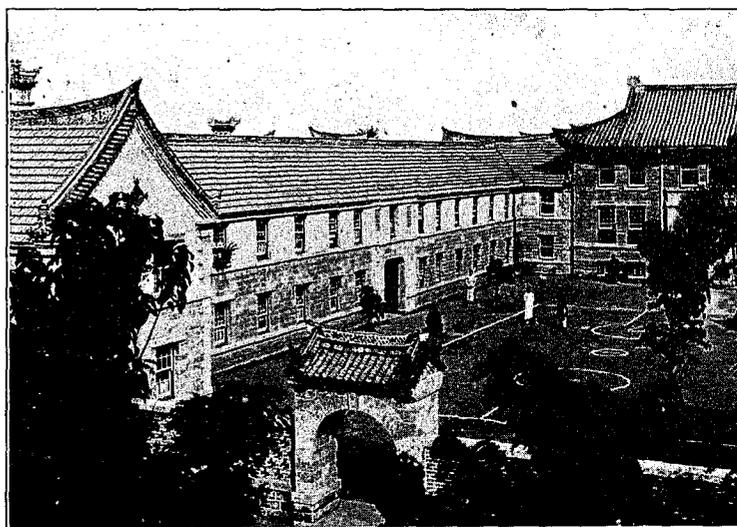
Religious and Social Life of the Students



A Group of Student Volunteers



St. Paul's Hostel



Student Dormitory Court

THE prime object for which the University exists is the cultivation of Christian character and the training of Christian leaders.

Such men as are shown in this group of student volunteers are the sort that will lead in the evangelization of China during the next few years. These are but a part of the number which is going out from the University to help win "China for Christ."

St. Paul's Hostel, built by the S. P. G., affords a splendid home life for the Anglican students at the University. A beautiful chapel adjoins the Hostel.

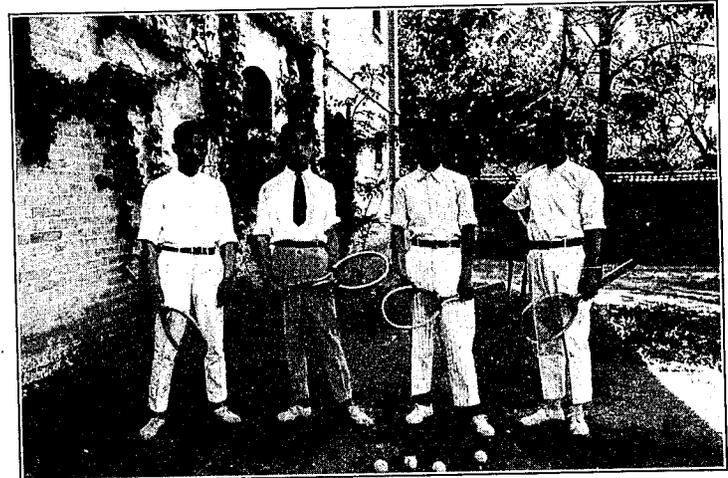
One view gives a glimpse into one of the student dormitory courts. Grouped around an open court which is used for sports, the dormitories are connected with dining hall and social and recreation rooms.

Physical Life of the Students

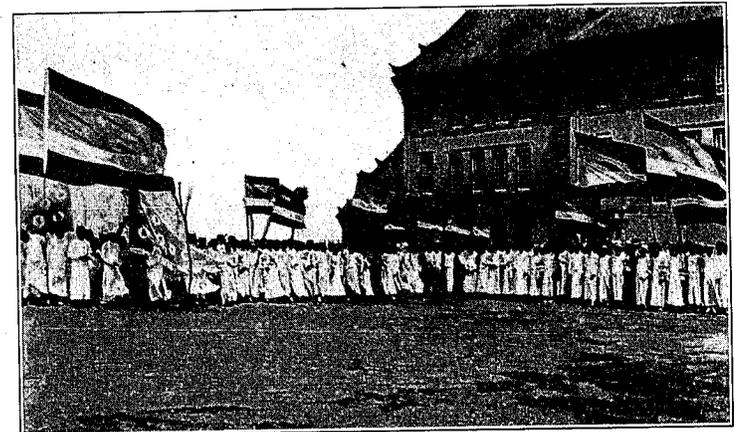


Members of the Track Team after a Victorious Meet with a Government School

WHEN foreigners first introduced athletics into China the students thought that it was most unseemly to act in such an undignified manner and suggested that they hire men to do this running about for them. But that time is past, never to return. The students take a keen interest in all sports and many of them make good athletes. The cultivation of strong physique and the development of good teamwork are greatly needed by the Chinese and the work in tennis, basket-ball, football and track has done much towards securing them.

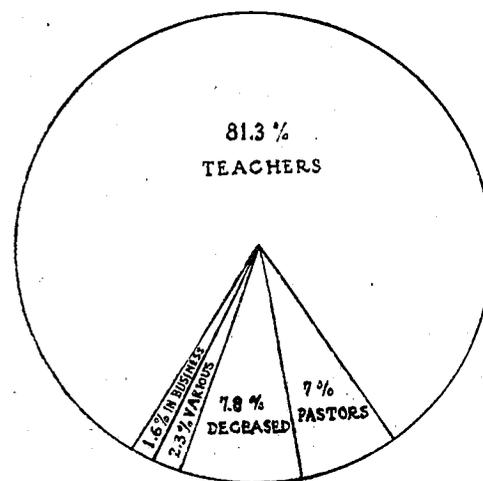


The Champions in Tennis

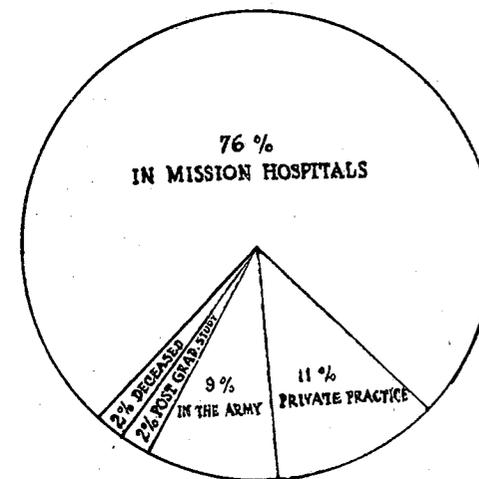


Students on Parade

What the University Graduates Are Doing



How Graduates of the School of Arts and Science Are Employed



Where the Graduates of the School of Medicine Are at Work

THE graduates of the School of Theology are all engaged in preaching in both city and country throughout Shantung and adjoining provinces.

The great majority of the graduates of the School of Arts and Science go out as teachers for middle schools and colleges.

Of 487 graduates during a number of years, 396 are teachers; 34 are pastors; 8 are in business; 11 are in various lines of work; 38 are deceased.

Of the physicians who leave the School of Medicine, the great majority go at once into the work of medical missions, assisting the foreign physicians in some cases and in others taking sole charge of large and important hospitals.

During the past five years out of 55 men graduated, 42 are in mission hospitals; 6 are in private practice; 5 are army surgeons; 1 is engaged in postgraduate study; 1 is deceased.

A SERIES of small folders giving more detailed information in regard to the various departments of work of the Shantung Christian University is available:

1. AN INTERNATIONAL ENTERPRISE IN CHRISTIAN EDUCATION.
2. THE SCHOOL OF ARTS AND SCIENCE.
3. THE SCHOOL OF THEOLOGY.
4. THE SCHOOL OF MEDICINE.
5. A MODERN HOSPITAL IN A CHINESE CITY.
6. A CHINESE NURSING TRAINING SCHOOL.
7. A UNIQUE EXPERIMENT IN UNIVERSITY EXTENSION WORK.
8. CREATING A SCIENTIFIC LITERATURE IN CHINA.

Copies of any of these, and any other desired information, will gladly be furnished from either of the addresses given below.

On the accompanying insert is given

A List of Urgent Needs

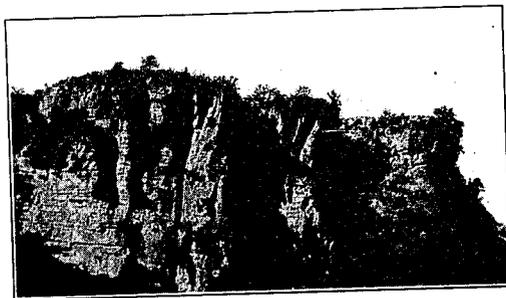
the supplying of which is vital to the immediate and proper development of this increasingly important institution.

Contributions may be forwarded to

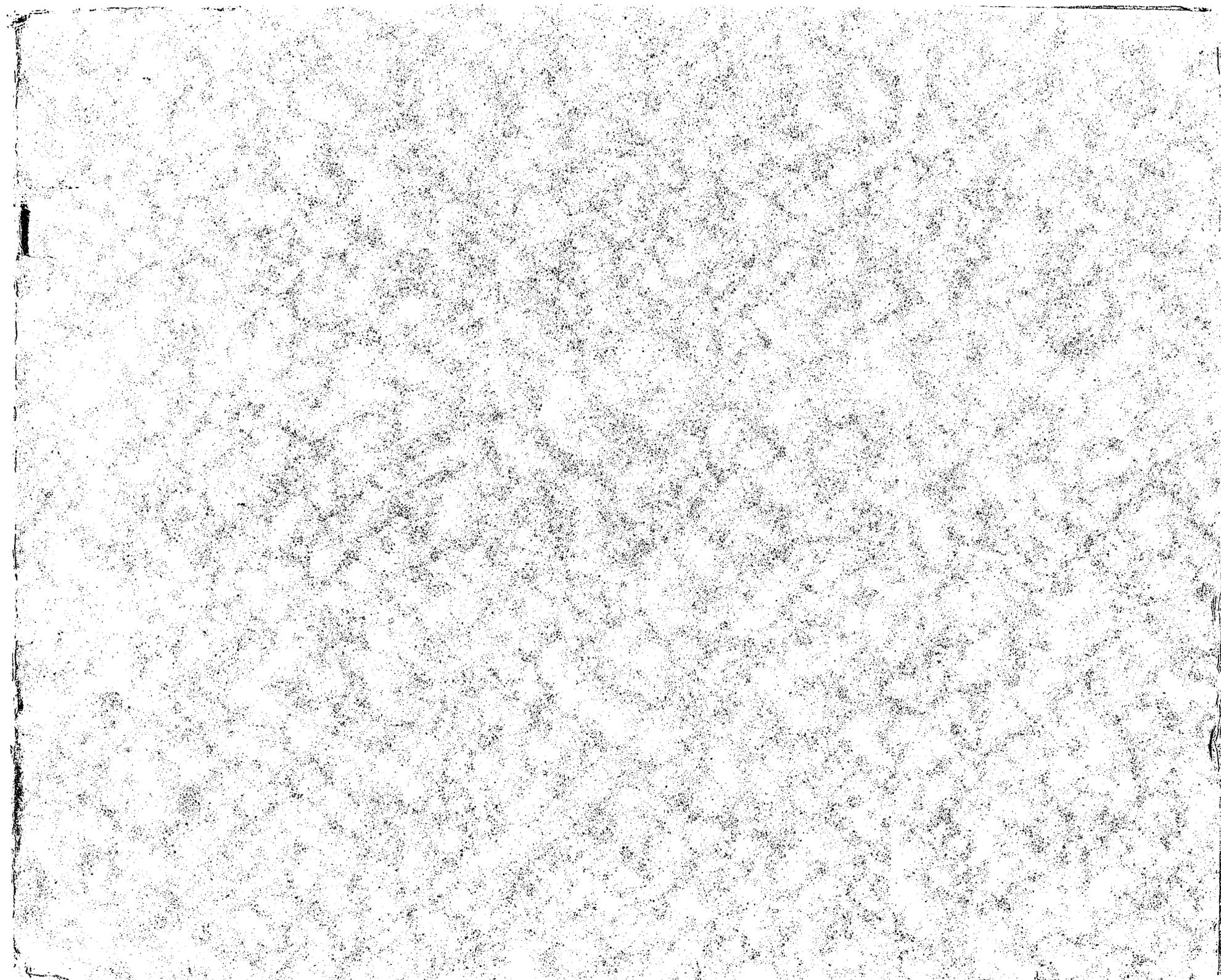
SHANTUNG CHRISTIAN UNIVERSITY

156 FIFTH AVENUE, NEW YORK CITY

19, FURNIVAL ST., LONDON



R. R. DONNELLEY & SONS CO., CHICAGO





The Most Urgent Financial Needs *of* Shantung Christian University

I. The Current Budget.

Sum needed to complete the necessary Budget for the Year ending June 30th, 1921—Gold \$12,000 or £3,000.

II. Support for New Men.

One in Educational Psychology for the School of Arts and Science.
One short-term assistant for the Treasurer.

III. Land, Buildings and Equipment.

Sum needed to complete the Chapel.....	Gold	\$16,000	or	£4,000
Four new residences.....	Gold	32,000	"	8,000
Books and Equipment for New Library.....	Gold	10,000	"	2,500
Land for School of Medicine.....	Gold	10,000	"	2,500
Land for School of Arts and Science.....	Gold	12,000	"	3,000
Automatic Telephone for all Schools.....	Gold	4,000	"	1,000
Astronomical Observatory Building.....	Gold	4,000	"	1,000
General Equipment Fund.....	Gold	8,000	"	2,000
New Women's Hospital.....	Gold	40,000	"	10,000
Heating Plant for Science Hall.....	Gold	3,000	"	750
Storage Batteries for Power Plant.....	Gold	2,000	"	500

IV. Miscellaneous.

Annual Subscriptions for provision of scholarships, bursaries and prizes.

Funds for the post-graduate and research work of students personally unable to finance such undertakings.

Special grants for endowment of certain departments of work, such as the enlargement of various sections of the University Library, the undertaking of sociological surveys, and other phases of extension work.

The supplying of the above is vital to the best usefulness
of the University.