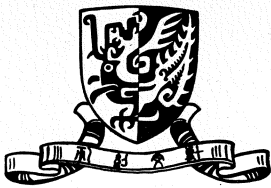


中文大學校刊
CHINESE
UNIVERSITY
BULLETIN

Spring • Summer 1978





CHINESE UNIVERSITY BULLETIN

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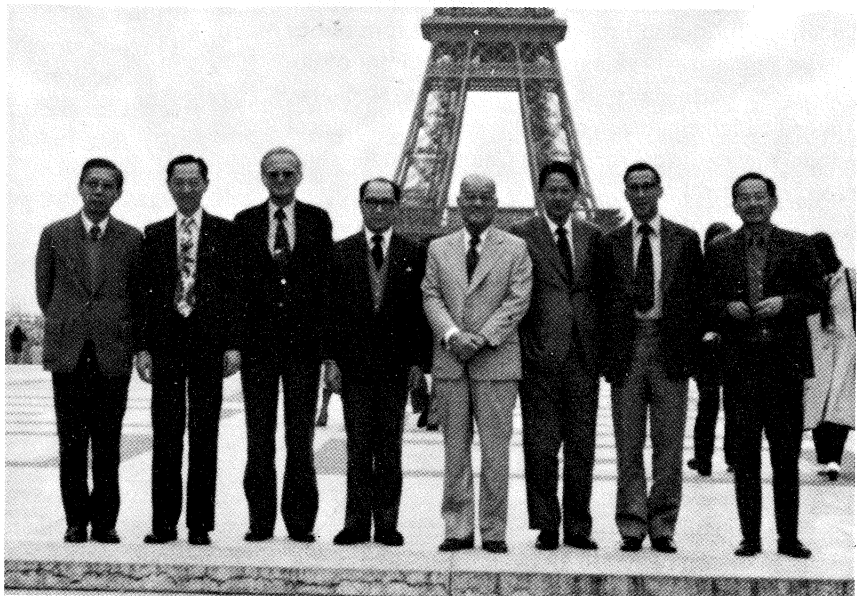
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Cover: Sui-Loong Pao Building (by Mr. Lee Yuk-Chor)

Cooperation with French Government

With the approval of the French Government, the Chinese University's cooperation with its French counterparts is to be carried a stage further. Over the last 15 years this cooperation has been chiefly confined to assistance by the French Government to the French studies programme with its emphasis on language instruction and the diffusion of French arts and culture. The keynote of this new phase of academic interflow is balanced cooperation, introducing bilateral exchanges in other academic disciplines.

The French Government, represented locally by its Consulate-General, has played a very central role in the entire project, which was as much a brainchild of the French Government as of the University. A delegation of the University was invited by the French Government to visit universities and institutions in France from 13th to 28th May, 1978. The eight-member delegation, headed by Dr. Choh-Ming Li, Vice-Chancellor, and Professor Ma Lin, Vice-Chancellor-Designate, included:



The Chinese University delegation in France

Professor S. S. Hsueh, Director of the International Asian Studies Programme and Professor of Government and Public Administration

Professor Gerald H. Choa, Dean of the Faculty of Medicine and Professor of Administrative Medicine

Dr. Chung Yu-to, Dean of the Faculty of Business Administration

Dr. John T. S. Chen, Registrar

Dr. Chen Chingho, Associate Director of the Institute of Chinese Studies and Director of the Centre for East Asian Studies

Mr. A. E. Starling, Planning Officer of the Faculty of Medicine

During their stay in France, members of the Delegation were guests of the French Foreign Ministry and of the Ministry of Universities, and were warmly received by high officials of the two ministries. The Delegation was accompanied by the Consul-General of France in Hong Kong, Mr. Yves Rodrigues. The Delegation visited most of the major universities and national institutes in Paris, Lyons, Marseilles, Aix-en-Provence and Bordeaux.

The visit was very successful in promoting understanding between this University and educational institutions in France and may well turn out to be the promising beginning of a sustained era of co-operation, particularly in the fields of Medicine, Applied Mathematics, Marine Biology, Business Administration, Anthropology, Chinese Studies, and French Studies.

Proposals are being drawn up for cooperation with French institutions after the visit. It is proposed that:

- I. in the field of Chinese/Asian Studies
 - (1) French sinologists come to CUHK to do research and serve as an effective link for cooperation in Chinese Studies,
 - (2) collation of *Annals of the Great Viet(nam)*, be conducted in Hong Kong under the co-sponsorship of the Department of Eastern Asian Studies (U.E.R. sur l'Asie Orientale)

of the University of Paris VII and the Institute of Chinese Studies of CUHK,

- (3) The Chinese University assist French institutions or individual scholars in the printing and publishing of works related to Asian Studies in Hong Kong,
 - (4) the French Government provide annual scholarships or fellowships to enable French students or scholars to participate in the International Asian Studies Programme, and
 - (5) CUHK scholars visit French universities and schools to conduct research or collect materials in the field of Chinese Studies;
- II. in the field of French Studies, the French Government continue to provide CUHK with visiting teachers;
- III. in the field of Anthropology
 - (1) a member of the Anthropology Section of CUHK make a familiarization tour of selected French universities to obtain first-hand and up-to-date knowledge of French Anthropology, and
 - (2) the French Government make arrangements for a French anthropologist to come and teach courses at The Chinese University;
- IV. in the field of Applied Mathematics
 - (1) one or more French mathematicians come and teach Applied Mathematics at The Chinese University, and
 - (2) this University send research students to France;
- V. in the field of Business Administration, the French Government make arrangements for a French professor to come and offer courses and/or seminars in Marketing and International Business at the CUHK.

It is anticipated that these proposals will be approved and the various projects will be implemented soon, further realizing the University's aim of promoting cross-fertilization of knowledge, expertise and experiences, true to its character as an international institution.

Postgraduate Education in Southeast Asia

The ASAIHL Seminar on Postgraduate Education in Southeast Asia was held at this University from 3rd to 6th April, 1978. This was the second time The Chinese University played host to an academic gathering of the Association of Southeast Asian Institutions of Higher Learning (ASAIHL), of which the University is a member. 49 participants from member institutions of the ASAIHL and educational organizations in Australia and the United Kingdom attended the Seminar.

Dr. Choh-Ming Li, Vice-Chancellor of this University, delivered the opening as well as the closing addresses, and the President of the ASAIHL, Professor Swasdi Skulthai of Mahidol University, Thailand, also addressed the gathering at the Opening Ceremony. The keynote address was delivered by Professor Ma Lin, Vice-Chancellor-Designate of this University. The four-day seminar focussed on three topics:

1. Research and Graduate Education
2. Graduate Education in Relation to Social Needs
3. Institutional Interchange in Graduate Education

Principal speakers of the Seminar were Professor Ungku A. Aziz, Vice-Chancellor of the University of

Malaysia; Professor Dr. Sujudi, Deputy Rector of the University of Indonesia; and Professor Wu Teh-Yao, Dean of the College of Graduate Studies, Nanyang University. Three of The Chinese University's delegates delivered papers: Professor M. H. Hsing in his capacity as Dean of the Graduate School, Professor S. S. Hsueh as Director of the International Asian Studies Programme, and Dr. Ambrose Yeo-chi King as Chairman of the Department of Sociology.

In his closing remarks, Dr. Choh-Ming Li said that graduate education is an indispensable part of the University, because it is through research and graduate education that a set of useful data relevant to each region and each country gets integrated into the various academic disciplines. Many text books have been written in the West, and, although these contain some very useful concepts, such concepts are on the whole based on data collected from countries in the West. It is now time for universities in Southeast Asia to collect and inject national data into their studies and the best way of doing this is through graduate education and research. He also said that the economic cost of research and graduate education may be quite considerable, but the social cost of an incomplete university education is even more worrying. A poor education at the university level is the most expensive waste of human resources.

Postgraduate Education - Purposes and Problems

*Keynote Address of ASAIHL Seminar on
Postgraduate Education in Southeast Asia
by Professor MA Lin*

It is indeed my pleasure and privilege to have this opportunity to address the participants in the ASAIHL Seminar on Postgraduate Education in Southeast Asia and to share some of my thoughts with them.

The principal aim of this talk will be that of providing an overview of the broad scope within which discussions on aspects of postgraduate education will take place. The programme of the Seminar indicates that sessions will be devoted to discussions on three topics: research, social needs and institutional interchange. Although these three aspects of postgraduate education have been selected for detailed discussion, the list is by no means complete. There are other aspects some of which may be of equal or possibly even greater significance to educational institutions in our region. I trust a positive choice among alternative topics has been made so that there will be enough time for a meaningful exchange of opinion on them.

As I cannot honestly claim to be an expert on education, let alone postgraduate education, my approach to the subject will be that of a concerned and somewhat informed layman. I shall speak about certain issues which I feel may be discussed in greater detail in the forthcoming sessions. The views expressed on these issues are entirely my own and they should not be taken as the official views of The Chinese University of Hong Kong. My colleagues who form the University's delegation will be able to make more concrete contributions to the discussions.

Research and Graduate Education

Let us examine the first topic: research and graduate education. Should research training be a required part of graduate education? To answer this question, perhaps we should first look at the relation between teaching and research.

Teaching and research are two complementary activities to which most of the energies of a modern

university are directed. Although the relative importance between the giving of instruction and the advancement of knowledge has varied from age to age, yet in every century there were men in the universities who, in one way or another, added to the sum of human knowledge and expanded the range of academic and scientific interests. Indeed, one of the main characteristics of university development in the present century has been a general awareness of the importance of research, which is often organized on a large scale, especially in the fields of science and technology.

Within a university context, there is no conflict between teaching and research. Teaching is necessarily fertilized by research which the authors of the Robbins Report defined as a "convenient portmanteau word to cover the wide range of intellectual activities that serve to increase man's power to understand, evaluate and modify his world and his experience". Teaching that is confined merely to the handing down of what is known or deemed to be known, in the long run becomes pedantic, lifeless and uninteresting. But when a teacher is himself engaged in work at the frontiers of knowledge and thought, his teaching is vivified. It is a common experience that when enquiring closely into a chosen subject, a researcher not only finds himself picking up a surprising amount of miscellaneous information about his subject in general but gets it into a new and revealing perspective. The stimulating effect on teaching of this wider vision and more comprehensive grasp is something to which anyone who has been subjected to it can testify. Moreover, an alert and critical approach on the part of the teacher to the content and validity of what he is teaching, no matter how well worn the theme or commonplace the topic, will often enough suggest the need for reconsideration or further inquiry and so lead on to research.

This brings us to the most important point about the purposes of education at university level. University education must provide the student with a body of general knowledge with skills and techniques

which are of direct relevance to his future career. It should help him develop an analytical mind and a critical attitude so that he can form valued judgements. And it should foster in him an inquisitiveness so that he will search for general underlying principles.

A university expects that at the end of their courses its students will not merely be able to comprehend the extent and significance of what is already known within their own field, but will be receptive to new ideas, eager to explore them, show the ability to cope with them, and, above all, be able to work confidently on their own. As this is especially true of postgraduate students, it follows that these students must be trained in research methods which are, in a sense, the most fundamental tools in the quest for knowledge.

But research training must not be taken to mean a training in the systematic search for new knowledge only. It should also embrace a training in the development of previously discovered knowledge for practical use, the careful evaluation of knowledge or of works of art or philosophical speculation already in existence, the conservation of accumulated human knowledge and experience, and artistic creation. The Robbins Report pointed out that "there are many persons of first class ability, particularly in the humanities, who have never engaged in research in the narrow sense or felt any urge to publish, but whose breadth of culture, ripeness of judgement and wide-ranging intellectual curiosity are priceless assets in a department or college". Such teachers can also contribute much to the education of graduate students.

Some universities offer research degrees and coursework degrees at the postgraduate level in many academic disciplines. In addition, there are postgraduate diploma or certificate programmes by coursework in vocational subjects. If one accepts that research training is a required part of graduate education, the important question will be how to introduce and assess the result of such training in coursework programmes.

For different Faculties, research training perhaps should not carry uniform weight. While the point and importance of research in the study of science needs no labouring, the same cannot be said for studies in arts. The scientific researcher is normally a member of a team, engaged in a project which can be integrated

into the programme of his laboratory. His arts colleague is differently placed. He is often doing research on an individual topic which he may be able to discuss with his supervisor whom he sees only from time to time. Furthermore, he may be working on an obscure topic the elucidation of which adds only minimally to the sum of human knowledge and perhaps not at all to human happiness. But, if the efficacy of some research projects in the arts may be questionable, the need for research is not in doubt. One of the aims of the university is the pure pursuit of knowledge, free from social, political and dogmatic limitations, although it must never lose sight of its concern to prepare the students for life in the world.

Graduate Education and Social Needs

Now let us look at graduate education in relation to social needs. Because of its liberalizing effect, graduate education itself should be considered a social need. Expansion in graduate education is inevitable and desirable. The most powerful reason for developing postgraduate work is of course the explosion of knowledge. More and more people have stopped pretending that undergraduate work can reach the frontiers of knowledge. Those who want to become professionals in the fullest sense now realize that they will have to attend graduate schools.

Because of this, there is no room for arguments in favour of restriction on postgraduate education based on the belief that "more means worse". The *more* is the result of the opening up of educational opportunity to more people especially those with talents which previously would lie idle and wasted. Surely developing such talents can only be beneficial to society. Equally fallacious is the view that graduate education should not be expanded because there will not be enough jobs for higher degree graduates. Supply can create demand and the job market is capable of adapting itself to a change in the educational system. The experience of other parts of the world indicates that the market will in fact adapt itself so as to employ persons with higher degrees or postgraduate training in jobs previously held by graduates or even non-graduates. The results of this may well be economically desirable. For instance, it will be helpful to have more better-trained personnel, such as Ph.D.'s and M.B.A.'s, in production or management positions. But even if the economic system has no need for any expansion of graduate education, one could still argue in favour

of it. For surely education should be judged by its contribution to the quality of civilization and to the happiness and self-fulfilment of human beings. It is a shortsighted doctrine which looks upon education as an ancillary to the production of material wealth.

A graduate school is a centre of scholarship and research as well as teaching. It must try hard to achieve excellence and maintain academic autonomy. By keeping up with and working in the frontiers of human knowledge and by giving advanced training to students, a graduate school is contributing to the long-term needs of society. But it does not follow that graduate education neglects the more pressing short-term problems. A graduate school should also be responsive to immediate social needs. It can accomplish this by organizing refresher courses for graduates holding different jobs, by informing the public on current developments in various fields, and by undertaking research leading to the solution of pressing problems relevant to society.

Institutional Interchange in Graduate Education

I now come to the third topic: institutional interchange in graduate education. Is there a need for such interchange? I think the answer is an emphatic yes. Although to the non-Asians, all Asians look alike and the South-East Asian region is a small region in the world of politics, to us the region is the meeting place of several great civilizations including Chinese, Buddhist, Hindu and Islam and each of the peoples has its own colourful but different cultural heritage. Many of us have also been exposed at different times to western and Christian influences. With such diversity, there is so much we can learn from one another.

So far, interchange in graduate education is not formal or organized. Teachers at one university may from time to time accept invitations to become external examiners of postgraduate students of another university or during their sabbatical year, even take up a teaching appointment at a Graduate School elsewhere in the region. Graduates from universities in Hong Kong may pursue their higher degree studies in Singapore, Bangkok or Manila. All these however are done on an individual basis. If we are to encourage a sense of fellowship among members of the ASAIHL, affirmative action must be sought to promote more meaningful interchange. Besides, such

interchange will be of real benefit to the postgraduate students in the region because of the relatively lower costs and greater relevance. If we are to institutionalize interchange in postgraduate education, the task is formidable and the magnitude of the difficulties great. Even when the political atmosphere is cordial, there are still many factors to be considered such as mutual recognition of qualifications, compatibility of academic emphases, difference in the medium of instruction and costs. But what man has done before man can do again and if universities in Hong Kong can sustain satisfactory graduate exchange programmes with institutions in North America and the United Kingdom there is no reason why they cannot establish equally good or even better programmes with universities in South-East Asia. Naturally, delegates to this Seminar have come with expert ideas on how institutional interchange in graduate education can be carried out and I shall be most delighted to hear them speak on this subject.

But I do want to put in a few words on the role of the ASAIHL in this. For institutional interchange in graduate education to be implemented through regional cooperation under the aegis of ASAIHL, there are several possibilities. The least ASAIHL can do is to act as a clearing house for information on postgraduate education in its members' institutions, including information on admission criteria, course requirements, costs and scholarships. Then the ASAIHL can also sponsor various interchange programmes to suit the needs of member institutions. Then ASAIHL can arrange for the interchange of staff and students, with grants and scholarships if available. The ideal situation is perhaps for ASAIHL to establish a centre for postgraduate education, complete with research and degree study facilities. It will be a school mainly for regional or area studies where teachers from member institutions may spend their sabbatical year to contribute to teaching or research and postgraduate students may read for a higher degree or be attached for credit-earning courses. Through concerted regional effort, this project can certainly be achieved.

The above points have been put forward because I sincerely believe that members of ASAIHL recognize the need for cooperation in postgraduate education in order to promote the total welfare of the region. The fact that we are meeting today is a sure sign that there is a keen interest among members in this subject. Let us hope that ASAIHL will help promote regional understanding, if not regional brotherhood.



Above: Professor Ma Lin delivering the Keynote Address at the ASAIHL Seminar on Postgraduate Education in Southeast Asia

Top right: ASAIHL Seminar in session

Right: Exhibition of Books on Medicinal Plants held at the University Library

Below: Participants of the Consultation Meeting on Medicinal Plant Research in Southeast Asia



• Consultation Meeting •

Medicinal Plant Research in Southeast Asia

A Consultation Meeting on Medicinal Plant Research in Southeast Asia, co-sponsored by UNESCO Regional Network for Chemistry of Natural Products, the Institute of Advanced Research in Asian Science and Medicine, U.S.A., and The Chinese University of Hong Kong, was held at the University from 19th to 22nd April, 1978. The Meeting was aimed at formulating regional cooperative research programmes on medicinal plant research in Southeast Asia through the establishment of a liaison centre.

Over 40 scientists attended the Meeting including UNESCO-sponsored "country representatives" from Hong Kong, Indonesia, Japan, Korea, Malaysia, Singapore, the Philippines and Thailand. Speaking at the Opening Ceremony were Dr. Choh-Ming Li, Vice-Chancellor, Mr. G. J. Bell, Chairman of the Committee for Scientific Co-ordination in Hong Kong; Dr. E. J. Da Silva of UNESCO; and Dr. H. M. Chang, Head of the Chemistry Department of The Chinese University, who gave the introductory remark as Chairman of the Local Organizing Committee.

Dr. Chang pointed out that it is now felt Western medicine alone cannot meet the health care needs of all the people in the world, and that institutions such as the World Health Organization have recognized that better utilization of traditional medicine and medicinal herbs must be encouraged. "Much research to evaluate the efficacy of many commonly used medicinal herbs is still waiting to be done," he said. "If a small fraction of the huge sum of money pumped into Western medical research is given to the research on traditional herbs, significant break-throughs in this

field can be made." Dr. Chang said that recent advances in biochemistry, instrumentation and other fields of knowledge have given the scientists powerful tools of investigation undreamed of 25 years ago.

Special lectures were delivered by three world-renowned authorities on medicinal plants:

"Botanical Studies in Medicinal Plant Research in Southeast Asia" by Dr. S. Y. Hu of Arnold Arboretum, Harvard University and of The Chinese University of Hong Kong

"Chemistry of Chinese Drugs" by Professor S. Shibata of Meiji College of Pharmacy, Japan

"Perspectives in Medicinal Plants: A Personal View" by Professor Frederick F. Kao of the State University of New York and of the Institute of Advanced Research in Asian Science and Medicine, U.S.A.

It was resolved at the Consultation Meeting that the Liaison Centre on Medicinal Plant Research is to be established in Hong Kong within the framework of Southeast Asian Regional Network for Chemistry of Natural Products, UNESCO for the purpose of:

- (a) the compilation of ethnomedical information;
- (b) the selection of potential plant candidates (from the Asian flora) for laboratory investigations; and
- (c) the promotion of medicinal plant research

in relation to and in accordance with national health standards in the region.

The Liaison Centre will be operated by The Chinese University Research Unit on Chinese Medicinal Materials.

Regional cooperative projects now undertaken include:

- (1) Medicinal plant screening programme
- (2) Phytochemistry and Biological Effect of Ginseng
- (3) *Gardenia jasminoides*
- (4) *Murraya paniculata*
- (5) *Andrographis paniculata*
- (6) Isoquinoline alkaloids
- (7) Zingiberaceae

An Exhibition of Books on Medicinal Plants was held at the University Library from 20th to 22nd April, 1978 to synchronize with the Consultation Meeting on Medicinal Plant Research. Ancient Chinese publications related to the study of medicinal plants and a set of pictorial presentation on the development of Chinese medicine were displayed.

Welcome Address by Dr. Choh-Ming Li

It gives me great pleasure to welcome you all to the Opening Ceremony of the Consultation Meeting on Medicinal Plant Research in Southeast Asia. It is indeed an honour for The Chinese University to co-sponsor with UNESCO and an U.S. research institute this Consultation Meeting, which is the first of its kind to be held in Southeast Asia, and to play host to the overseas participants from our neighbouring countries.

The use of medicinal plants has a very long history in China and other countries in Asia. It dates back to the time even before the coming of science to the Western world. The fact that herbal medicine is still being used by millions of people in the region is proof that some plants and herbs do have a medicinal value in the curing of diseases. Scientific research to evaluate how effective they are and to find out accurately where their strength and weaknesses lie is therefore well justified. The fruits of research in this field would not only have important bearings for the health care of people in the region but, as is likely, would also contribute to the world-wide combat of diseases and to the development of medical science generally.

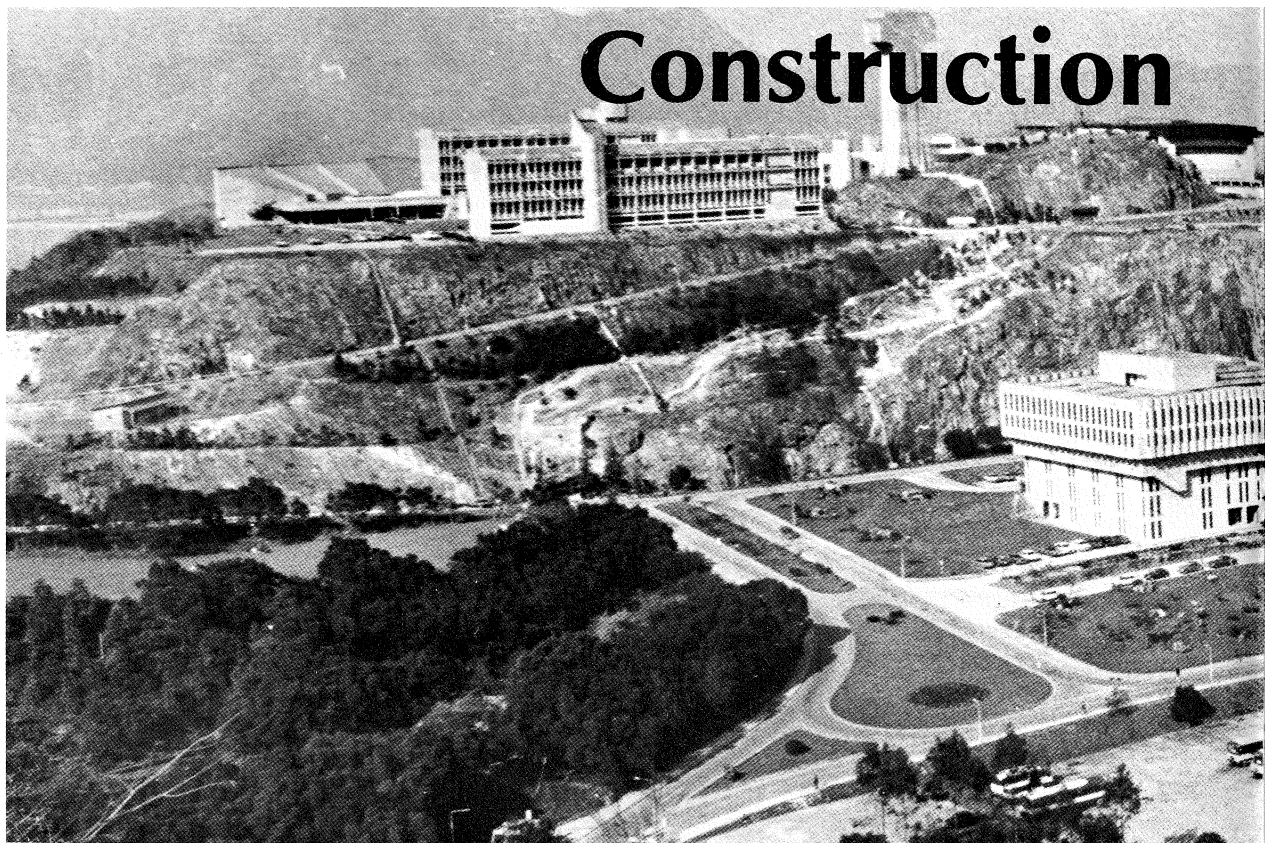
Further, since the use of the medicinal plants has evolved over the millennia mainly through the cumulative experience in different parts of the region, information on the subject has not been documented as scientifically as we would have preferred. A scientific study of the subject is called for, in order that the invaluable knowledge on medicinal plants inherited from the past could be assessed, assimilated and disseminated to all those who have an interest in the field.

It is only in the twentieth century that the call for scientific studies on medicinal plants has been answered when modern scientific methods of analyses, experiment, research, documentation and information retrieval are applied to the study of medicinal plants. Western scientists and international organizations such as the World Health Organization have come to realize the potential of medicinal plants in providing keys to some of the problems which could not be solved by Western medicine. In response to this call, The Chinese University set up a Research Unit on Medicinal Materials under the University's Institute of Science and Technology in 1975 to undertake research projects in this field. I am glad to say that the Unit has received great support from various international organizations. The co-sponsorship of the Consultation Meeting today by The Chinese University with the UNESCO Regional Network for Chemistry of Natural Products and the Institute for Advanced Research in Asian Science and Medicine of U.S.A. is yet another example of international cooperative efforts in the scientific study of medicinal plants. We all hope that this Meeting will mark the beginning of a series of sustained efforts by countries in the region in the undertaking of cooperative research projects and free interchange of research results and experience so necessary for the consolidation and the advancement of knowledge in herbal medicine.

Last but not least, I wish to take this opportunity to stress that the study of medicinal plants has a special meaning for The Chinese University. An expressed aim of The Chinese University is the integration of Eastern and Western cultures. We have held to this aim very closely. We see in the scientific study of medicinal plants an exemplification of the application of Western knowledge to the study of what is in the main a Chinese or Oriental cultural heritage and a significant step forward in the integration of Eastern and Western cultures.

Now I have the honour to declare open the Consultation Meeting on Medicinal Plant Research in Southeast Asia.

Construction



The first half of 1978 has witnessed a very important phase of physical development at The Chinese University. Sui-Loong Pao Building, the Conservation Annex of the Art Gallery, three new student hostels, the Spectator Stand at the University Sports Field, and eight tennis courts have all come into use, and foundation stone for the Lion Pavilion has been laid.

Sui-Loong Pao Building

The Central Activities Complex, comprising Pi-Ch'iu Building, Sui-Loong Pao Building and the lecture hall complex, houses research and servicing units of the University, and caters for the needs of the Faculties of Arts, Business Administration and Social Science in the same way that the University Science Centre serves the various Boards of Studies of the Faculty of Science. Therefore the completion of Sui-Loong Pao Building marks a big step forward towards the integration of the central activities and the pooling of resources.

The four-storey Sui-Loong Pao Building has a usable area of 14,000 square feet and provides much needed space for the Graduate School, the Public Affairs Research Centre, the Economic Research

Centre, the Lingnan Institute of Business Administration, the Three-Year Part-Time M.B.A. Degree Programme, the Institute of Business Management Studies, the International Asian Studies Programme, and the temporary office of the Faculty of Medicine.

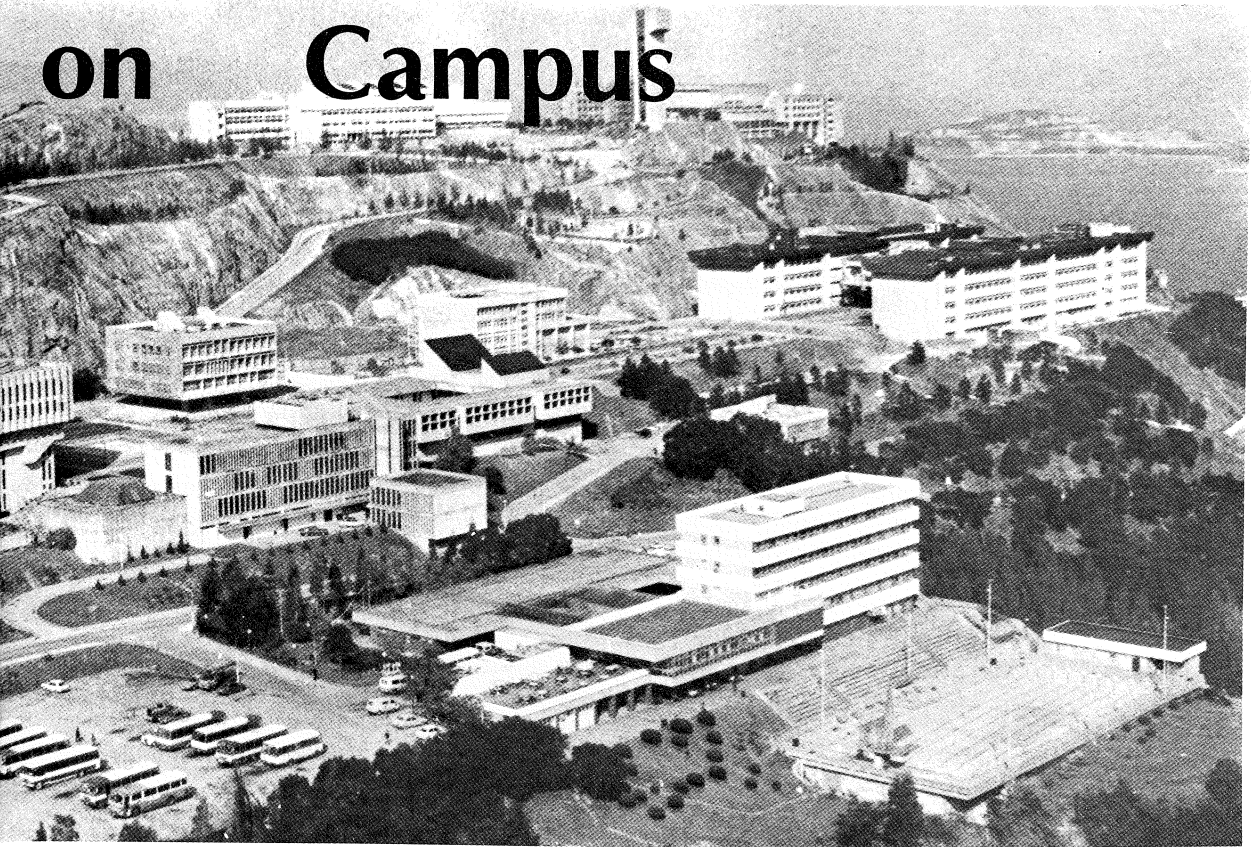
Conservation Annex of Art Gallery

The Conservation Annex of the Art Gallery was constructed to meet the increased demand for museum technical services of the rapidly expanding Art Gallery of the Institute of Chinese Studies. The new Annex consists of three split levels with a total usable area of 3,500 square feet, accommodating (1) restoration and conservation laboratories equipped with instruments for physical and chemical examination of works of art, (2) workshop for the mounting and restoration of Chinese Painting, (3) workshop for carpentry, and (4) photographic studio and dark room.

Student Hostels

A new hostel project costing HK\$11 million comprising four units has been under way to ease the acute student accommodation problem. Three blocks

on Campus



of hostels have recently been completed: Madam S. H. Ho Hall at Chung Chi College, Xuési Hall at New Asia College, and Bethlehem Hall at United College. Each of these hostels is a six-storey structure comprising 110 double rooms and providing residential accommodation for 220 male and female students and will be ready for occupancy for 1978-79. The fourth one will house another 116 students.

Spectator Stand and Tennis Courts

Additional sports facilities have helped to boost the University's physical education programme and cater more for the recreational needs of University members.

Construction of a covered spectator stand with a capacity of 1,800 at the University Sports Field was completed in 1977. The total construction cost of HK\$1.5 million was defrayed by The Royal Hong Kong Jockey Club (Charities) Ltd.

Of the eight new tennis courts completed this year, five were built with government funds and the other three with donations from The Shell Company of Hong Kong.

Lion Pavilion

The Lion Pavilion, a Chinese style circular pavilion, will be built on the islet in the Lily Pond at Chung Chi College to enhance the beauty of the campus and provide yet another venue for University members to spend their leisure time. The foundation stone of the Pavilion was laid in June 1978 and construction is expected to be completed by the end of the year.

All these construction projects were made possible by outside donations, which have contributed greatly to the formation of The Chinese University campus, as H. E. the Chancellor, Sir Murray MacLehose, summed up in his address at the opening ceremony of the Sui-Loong Pao Building:

"The capital cost amounts to about \$240 million. Government funds account for about \$205 million of this and private funds about \$34.5 million—a very large sum of money to have been raised from private sources. The Government, the community at large, and this University are greatly in their debt for so public spirited a response to the needs of higher education in Hong Kong."

Opening Ceremony of Sui-Loong Pao Building

The Opening Ceremony of Sui-Loong Pao Building was held on 12th January, 1978, at which His Excellency the Chancellor, Sir Murray MacLehose, officiated.

The Building is a gift from a distinguished local businessman, Dr. Y. K. Pao, Chairman of the Worldwide Shipping Group, donated in the spirit of his father's long devotion to community service and educational development.

At one stage in 1975, when Hong Kong was in the throes of a worldwide recession, the project to construct an economics, business administration, and government and public administration building had to be temporarily suspended in the interest of economy. During this particularly difficult time, Dr. Pao demonstrated his concern for the development of business education in The Chinese University by making available to the University a sum of HK\$3.29 million to cover the entire cost of the Building. Construction work for the Sui-Loong Pao Building was thus started in July 1976 and completed in September 1977.



From left: Dr. Y.K. Pao, Mr. Pao Sui-Loong, Dr. Choh-Ming Li, Sir Murray MacLehose, and Sir Yuet-keung Kan

H. E. the Chancellor's Speech

Mr. Vice-Chancellor, Mr. Pao Sui-Loong, ladies and gentlemen, thanks to the generosity of the Pao family we are today celebrating the opening of this fine building—another step forward in the development of the Chinese University.

Chung Chi College has been on this site since 1956, but the start of construction work on the University campus dates from December 1967 when my predecessor Sir David Trench, planted a tree to commemorate the event. I say planted, but I am advised that in fact it had to be put in a small hole chiselled out of crumbling rock and grit, because the site we are now standing on was then a wilderness of exposed rock and dust. That was almost exactly ten short and very busy years ago.

By any standards, since then the progress has been remarkable. By mid-1973, only five-and-a-half years after that first ceremony, the Chinese University was assembled on this one site: and we are now looking at a large modern University substantially completed in a mere ten years. It has been a tremendous task in which very many people have played a part—architects, administrators, contractors and officers in the Government and the UPGC: but undoubtedly the main burden has fallen on the University Buildings Office and the Vice-Chancellor himself. It gives me great pleasure to acknowledge publicly an outstanding achievement by all concerned.

The capital cost amounts to about \$240m. Government funds account for about \$205m of this and private funds about \$34.5m—a very large sum of money to have been raised from private sources. The Government, the community at large, and this University are greatly in their debt for so public spirited a response to the needs of higher education in Hong Kong.

Included in them is of course the Pao family represented by Mr. Pao Sui-loong and his son Dr. Pao Yue-kong, without whose aid this building could not have been built at this stage. It was originally envisaged that this would be part of a joint project comprising three buildings but the financial recession of 1975 brought plans to a halt. The Pao family then stepped in and by more than doubling their original contribution enabled the plans to be re-started and the building completed.

The building will cater for Business and Public Administration, and Economic Research and, initially at least, will also house administrative offices for the Graduate School and for the embryonic School of

Medicine. I am sure it is a source of particular satisfaction to all of us that the Pao family should have ensured that this building catering for Business Administration should have opened during the Vice-Chancellorship of Dr. Li Choh-Ming, whose personal interest and preeminence in this discipline are of such wide renown, and that it should also house other vocational disciplines in which he has been particularly concerned.

It is also most appropriate that the teaching of Business Administration should be associated with the Pao family as I suspect few have much to teach them about the practical side of business administration. Their extraordinary capacity for hard work, clear thought and intense self-discipline, should inspire those who work here and I wish them similar commercial success and family happiness.

Mr. Vice-Chancellor, Mr. Pao, ladies and gentlemen, I have much pleasure in declaring open the Sui-Loong Pao Building.

Dr. Y. K. Pao's Speech

Your Excellency, Dr. Li, Ladies and Gentlemen,

Let me first of all thank His Excellency the Governor and Chancellor of the University, for honouring this dedication with his presence. I know of Sir Murray's great concern for the further development of education, and educational facilities in Hong Kong and he is proving this again by his agreement to preside at the Opening Ceremony for this Business Administration, Economic Research, and Public Administration Building of The Chinese University of Hong Kong.

I must also thank the Vice-Chancellor, my good friend, Dr. Li Choh-Ming, at whose kind suggestion the Building is named after my father, Mr. Pao Sui-Loong, to mark the part our family has been able to play in bringing it into being. I am grateful that my father at 83 years of age is able to fully participate in this event.

If I remember correctly, The Chinese University of Hong Kong was officially inaugurated in 1963. In only fourteen years of dedicated operation, the University has taken its proud place among the region's well known educational establishments and is one of the best in terms of campus facilities, quality of curriculums provided and standard of its faculty.

It has often been heard said that the University, as an educational organization charged with the noble task of disseminating high-level knowledge in a rapidly progressing world, must maintain a degree of academic autonomy and intellectual freedom. I cannot agree more with this line of reasoning and am gratified to see that the Chinese University epitomizes this concept. Throughout the years, it has made good and effective efforts to free itself from all external influences in fulfilling its role as a major and worthy seat of higher learning in Hong Kong.

As long-standing residents of Hong Kong, it is both a pleasure and a privilege for me and my family to be able to make contributions towards a number of worthy causes particularly in education and the arts. It is most gratifying to see needed projects come to fruition through the assistance we could provide and to know that their use over the next decades will allow the young people of Hong Kong to improve themselves. Plans for the construction by the Chinese University of a building devoted to providing better facilities for the advancement of business education was a long time in the embryonic stage. As a businessman myself, needless to say, I always consider business studies as an important aspect of university education, especially in Hong Kong where the well-being of the whole community is to a large degree dependent upon the success of its trading and economy. It is a happy day then, and a day of special meaning indeed for me and my father to see the Sui-Loong Pao Building completed and officially opened for usage.

We all realize that education is an important motivating factor of the world's progress. Education for the younger generation is a phase of the social work that has always commanded the foremost attention of the governments of all countries. In Hong Kong, because of its high concentration of population and shortage of Land area, education of the young has presented problems which are peculiar and unique for the region. The Government has done its best over the years to implement a long-range and all-encompassing educational programme but it is inevitable that difficulties of one kind or another are encountered and that it should fall upon the private sector to come forward with whatever resources and other means within its capability to help supplement the Government's effort in consummating this vital programme for the good of Hong Kong.

Before closing, I wish also to thank all the prominent guests who have spared their time to join us on this happy occasion. And last but not least, I would like to express my gratitude to the many dedicated people, architects, designers and workers alike, whose tireless efforts have made the completion of this fine building possible.

At a brief ceremony held on 14th April, 1978, Dr. Choh-Ming Li, Vice-Chancellor and Director of the Institute of Chinese Studies, opened the Conservation Annex of the Art Gallery of the Institute.

Construction of the Annex has been necessitated by the rapid expansion of the Art Gallery, which has been functioning as an active gallery in recent years, mounting special exhibitions of Chinese art at regular intervals, and serving as a teaching and research unit of the University, so that the space allocated to the Gallery has become inadequate to cope with its heavy and increasing workload. The Lee Hysan Foundation, which donated the construction costs of the Institute of Chinese Studies in 1970, came forward again with a donation of HK\$523,000 for the building of this Annex to house the technical section of the Gallery.

The Art Gallery held an exhibition of "Donations to the Art Gallery" to mark the Opening of the Annex.

Summary of Speech by Dr. Choh-Ming Li

The Art Gallery, since its inception in 1971, has

Opening Ceremony of Conservation Annex of Art Gallery



been one of the fastest expanding departments of the University. This would not have been possible if not for the efforts of its Management Committee with Mr. J. S. Lee as Chairman and whose members include Mr. Ho Iu-kwong and Mr. Rogerio Lam. The Art Gallery has also been extremely fortunate in having the support of a large number of benefactors, collectors and members of the public.

There are several aspects of the work of the Art Gallery which deserve mentioning on this occasion. First, the collection of the Art Gallery, which is used for teaching and research purposes, now includes nearly one thousand paintings and calligraphy and a few specialized collections of early rubbings, bronze seals and jade carvings. The major part of the collection has been acquired as gifts or purchased with donated funds. Secondly, the photographic archive, an important part of the research facilities provided by the Art Gallery, now contains over ten thousand photographs and over three thousand slides. This has also been built up since the opening of the Art Gallery through the effort of the photographic unit of the Art Gallery and through purchase and exchange with other institutions. Thirdly, exhibitions on special topics have been held regularly at the Art Gallery usually in connection with study seminars. Catalogues are usually produced in connection with the exhibitions, and the papers of the seminars published.

Finally, the technical section was established to provide the following services: (1) cabinet-making, (2) mounting of paintings and calligraphy, (3) photography and (4) conservation and scientific analysis of works of art. The staff of this unit have been trained both locally and abroad, again with the financial assistance of our supporters. The necessary equipment for this unit has also been largely donated.

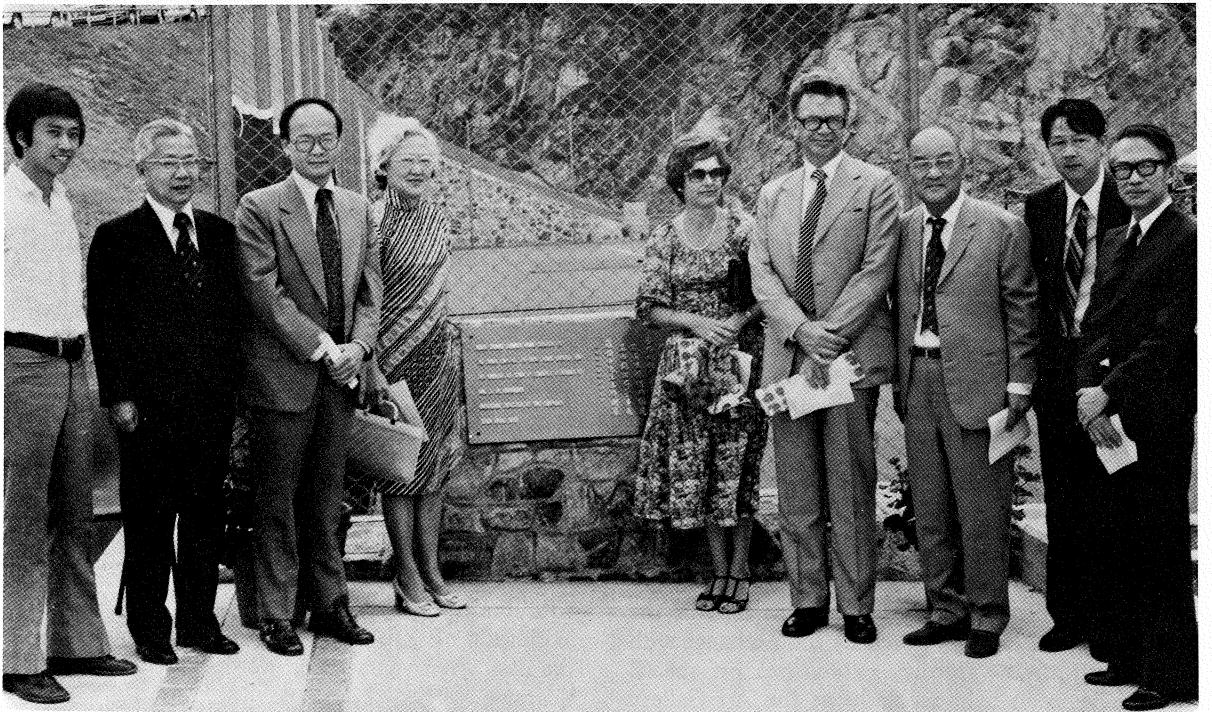
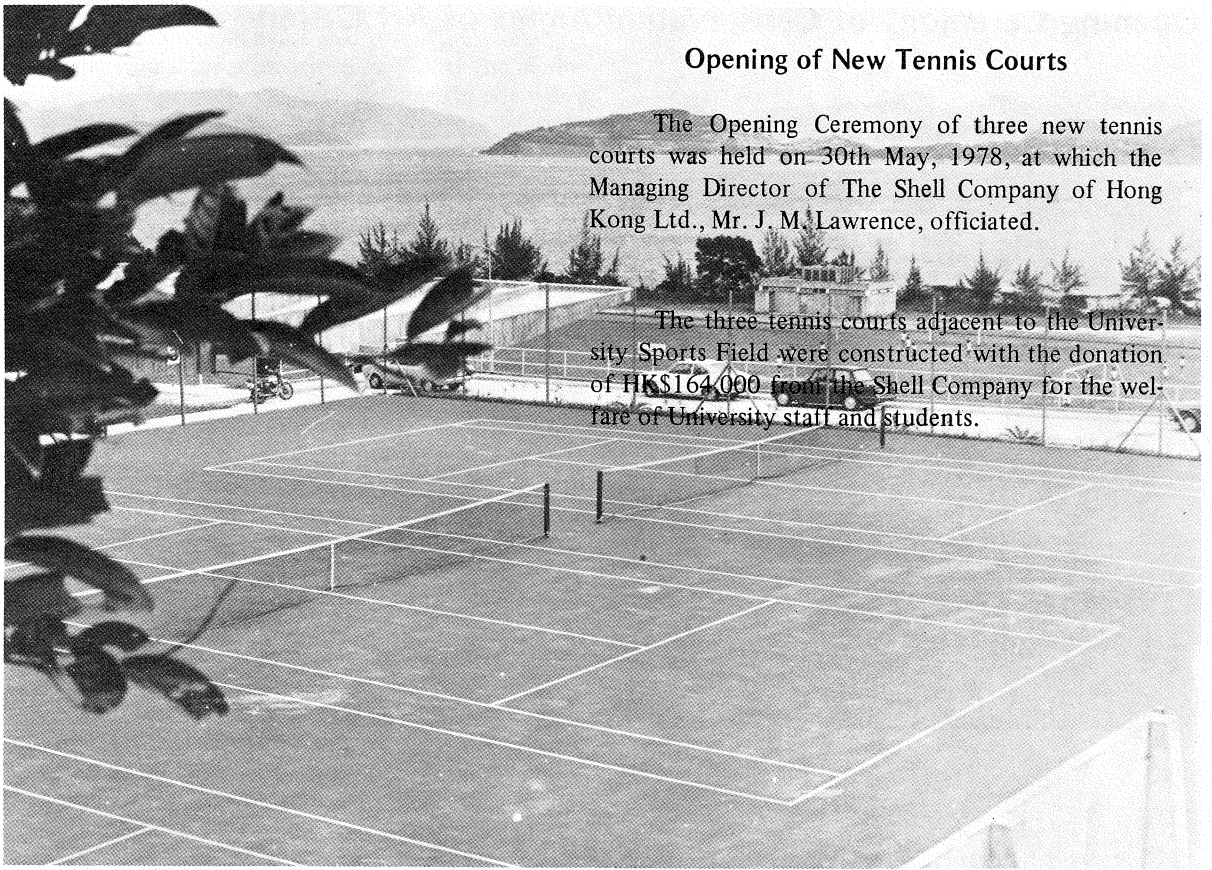
As a result of the rapid expansion of the work of the Art Gallery, the space allocated to the Art Gallery within the Institute of Chinese Studies building has become inadequate and the Lee Hysan Foundation, which donated the cost of the construction of the Institute of Chinese Studies building in 1970, has again come forth to provide the University with this Annex, which will house the technical section of the Art Gallery. To-day it is my very pleasant task to acknowledge yet another instance of the generosity of the Lee Hysan Foundation and its constant support for the University, not only in regard to the Institute of Chinese Studies and the Art Gallery, but to practically every section of the University. In conjunction with the opening of this Annex we hold to-day an exhibition of "Gifts to the Art Gallery" received over the past seven years which we shall see are quite considerable.

It is with great pleasure that I now declare the technical Annex of the Art Gallery opened.

Opening of New Tennis Courts

The Opening Ceremony of three new tennis courts was held on 30th May, 1978, at which the Managing Director of The Shell Company of Hong Kong Ltd., Mr. J. M. Lawrence, officiated.

The three tennis courts adjacent to the University Sports Field were constructed with the donation of HK\$164,000 from the Shell Company for the welfare of University staff and students.



From Left: Mr. Wong Chi Sun (Student Union President), Mr. T.C. Cheng, Mr. Benjamin Huey (Personnel & Public Relations Manager, The Shell Company of Hong Kong Ltd.), Mrs. C.M. Li, Mrs. J.M. Lawrence, Mr. J.M. Lawrence (Managing Director, The Shell Company of Hong Kong Ltd.), Dr. C.M. Li, Professor Ma Lin, and Mr. N.H. Young

Opening Ceremony of New Student Hostels

The Opening Ceremony of New Student Hostels was held on 5th June, 1978 at Chung Chi College's Madam S. H. Ho Hall, at which His Excellency the Chancellor, Sir Murray MacLehose, officiated.

The new hostel project comprising the three six-storey hostels just completed—Madam S. H. Ho Hall, Xuési Hall and Bethlehem Hall—and a fourth one which is still under construction, costs over HK\$11 million. They are built with funds from three different sources. The Bethlehem Company, Ltd. was the first to come forward with a generous donation of HK\$4 million in 1974 to help meet the cost of building more student hostels. The Yale-China Association, which has a direct interest in providing more residential places for students of the University's International Asian Studies Programme, also made a contribution of HK\$1 million towards the project. The rest of the construction cost is defrayed by the Hong Kong Government.



Sir Murray MacLehose with Dr. and Mrs. Ho Sin Hang



*Left: Xuési Hall at New Asia College
Below: Bethlehem Hall at United College*



OPENING OF NEW STUDENT HOSTELS

Speech by Sir Murray MacLehose

I imagine it is with something like a sigh of relief that you, Vice Chancellor, approach the opening of this hostel today. I too am delighted that generous private donations, amounting to more than one-third of the total cost has enabled the three hostels to be completed.

The naming of this hostel at Chung Chi College after Madam Ho Sin-hang fittingly commemorates the great generosity of the Ho family who have contributed more than two-thirds of the private funds for the three hostels.

As your Chancellor I might, with propriety, also commend your Government for contributing the major share of the bill for these hostels. We attach much importance to them as places in which students can read and think and learn in favourable conditions—conditions created by the construction and concept of the Chinese University of Hong Kong; a magnificent idea, a magnificent site and splendidly executed under Dr. Li's leadership.

What purpose do we want it to serve?

For my part I want it to serve two causes, that of learning and that of Hong Kong.

Learning: because learning and knowledge for its own sake is what gives a university inspiration, authority, and repute, and gives it the ability to command the respect of those who learn in it.

Hong Kong: because to turn it into the place we want it to be, Hong Kong desperately needs people of all ages with the wisdom that only true learning and true education tempered by practical experience can confer the sort of learning and education that can be acquired here.

I am sure that these new hostels will provide an environment that will promote these ends, and thus fulfil the hopes of the donors, the University, and community it serves.

It is thus with the greatest pleasure that I now declare open the Ho Sin Hang Hostel of Chung Chi College.

Dr. Choh-Ming Li's Speech of Welcome

The fund for these hostels came from three different sources. Dr. S. H. Ho donated \$4,000,000, Yale-China Association, \$1,000,000, and the Hong Kong Government appropriated the balance required for the project, amounting to \$6,000,000.

Our opening ceremony today is held at the Madam S. H. Ho Hall. This hostel is named to express the gratitude on the part of the University to Dr. and Mrs. Ho. I hasten to tell you that behind this name, there is an extremely moving story. Early in 1975, the University was confronted with an acute shortage of lodging for students. The shortage had caused students great inconvenience, and handicapped their studies. Dr. Ho was much concerned when learning of the situation, and promptly offered to donate \$4,000,000 to alleviate the situation. At that time, Hong Kong was severely hit by depression, which made it difficult even for him to raise such a huge sum immediately. In spite of the slump in real estate he resolutely sold, with the gracious consent of Mrs. Ho, the mansion he had bought for his own use, at an enormous loss. The sale brought in a little over \$3,000,000, and he further contributed the balance. This first move of generosity was followed by the contribution made by Yale-China Association for the purpose of providing accommodation facilities for overseas students enrolled in International Asian Studies Programme courses, and also the colossal financial support from the Government, thus making it possible for the new hostels to come into being. We want to thank them most heartily.

Dr. Ho actually left the christening of these hostels entirely to the University. It is only at my repeated request that he finally agreed, with much reluctance, to our suggestion to have the hall named after Mrs. Ho as our appreciation of their generosity.

That the Chinese University will benefit tangibly by their munificent gift can easily be seen. For these new hostels will make students' contacts with the faculty much closer and more frequent, and the time saved by students in commuting can well be spent on academic pursuits. Their assistance facilitates the University's student-orientated teaching and thus enhances our teaching and learning standards.

I am sure every member of this University will always remember the generosity of Dr. and Mrs. Ho, Yale-China Association and the Hong Kong Government.

Plaque-unveiling Ceremony of Lion Pavilion

Dr. Choh-Ming Li, Vice-Chancellor, and Professor Ma Lin, Vice-Chancellor-Designate of the University, officiated at the ceremony for unveiling the plaque of The Kowloon Central Lion Pavilion on 26th June, 1978. The Pavilion is a donation of the Lions Club of Kowloon Central and Mr. Astor Chang, Chartered President of the Club, unveiled the plaque at the ceremony. The Pavilion is expected to be completed before the end of 1978.

Address by Mr. Astor Chang

It is a great honour for me to have the opportunity to address the assembly on behalf of members of the Lion's Club of Kowloon Central on this occasion.

The aim of the Lion's Club is world-wide community service, coinciding with The Chinese University's aim of serving the society. It would give us great pleasure to present to The Chinese University a gift to help it achieve this aim. But what kind of gift?

Professor Ma Lin, Vice-Chancellor-Designate, has remarked that the absence of gates at the entrance of The Chinese University is a manifestation of the University's open attitude and people are welcome to visit this campus any time. Indeed, The Chinese University campus may very well be said to belong to every member of the society: we have just to look at the crowds of visitors thronging the campus on weekends and holidays. The fact that the campus itself is a kind of community service has given us some inspiration. The Chinese University campus is undoubtedly very attractive, this charming Lily Pond being one of its scenic spots. Construction of a pavilion on it will naturally enhance the beauty of not only the Pond but the whole campus. We therefore decided to donate a pavilion to The Chinese University, hoping that it will be a welcome gift for the University staff and students, where they can spend their leisure time in a quiet and peaceful atmosphere.

We are grateful to Dr. C. M. Li, who has kindly written the inscription for this Kowloon Central Lion Pavilion. May I, on behalf of our Club, thank Dr. Li for his kindness, and wish The Chinese University greater success in its service to the community.



Mr. Astor Chang unveiling the plaque for the Lion Pavilion

Research and Graduate Education*

*Professor Mo-huan Hsing
Dean of Graduate School and
Director of Institute of
Social Studies and the Humanities*

The Graduate School of The Chinese University of Hong Kong was established in 1966, when five Graduate Divisions were set up. With the completion of the University Library and the Science Centre on the Shatin campus in 1972 and with the progress of the overall physical development programme which brought the three Colleges—Chung Chi, New Asia and United—together in 1973, Graduate Divisions increased apace. At present, the Graduate School has 18 Divisions offering programmes leading to Master's degrees (M. Phil., M.A., M.B.A., M. Div. and M.S.W.). One additional Graduate Division will be set up in the next academic year, and a few more new graduate programmes are expected to be introduced during the next 2 or 3 years. The prudent attitude of the University has put off for several years the consideration of two proposed Ph.D. programmes—one in Chinese Studies and the other in Electronics; but the prospect of introducing them in the near future seems bright.

A very interesting development in The Chinese University is that some of the Research Institutes and Centres had been set up even before the Graduate School. But, like the Graduate Divisions, the Research Centres and Units were mostly established after 1971. There are now four Institutes and nine Centres and Units in active operation.

Despite the rapid growth of the Graduate School and the Research Institutes and Centres/Units, quality rather than quantity has always been the University's emphasis. After ten years of development, the total student enrolment for the degree programmes for 1977-78 is only 252 (including 44

enrolled for the Three-year MBA Programme, a professional degree course introduced in 1977-78) and the number of students awarded degrees in 1977 was only 77 (including 20 from the Two-year MBA Programme). On the research front, the Research Institutes and Centres/Units have produced and published hundreds of papers, monographs and books.

Here I would like to draw your attention to the table in which the names of Graduate Divisions are placed vis-a-vis those of Research Institutes and Centres/Units. This table gives us an unmistakable impression that, despite the temporary slow-down in the growth of the Graduate School and the Research Institutes caused by the economic recession during 1974-76 and the subsequent pickup in 1977 and 1978, the two compartments have maintained a more or less balanced development. In fact, if we allow for some time needed for the relationships between the two to evolve, we can see that the four Research Institutes—of Chinese Studies, Science and Technology, Social Sciences, and Business Management Studies—correspond quite closely to the four graduate areas under which various Graduate Divisions are grouped—i.e., Humanities, Natural Sciences, Social Sciences, and Professional Education. Indeed, if "Faculty Research Projects" under each Institute are broken down into sections by discipline, further correspondence between the sections/centres/units and the Graduate Divisions could be established as well.

This course of development is by no means accidental. As a matter of fact, the importance of

*A paper for ASAIHL Seminar held on 3rd-6th April, 1978 at The Chinese University of Hong Kong.

Graduate School

*Year of
Establishment*

Divisions

- I. Humanities
 - 1) Chinese Language and Literature 1966
 - 2) History 1966
 - 3) Philosophy 1966
 - 4) Theology 1972
 - 5) English (scheduled to be set up) 1978
- II. Natural Sciences
 - 1) Biology 1969
 - 2) Chemistry 1970
 - 3) Biochemistry 1972
 - 4) Physics 1972
 - 5) Mathematics 1973
- III. Social Sciences
 - 1) Geography 1966
 - 2) Sociology 1970
 - 3) Economics 1974
- IV. Professional Education
 - 1) Two-year Business Administration 1966
 - 2) Three-year Business Administration 1977
 - 3) Electronics 1972
 - 4) Education (a) Diploma course 1965
(b) Degree course 1973
 - 5) Communication 1977
 - 6) Social Work 1977

Research Institutes and Centres/Units

*Year of
Establishment*

Names

- I. Institute of Chinese Studies 1967
 - 1) Faculty Research Projects 1967-present
 - 2) Chinese Linguistics Research Centre 1966 (suspended in 1977)
 - 3) Centre for Translation Projects 1971 (expanded to include Comparative Literature in 1978)
 - 4) Centre for Chinese Archaeology and Art 1978
 - 5) Centre for Comparative Literature and Translation 1978
- II. Institute of Science and Technology 1964
 - 1) Faculty Research Projects 1964-present
 - 2) Research Unit on Chinese Medicinal Material 1975
 - 3) Research Unit on Food Protein Production from Waste 1977
- III. Institute of Social Studies and the Humanities 1964
 - 1) Faculty Research Projects 1964-present
 - 2) Economic Research Centre 1965
 - 3) Social Research Centre 1966 (reorganized in 1969)
 - 4) Centre for Communication Studies 1965 (suspended in 1973 and reactivated in 1974)
 - 5) Geographical Research Centre 1966 (suspended at end of 1977 till arrival of new Director in September 1978)
 - 6) Centre for East Asian Studies 1971
 - 7) Public Affairs Research Centre 1977
- IV. Institute of Business Management Studies 1978

research in relation to university education in general and graduate education in particular has been recognized and emphasized ever since the inception of The Chinese University. In his report *The Emerging University 1970-74*, the Vice-Chancellor, Dr. C. M. Li, made it clear that, while "graduate education . . . develops highly qualified specialists capable of dealing with the most abstruse problems in [the basic fields of knowledge] and of advancing knowledge through scientific and scholarly research [as well as provides] professional practitioners needed to manage and sustain our complex, technological society" (p. 30), "research is a driving force of a university". Without research, "the graduate school becomes an empty shell. . . . Learning loses its sense of wonder and excitement. The whole University is deprived of the invisible energy that drives to excel and the academic staff are denied the inspiration and impetus of interaction with the wider community of learning. Academic development will stagnate although student population may continue to inflate" (p. 45).

This basic conception of research in relation to university education and, in particular, to graduate studies as suggested by the Vice-Chancellor has continued to guide the development of the Research Institutes and Centres/Units in this University. As also described in the Vice-Chancellor's Report in more concrete terms, both Institutes and Centres/Units are conceived as organizational vehicles for fostering faculty research and for training graduate students in research methodologies. Institutes are concerned with broad, multidisciplinary areas of investigation and foster both individual and group research projects. When projects of considerable magnitude are undertaken, a subdivision called a 'Centre' or 'Unit' may be established in order to provide greater definition of purpose and a certain autonomy in the administration of research projects. In principle, a Centre/Unit exists only so long as the major project exists or new projects are added. When a Centre/Unit ceases to have a viable research programme of some magnitude, it is abolished and its staff released, while individual research activities may continue as 'programmes' under the aegis of the appropriate Institute. Having all related research activities within its purview, an Institute can develop policies and procedures which will ensure solid and varied research experience for graduate students. It is essential therefore that there be effective coordination and cooperation between each Institute and Centre/Unit and the

Graduate School.

It is gratifying to observe that such coordination and cooperation have been largely achieved. It has become quite common now for our graduate students to join in the various research projects undertaken at different Institutes and Centres/Units either as research assistants or simply as trainees with a view to preparing theses on particular topics in connection with certain research projects. On the other hand, while the graduate students benefit from project participation, their assistance to the project supervisors is often found to be most valuable particularly because of the generally tight manpower situation of the Institutes and Centres/Units. In fact, many research projects would not have been completed in time had it not been for the assistance provided by the graduate students in one way or the other.

On the staff side, the general pattern of cooperation has been that the teaching staff of various disciplines voluntarily associate themselves with related Institutes and Centres/Units on a project basis. However, one Institute and some Centres have found it necessary to appoint a small number of full-time research staff (apart from the supporting clerical staff) from time to time. In such cases, the research staff are often obliged to do part-time teaching in graduate or undergraduate programmes. I am happy to report that this kind of cooperation arrangement works remarkably well, and I even foresee the need for its expansion in the future so as to take full advantage of senior research scholars to help strengthen our graduate programmes.

Since The Chinese University makes the integration of Chinese and Western cultural-intellectual traditions its distinctive educational goal, it is not surprising to find that it attaches great importance to a deepened understanding of Chinese learning and culture as well as mastery of Western empirical methods and scientific knowledge. This ideal shapes in a very important way not only the University's undergraduate programmes but also its graduate and research programmes. In fact, it is exactly in this spirit that the Institute of Chinese Studies was established. But it is important to emphasize that the term 'Chinese culture' is taken by The Chinese University to mean the whole complex of Chinese civilization with all its ramifications manifested in various aspects of life inside and outside of

China. From this point of view, most non-pure science research projects undertaken at the Institutes and Centres are actually also related to Chinese studies in varying degrees. And it is quite natural that a large fraction of these research projects, particularly in social and professional studies, deals with subjects directly relating to the society of Hong Kong, where the interactions between the Chinese and Western traditions are best illustrated, while other research projects involve comparative studies taking Hong Kong as an important point of reference. Under these circumstances, the research interests of the graduate students have also naturally been directed along these lines. From the standpoint of The Chinese University, this is a very healthy development and the University is determined to push it further in the future.

It is encouraging to note that the balanced growth of our graduate programmes and the Research Institutes and Centres/Units, particularly along the above described lines, has increasingly gained recognition by the international academic community. This is clearly testified by the fact that cooperative arrange-

ments between overseas institutions of higher learning and this University in both graduate studies and research have been steadily expanding. Finance-wise, apart from the support of Hong Kong Government and local business leaders, our Research Institutes and Centres/Units have, over the years, received generous assistance from well-known international foundations including The Ford Foundation, The Asia Foundation, The Andrew W. Mellon Foundation, and The Harvard-Yenching Institute. Of particular significance is that the Harvard-Yenching Institute has not only provided financial assistance to our research projects but awarded special grants for publication of worthy master theses written by our graduate students in the field of Chinese studies.

Looking back at the progress of our Graduate School and Research Institutes and Centres/Units during the past decade, which is short indeed from the long-range educational point of view, we are confident about their further development towards maturity and richness now that the University has entered a new era of steady growth.

Sui-Loong Pao Building, which accommodates the Graduate School and various research units



New Research

Institute and Units

Research Institutes are concerned with broad, multi-disciplinary areas of investigation and foster both individual and group research projects. When projects of considerable magnitude are undertaken, a subdivision called a "Centre" or "Unit" may be established in order to provide greater definition of purpose and a certain autonomy in the administration of research projects.

In addition to the Institute of Chinese Studies, the Institute of Science and Technology, and the Institute of Social Studies and the Humanities, The Chinese University has early this year established a fourth Institute—Institute of Business Management Studies.

Institute of Business Management Studies

Ever since the establishment of the Faculty of Business Administration in 1974, the University has been aware of the need to complement effective teaching with active research in new and still unexplored areas. The Institute of Business Management Studies was finally set up in February 1978 with Dr. Chung Yu-To as Director. The Institute has the following objectives:

- (1) To provide the necessary facilities and to promote an atmosphere conducive to active research work by members of the Faculty;

- (2) To provide an appropriate channel for faculty members to cooperate amongst themselves or with researchers of other disciplines to take up worthwhile joint projects;
- (3) To encourage, in particular, investigations into problems of special significance and relevance to the local scene; and
- (4) To assist researchers in seeking grants from various sources to support meaningful programmes.

A list of some of the projects undertaken or proposed will serve to show the scope of the Institute's activities:

- (1) Direct Foreign Investment: LDCs to LDCs
- (2) Direct Foreign Investment Environment in Hong Kong
- (3) The Export Behaviour of Hong Kong Firms
- (4) The Practice of Japanese Businessmen in Hong Kong
- (5) Media Consumption Behaviour
- (6) Retail Location Study for Commercial Banks
- (7) Consumer Judgment Models in Clothing Store Selection
- (8) Marketing and Management Concepts for Christian Organizations

Most of these projects are done under contract with local business firms or government departments. In general, researchers have found a genuine interest in both the private and the public sector for cooperation in investigations into products or services relevant to their line of work. In particular, researchers have found that they are relied upon for advice on new and advanced research techniques such as multidimensional scaling and trade-off analysis. By its research efforts, the new Institute will serve the dual purpose of bringing deepened understanding and adding an academic dimension to an otherwise professional discipline, and helping the local commercial and industrial sectors to forge ahead in the increasingly competitive world of international trade.

In addition to research, the Institute will organize seminars, lectures and similar activities, not only to promote interest in this field, but also for the exchange of new and advanced ideas.

Centre for Chinese Archaeology and Art

A Centre for Chinese Archaeology and Art was established in February 1978 under the Institute of Chinese Studies with Professor Cheng Te-k'un, the world-renowned archaeologist and Pro-Vice-Chancellor of the University, as the first Director. The main objectives of the Centre are:

- (1) To promote research in Chinese archaeology and art;
- (2) To build up relevant facilities for research in Chinese archaeology and art;
- (3) To periodically organize exhibitions or symposiums on special projects related to the above fields, in concert with the Art Gallery and the Departments of Fine Arts and History;
- (4) To provide teaching in Chinese archaeology and art for graduate students in the University; and
- (5) To exchange up-to-date information regarding the latest archaeological findings with various museums or other institutions.

As can be seen from the following projects already in progress, interdisciplinary research among history, fine arts, anthropology and economics would be enhanced:

- (1) The Archaeology of Han China – by Pro-

fessor Cheng Te-k'un

- (2) Calligraphy in Hong Kong and Singapore Collections – by Professor Jao Tsung-i
- (3) Neolithic Culture in the Yellow River Basin – by Mr. Lin Shou-chin
- (4) Use of Tenon Technology in Warring States' Fine Woodwork Craftsmanship – by Mr. Lin Shou-chin
- (5) Study of Post-Han Jade – by Mr. James C. Y. Watt

Public Affairs Research Centre

With the establishment of the Public Affairs Research Centre in February 1978 under the Institute of Social Studies and the Humanities, research projects concentrating on basic and current studies with special reference to Hong Kong, China and Southeast Asia are carried out. Among them are:

- (1) Sino-Japanese relations in the 70's
- (2) Anti-imperialism and Chinese Politics
- (3) Chinese foreign policy and its impact on overseas Chinese in Malaysia

Undoubtedly, the Centre, under the directorship of Professor S. S. Hsueh, will make substantial contribution to China studies in its modern setting and its relationship with neighbouring regions.

Comparative Literature and Translation Centre

The Centre for Translation Projects, established in 1971, was renamed the Comparative Literature and Translation Centre in early 1978 and reorganized into two divisions: the Comparative Literature Division and the Translation Division. Director of the Centre is Mr. Stephen C. Soong and the two Division Heads are Dr. H. H. Yuan (Comparative Literature) and Mr. K. C. Yu (Translation).

The major objective of the Comparative Literature Division is to study Chinese literary theories and works from a "Chinese perspective" to complement the work of Western comparatists. The Chinese approach would then become a conceptual issue of world-wide significance rather than a national or a geographical one. The Division's research projects now under way include:

- (1) Translation of *Theories of Literature in the 20th Century* from English into Chinese;

- (2) Translation of *Chinese Literary Critical Terms Reference Book* into English;
- (3) Compilation of *A Glossary of Literary Terms*; and
- (4) Compilation of *A Companion to Comparative Literature: Chinese-Western Literary Relations*.

The Translation Division continues with projects carried out by the previous Translation Centre: translating from English into Chinese with the emphasis on social sciences and the humanities, collaborating with academic departments in compiling glossaries of social and natural science terminology, and publishing a Chinese-English magazine *Renditions* and *Renditions Books*, which comprise translations from Chinese literature. Following the publication of the first two *Renditions Books: A Golden Treasury of Chinese Poetry* (John Turner) and *The Translation of Art* (ed. James Watt), two more titles are in the final editing stage:

C. T. Hsia and George Kao: *An Anthology of Yuan Drama*

S. S. Liu: *Classical Chinese Prose: The Eight Great Masters of T'ang and Sung*

A Dictionary of Chinese Idioms and Clichés (temporary title) is now under preparation as one of the *Renditions Reference Series*.

Hung On-To Research Centre
for Machine Translation

The Hung On-To Research Centre for Machine

Translation was established in April 1978 under the Institute of Science and Technology with Professor Shiu-Chang Loh as Director and Dr. Hing-sum Hung Associate Director. The main objectives of the Centre are:

- (1) To develop a machine translation system involving Chinese as a target language;
- (2) To develop, design and construct a Chinese input computer system; and
- (3) To promote research in machine translation.

Altogether three projects are undertaken by the Centre:

- (1) Professor S. C. Loh initiated and conducted a Chinese Input/Output system for storage, retrieval and display of Chinese characters on screen. The following hardware have been successfully produced: (a) two Chinese character keyboards; (b) two key switch cards; (c) one wire wrap electronic card; and (d) an electric card. The software are being developed.
- (2) A Light Emitting Diode, LED, for the Chinese Input/Output system is being designed.
- (3) Research on a machine translation system involving Chinese as a target language is now in progress.

Apart from research projects, the Centre has also published *A Bibliography of Machine Translation*.

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A
BIBLIOGRAPHY
OF
MACHINE
TRANSLATION

Compiled by:
Loh Shiu-chang
Hung Hing-sum
Kong Luan
Hu Yung-chi

Hung On-to Research Centre For Machine Translation

FOREWORD

AUTOMATIC TRANSLATION OF NATURAL LANGUAGES BY MACHINE HAS BEEN GOING ON FOR NEARLY THREE DECADES. THE ELECTRONIC COMPUTER PLAYED AN IMPORTANT ROLE IN IT. IN FACT MANY RESEARCHER IN THE LATE FIFTIES AND EARLY SIXTIES HOPED THAT THE COMPUTER COULD SOLVE ALL THEIR MACHINE TRANSLATION PROBLEMS. PROMISES WERE MADE BUT WERE NEVER DELIVERED. IT WAS NOT UNTIL THE 1967 ALPAC REPORT THAT MOST, IF NOT ALL, MACHINE TRANSLATION PROJECTS WERE ABANDONED.

THERE HAS BEEN A REVIVAL OF MACHINE TRANSLATION SINCE THE REPORT WAS MADE PUBLIC. RAPID TECHNOLOGICAL ADVANCEMENT IN COMPUTER DESIGN AND APPLICATION HAS BROUGHT NEW HOPE TO AUTOMATIC MACHINE TRANSLATION. SHOULD THE LANGUAGE BARRIER BE BROKEN BETWEEN NATIONS, IT WILL CERTAINLY PROMOTE CROSS CULTURAL UNDERSTANDING AND FACILITATE INTERNATIONAL TRADE. THE NEEDS FOR AUTOMATIC MACHINE TRANSLATION OF NATURAL LANGUAGES HAVE COMPELLED THE EDITORS OF THIS VOLUME TO COMPILE A BIBLIOGRAPHY ON MACHINE TRANSLATION AND CLOSELY RELATED DOCUMENTS CONTRIBUTED THROUGH THE YEARS BY NUMEROUS RESEARCHERS AND SCHOLARS WORLD-WIDE.

THE SOURCES OF INFORMATION FOR THIS VOLUME COME FROM THE PRIVATE COLLECTION OF THE EDITORS AS WELL AS FROM THE SPECIALIST GROUP ON MACHINE TRANSLATION OF THE BRITISH COMPUTER SOCIETY WHOSE ASSISTANCE HAS BEEN INVALUABLE. THE SUPPORT, ASSISTANCE AND ENCOURAGEMENT OF MISS MAXINE MACCAFFERTY AND MANY OTHERS ARE GRATEFULLY ACKNOWLEDGED.

LOH SHIU-CHANG
OCTOBER, 1978

ERC Econometric Forecasting Model

An Interview with Dr. T.B. Lin

The Economic Research Centre has developed an econometric forecasting model and will release by the end of this year periodic forecasts of the Hong Kong economy, which will be useful reference for local businessmen and policy makers. The ERC model has also an international dimension: the Centre has recently been approached by the Project Link, which attempts to link national economic models of various countries, to join as part of the Pacific Sub-Link system, with Kyoto University as the regional coordinating centre.

The University Bulletin has interviewed Dr. T. B. Lin, Associate Director of the ERC and Dean of the Faculty of Social Science, who built the model, for a detailed account of his research effort.

Dr. Tzong-Biau Lin with Professor Wilhelm Krelle of the University of Bonn



- Q. Dr. Lin, let us first congratulate you on the success of the ERC model. Would you please tell us how and when this research project was started?
- A. As many people in business and economics know, economic forecasting has important theoretical and practical significance. In recent years, a great number of countries have developed their own national forecasting models, but in Hong Kong, such models simply did not exist two years ago. At that time, with more data available, we thought it feasible to construct the model. The Vice-Chancellor, Dr. Choh-Ming Li, and Professor M. H. Hsing enthusiastically supported the idea. After some planning, we decided to undertake the task.
- Q. Why are econometric forecasts more scientific and accurate than other methods of economic forecasts?
- A. As a matter of fact, many businessmen also make forecasts of their own and sometimes they may be quite accurate. But strictly speaking, these forecasts are not scientific work because they are mostly based on intuition and may be very much affected by personal biases. An econometrician is different. To make forecasts, he first collects data of the relevant economic variables. Then, guided by economic principles and using mathematical tools, he finds the statistical relations between these variables. He does lots of experimentation work with the data and accepts only what has been proven statistically acceptable. In this sense, the model we build is impersonal and objective. As a by-product of the experiments, many hidden relations of the economic variables may reveal themselves. The whole picture of the economy can thus be seen more clearly and the forecasts are more reliable. Econometric forecasts are therefore more scientific than ordinary ones.
- Q. How does the ERC model relate to the Project Link?
- A. Project Link normally has two functions: to link national models and to make consistent forecasts of imports and exports between various countries. For the former, we shall send some chosen equations of our model to the Pacific Sub-Link. As for the latter, 'consistent' forecast means that the forecast of export from country A to country B must equal to the forecast of import into country B from country A; we shall exchange information with the Sub-Link for this study.
- Q. What are the important features of the ERC model and what predictions does it include to give a full picture of the local economy?
- A. Like other forecasting models, the ERC model is a system of simultaneous equations, but unlike some other, it is a non-linear system. It contains 42 equations with 'endogenous variables' and 'exogenous variables' inside. The endogenous are those we want to forecast. Their values can be obtained only by solving the system of equations. In the ERC model, they include such important items as the GDP, the values of import and export, consumption expenditure, inflation rate and many others. A complete list of these variables can be obtained from the ERC upon request. Exogenous variables, on the other hand, are the inputs we feed into the model before we solve the system of equations. If their values are wrong, the forecast results will also not be reliable. Their values are also presumably known beforehand. Political factor, rainfall, time trend are some usual examples of the exogenous variables.
- Q. How is it possible to make predictions on the effects of government policies?
- A. If we use economic common sense alone, it would be very difficult to assess the effects of government policies. For example, consider the case of increasing government expenditure. This will make national income go upwards. But when income goes up, people will feel they have more money and consume more. The increase in consumption will again raise the level of income. The whole cycle repeats itself again and again until the effect of each change becomes negligible. To forecast the end result of the increase in government expenditure, we have to add up all these effects. Obviously, common sense will not suffice. In our model, this kind of problem is in fact not difficult to solve at all. Government expenditure is treated as an exogenous variable. To forecast we just feed the new value of this variable into the model and solve the system of equations. The

new solutions of the endogenous variables will already take the policy change into account.

Q. Is the ERC model bias-free? Does it have any limitations?

A. It must be recognized that though econometric forecasting is a scientific work, it is also an art. It is scientific because the model is based on economic principles and statistical theory. But even so, errors can still occur because statistical inference is not immune from probabilistic disturbances. It is an art because to a certain extent, there is some degree of arbitrariness in the model building process. Furthermore, the presumably known values of the exogenous variables are in many cases not precisely known beforehand. Therefore, it is not possible for any model to be absolutely free from biases.

Q. What difficulties have you encountered in constructing the model?

A. It is not possible to discuss all the difficulties we have encountered because most of them are technical. An example is that we have to write long computer programmes for the 2-stage-least-squares method and the Gauss-Seidel method, the ones we employ to construct and solve our model. Besides, while the data of other regions extend much further back, the data available in Hong Kong cover only a comparatively short span of time, less than twenty years, and are barely sufficient for a forecast.

Q. Finally, what is the significance of the ERC model's joining the international Project Link?

A. The reliability of the Link forecasts depends a great deal on the quality and on the number of national models it includes. Hong Kong is a rather important economy, especially in the Far East. We expect that the incorporation of the ERC model into the Pacific Sub-Link will contribute to the further improvement of this project. Aside from this, this kind of international operation will enable scholars around the world to have more chance of exchanging ideas, which, needless to say, is most welcomed by those in the academic circle.

Meeting of Medical Academic Advisory Committee

The University's Medical Academic Advisory Committee held its third meeting in Hong Kong from 27th February to 4th March, 1978. The Committee consists of the following members:

Professor W. H. Trethowan, Professor of Psychiatry, Birmingham University (Chairman)

Sir Melville Arnott, formerly Professor of Medicine, Birmingham University

Professor A.D.M. Greenfield, Dean and Professor of Physiology, Nottingham University

Professor A.P.M. Forrest, Professor of Surgery, Edinburgh University

Dr. John Z. Bowers, President, Josiah Macy Jr. Foundation, New York

Professor J. B. Gibson, Dean and Professor of Pathology, University of Hong Kong

Dr. the Hon. K. L. Thong, Director of Medical and Health Services, Hong Kong

Professor Gerald H. Choa, Dean of the Faculty of Medicine, The Chinese University of Hong Kong

The meeting assessed progress in general on the establishment of the Medical Faculty, in particular on the schedules of accommodation for both the Basic Medical Sciences Building (Choh-Ming Li Building) and the Teaching Hospital in Shatin. The Committee visited the hospital site on 27th February and met with the Vice-Chancellor on 4th March to discuss admission requirements, curriculum, staff structure and recruitment.

Faculty News

“Medical Education and The Chinese University”

Subsequent to the Meeting of the Medical Academic Advisory Committee, Professor Gerald H. Choa gave a talk at the Rotary Club of Hong Kong Island West on “Medical Education and The Chinese University of Hong Kong” on 10th March, 1978.



The aim of the new Medical School at The Chinese University of Hong Kong is to offer the students a medical education, which is defined as a continuum that spans the period from the pre-medical year or years, through the pre-clinical and clinical years, into graduate medical education and ultimately into continuing education. This will therefore be carried out in 4 stages. In the first stage, which is a year of pre-medical studies at the University, the curriculum will be so designed as to communicate to students further knowledge of physics, chemistry, and biology which is relevant and essential to the study of medicine. Also included in the curriculum will be, under general education, psychology and sociology, two subjects which are closely related to medicine, and English and Chinese which all first-year students at the University are required to take in order to improve their proficiency in these two languages. It is considered that a pre-medical year in a six-year course in a medical school has much greater educational value and advantages than another year in a secondary school.

The second stage consists of two years of pre-clinical studies and 3 years of clinical studies, followed

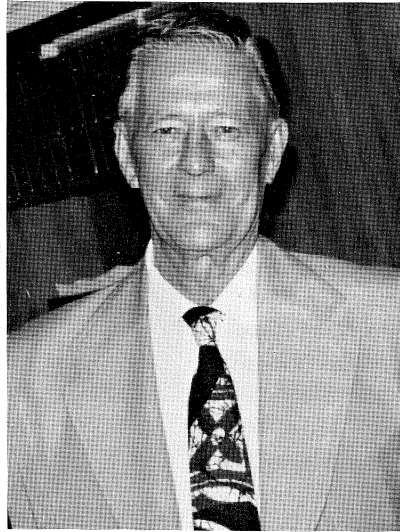
by a year of internship. This is in line with the standard curriculum in British medical schools. It is hoped that graduates from the new medical school at The Chinese University of Hong Kong will be able to do their internship not only in their own teaching hospital but other approved institutions so as to obtain more varied and wider experience.

The third stage is the provision of post-graduate training programmes in all specialities, including community medicine and general practice, two subjects to which the new Medical School will pay particular attention as there is always a need to train these two types of doctors for the community. Graduates will thus be able to serve the medical service while undergoing further training in the field that they choose to specialise. This is also a solution to the problem of shortage of man-power in the public sector.

In the fourth stage, continuing education is offered to all practising doctors in the region served by the hospital by organising refresher courses and seminars at frequent intervals for them so that they will have opportunities to refresh themselves all through their professional careers.

"The Coming Age of Information"

An abstract of a speech delivered by Professor Wilbur Schramm



Dr. Wilbur Schramm is one of the three leading architects who have shaped the field of communication as it is understood today. Building on the work of theorist Harold Lasswell and methodologist Paul F. Lazarsfeld, Dr. Schramm has been the principal researcher of the field. As a keen observer, he has scrutinized almost every aspect of the field: communication and development, communication and family planning, the effects of television on children, the use of audiovisual media and programmed instruction in schools, and the responsibilities of the communicators, the flow of news across cultures and national borders, etc.

Dr. Schramm is the organizer of three of the world's renowned institutes of communication research in the United States—the first at the University of Illinois, the second at the Stanford University, and the third at The East-West Center in Hawaii.

Always looking for intellectual adventures, Dr.

Schramm joined the Centre for Communication Studies of The Chinese University last August as its first Aw Boon Haw Professor to help launch the University's graduate programme in communication and develop the Centre's research activities.

Dr. Schramm is a prolific writer, in communication and in literature. He has written more than 130 scholarly papers and books as well as many poetic and literary pieces. Among his noted publications are Mass Communications; Handbook of Communication; Responsibility in Mass Communication; Mass Media and National Development; Men, Messages, and Media; Big Media; Little Media; Communication and Change: Last Ten Years—and the Next.

Many of Dr. Schramm's books and articles have been translated into foreign languages, including Chinese, French, Italian, Spanish, German, Japanese, Korean and Arabic.

I am constantly amazed at how *recently* most of the events that now determine the shape of human communication have happened. I feel almost ashamed to be talking about such recent technology here in the 5,000-year shadow of China, where Ts'ai Lun is supposed to have invented fibre paper in 105 A.D., and where a university with 30,000 students was functioning a century before that.

But the development of communication has foreshortened time. From language to writing took *tens of thousands* of years. From writing to printing took some *thousands* of years. From printing to the first electronic media took *hundreds* of years. And from the first electronic medium until live television from the moon was only a few *decades*.

A man my age today could have heard the first scheduled radio broadcasts, taken part in one of the first television hookups, seen the first tape recorder developed, used one of the first Xerox machines, tried his hand at the first photocompositor, heard the beep-beep beep-beep of the first satellite, and helped build the first large computer. I know, because I *did* all those things. All those happened in one man's lifetime. And suppose we were to take *two* men's lifetimes—multiply my present age by two. That would include everything that we call the electronic and pictorial media: from the invention of photography that for the first time gave man a visual memory; the invention of the telegraph that was our first real step beyond the signal fires that announced the fall of Troy; the telephone that for the first time extended man's own voice beyond shouting distance; the movies, and all the electronic media; and those three remarkable years of 1945, 1946, and 1947 in the shadow of which we are living and probably shall continue to live for the rest of this century.

Do these dates mean something to you?

In 1945, in a modest four-page article in the *British Wireless World* Arthur Clarke set forth the design and potential of communication satellites. ... explaining that this was something that might happen in perhaps 50 years - about 1995. But, as we all know, the first satellite was flying in 1957 - 12 years, not 50.

In 1946, John Von Neumann in one of the notable papers of our times set down the theory and design of electronic computers.

1947: three physicists at the Bell Telephone Laboratories, Bardeen, Brattain, and Shockley, invented the transistor. This made it possible to

miniaturize electronics. It made powerful satellites possible. It made small computers feasible.

Something very large has been happening in the world around us. It is so large that even those of us who are especially concerned with communication and with current history have had trouble seeing it. The result is that we find ourselves, almost to our own surprise, in the first decades of an era which observers are beginning to call an Age of Information.

Let us explore this idea.

An Age of Information

What would be the signs of an Age of Information? For one thing, there would be a change in the distribution of the work force. Fritz Machlup, the Princeton economist who handles numbers very conservatively, estimates that between 40 and 50 per cent of the total work force in the United States are now engaged in producing, collecting, or disseminating information, or supporting those activities. He is inclined to think that the Knowledge Industry is now, or soon will, be the second largest industry in the world—the largest being agriculture.

Another sign would be a change in investment patterns, Machlup, in 1962, estimated that about 15 per cent of the U.S. national income was going into information services. He means the mass media, education, telephone and telegraph, postal service, libraries, telecommunications, advertising, research and development, and so forth.

Still another sign would be a change in the flow of the information. It should be coming faster and more of it. It isn't hard for any of us in a university to believe that those things are true. I felt that I had to see 42 scholarly journals regularly, when I was at a place where I could get them, and if I had kept up with all the new scholarship of importance to me I should have found myself reading 24 hours a day. This is familiar to all of us. What we may need to remind ourselves is how *much* faster and how *much* more.

How Much Faster

Up until the middle of the 19th century distant messages could travel only as fast as transportation.

But then it became possible to separate communication from transportation. Messages could

travel by telegraph or telephone or radio or television or satellites—at the speed of light. Now we are so accustomed to having our messages travel that fast, that we grouse at the postal service, and complain when it takes a few minutes to connect a long distance call. . . . last summer, when a group of my colleagues and I sat around a table and calculated for fun how long it would take to move the entire content of the Bibliotheque Nationale from Paris to London. If one could put them on computer and obtain sufficient circuits to another computer across the Channel, it would take between 7 and 17 minutes, depending on conditions.

How Much More

Along with this order of increase in speed, consider the increase in flow. . . . Consider what has happened to the size of libraries. In 1338, the Sorbonne Library, believed to be the largest in Western Europe at that time, contained 1,722 volumes. In all of Europe in 1450 there were believed to be no more than 30,000 books. That was in 1450. The most common estimate for fifty years later is that there were about 8 million. Now half a dozen libraries in the world have more than 8 million *each*. The average large library in this century has been doubling in size about every 14 years. This is a growth rate of about 13,000 per cent every century. . . . And literally thousands of small town libraries offered their readers more than the Sorbonne's precious 1,722 volumes.

Five Predictions

If we are indeed entering upon an Age of Information, we can make a few predictions concerning it:

1. Vastly more information is going to be available—enough to create a serious overload unless we can develop a number of devices and organizational patterns to take care of it. You students had better finish your degrees in a hurry; if you wait ten years you will have twice as much waiting for you to absorb.

2. A large proportion of this information will come from farther away. Distance will cease to be very important in exchanging information. If we can use a satellite it is just about as cheap to send a message 10,000 miles as 100. And therefore all men's focus of attention is bound to widen beyond community and country. "One world" is not yet at hand, but it is nearer.

3. Information will come faster—so fast that

in many cases the general public will know what is happening almost as soon as their leaders do, and the traditional lead time of diplomacy will disappear. Consequently all responses will have to come faster, including explanations from a government to its own people. People are going to be able to play a larger part in government. Perhaps at long last that dream of Karl Marx may be within sight, although it has shown no signs of coming true anywhere—I mean his dream that the people might do more and more, and the state might gradually "wither away".

4. This information theoretically can be delivered almost anywhere—home, school, library, office, factory, village, or igloo. The stage is set for lifelong education and other profound changes in opportunities to learn.

5. Most of what we know about our distant environment will come through the electronic eyes and ears and digital codes of the media and telecommunications. Consequently whoever controls these major channels will control our windows on the world. It is entirely possible that in the century to come, the ability to control information, gain access to it, sort it out, process it, store it, retrieve it when necessary, and disseminate it, may become a national resource equal in power to economic and military resources as we know them today.

These Changes Will Have an Effect

Even if the changes are less spectacular than I have suggested, they are going to make a difference. They will have an effect upon us, and our children, and *their* children. For if there is one thing we know about human communication it is that whenever the methods of communication change, profound changes also appear in human life and society.

The Effect of Print

When Western man in the 15th century rediscovered some of the things about printing Asia had known for a long time, adapted them, and developed them in his own way under this specially favourable circumstances, then for the first time, literacy, schooling, the knowledge necessary to participate in public affairs, became readily available to the common man. Revolutions occurred. Kingdoms became nations. Science awakened in that part of the world after a sleep of centuries. Society rediscovered mobility. There was a powerful stirring of art, literature, ideas. And with print man learned a new code

for communicating information—a linear code, an abstract code, depending on the sense of sight. This made a difference in his way of thinking. McLuhan is right about this: whenever the sensory balance of communication changes, man's way of *using* information changes with it.

What Will be the Effects of the New Age?

The effects of print were thus highly dramatic. The Age of Information grows chiefly out of the newer media. Will its effects be comparable to those of print?

If I were wise I should sit down after posing that question. It is a great deal easier to talk about the effects of print than about television and computers. Hindsight is always 20-20; foresight is astigmatic; And the situation is too uncertain. . . . We may be facing an upheaval. . . . I should analyze the present situation: we have a pretty good idea where the train is going, but are much less sure where *we* are going. We know more about the technology, in other words, than about the human effects.

In the remaining few minutes I am going to suggest more questions than I can answer.

New Technology?

More often than any other question I am asked whether any startlingly new technology is waiting in the wings. What is the *next* medium, for example—the successor to television. And the answer is, of course, that we don't know. . . . Most of the exciting technology that is waiting to come on stage is of the nature of wave guides, laser beams, fibre optics, capable of multiplying channel capacity by hundreds or thousands. Microcomputers are no longer new, but they will let the ordinary man call forth some of the magic of the *great* machines. Electronic mail is now quite feasible and may well take over half of all postal service by 1990. But these are not really new; they are merely extensions of things we know and do. When the really new things appear, they will surprise us, as did most of the other great technologies.

Ordinary Men Will Have More Control of the Media

But I want to suggest one development that is already with us, and is likely to have an effect much greater than we realize. The complexity, size, cost, requisite skills of the mass media have typically made

them one-way channels. The ordinary man has played little part in them except to be in their audience. But this is changing. The typewriter and the Xerox machine together have made it possible for any man to be his own publisher. Tape recorders, walkie-talkies, citizen-band radios have made it possible for ordinary men to play a role in broadcasting that once seemed impossible. Movie cameras have become so relatively cheap and simple that home movies are becoming a device for communicating and for popular art, as well as a record. Videorecording will probably pass home movie making in the next decade. The impressive thing to me is not that this technology exists, but how many people—especially young people—are deeply interested in making use of it. . . . And the significance of this to me is that the day of one-way media, of Big Media and Little Man, is ending. The media seem not to be so big, after all.

Some of my colleagues think that the “next medium”, if we can call it that, will be a home information centre, fed by 24 or 48 channel cable, over which the owner will have considerably more control than he has over his television set today. He will be able to pre-order entertainment—television or movies—and call up news on specific topics. He will record media programmes that come at a time inconvenient for him. He will call up home-study lessons whenever he is ready for them. He will shop electronically, through cablevision. A newspaper can be printed for him in his home by facsimile. He can ask questions which a library or a data bank will answer by scanning its resources. And so forth. This is not infeasible, although presently rather expensive. And all of it means more control for Little Man over Big Media.

How Will the Knowledge Gap be Affected?

What will be the effect of an Age of Information on the knowledge gap? In knowledge as in economics, there is a cruel paradox: the rich get richer, the poor relatively poorer. Informationally deprived people, other things being equal, learn less than informationally rich people even if given the same opportunities. Better educated people learn more from the news; children from stimulating homes learn more in school; and so forth.

As a matter of fact, will such an enormous flow of information as we anticipate make any difference at all in whether people are better informed? . . . My best conclusion is that whether we do have significantly better informed people, whether we are able to reduce the knowledge gap, will depend in great part

upon us. If we really want to make it a major policy to raise the average levels of information in the world beyond the rate at which they would normally rise, we shall have the tools with which to do it. It will not be inexpensive, but it can be done. It is a human question, not a technological one.

Effect on Education

I said a few minutes ago that the stage is set for fundamental changes in education. I noted that the goal of life-long education is within reach, because the possibilities of home study are enormously increased by the new tools, and the possibilities of individual study are increased by systems like computerized instruction. The tools are at hand to support one of the strongest currents in education at the present time—to move more of schooling out of school, beyond the classroom and the campus to the villages where there are no schoolhouses and the adults have been bypassed by education, and to adults everywhere who must learn new skills. In other words, to bring school to the people, rather than people to school. To put a larger share of the responsibility on the student, rather than the teacher. To let curricula be designed more often for individual and local needs. The patterns of the Open University, the Tanzania self-managed schools, the Mexican tele-secundaria, the School without Walls are sure to reappear in many places. By the year 2000 The Chinese University may be giving as many external courses and degrees as internal ones.

The Effect of Computers?

I want to raise a few questions about the computer. This is undoubtedly one of the most potent machines of our time because it provides the best opportunity we now know of to process very large amounts of information. Furthermore, more than any other communicating machine it is capable of being an intellectual partner to man. It can be programmed to help him handle and manipulate the information he needs in his thinking. But what will its larger effects be upon society? Will it create two classes, as distinct as the Haves and Have-Nots—those who can use computers, and those who cannot? Will the patterns of programming information have any such effect upon man's way of thinking as printing did? What effect will it have on human relationships if it takes over as many of the functions of our lives as it is expected to—if it handles our money, our mail, our purchases, our tax records, our traffic records, our

orders and reservations, and records every detail of our life histories for government and commercial use? How can we make sure that these enormous human data banks will work for us rather than against us? Frankly, I am a little uneasy about that mass of information on you and me, so readily available. And secondly, how can we organize our information resources—libraries, data banks, school systems—so that we can make them most effectively usable to the most people, by computer services? It will not be like the patterns of information we have become used to.

Public vs. Private Goods

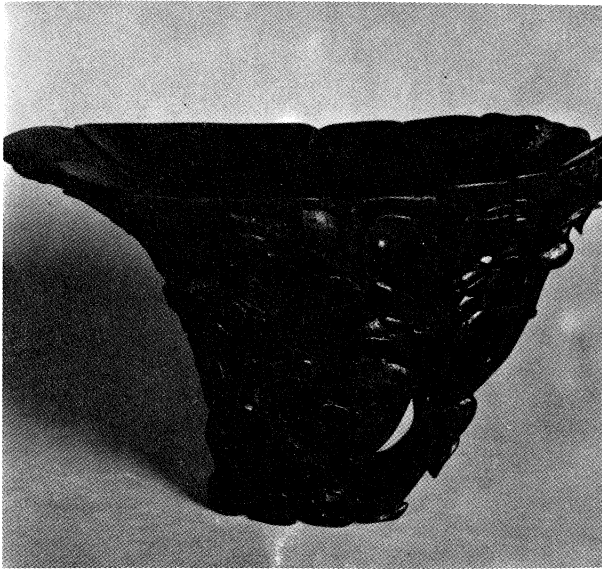
Let me raise one more question before I sit down. We sometimes forget what kind of product an Age of Information will give us. One of the largest industries within society will be devoted very largely to producing what might be called *public* rather than private goods. There is a rather extraordinary quality of information. If I give you an apple or a book or ten dollars, you have more and I have less. If I sell you my automobile, you pay me something, and I have more money but no automobile. But if I give you a piece of information, you have more of it and I have no less. In other words, the amount will be multiplied, not divided. There can be no private ownership of information, once it is communicated. This is somewhat contrary to a very old tradition in humankind. What will it do to our way of thinking and living, and our sense of property values, to produce so much *public* rather than private goods?

That will be enough questions for today. We have been talking for a long time about the future, and it is frustrating—especially for those of us who are used to demanding facts, aseptic experiments, and significance tests. But let us not disdain talk of the future for that reason. The evidence we have seen here today adds up to at least one conclusion we can hold at a high level of confidence: some very important changes are taking place in human communication, and important changes in human behaviour are likely to follow.

I am going to leave you with that, and with two pieces of advice from men whose names you will know. One is Albert Einstein. "The future?" he said. "Of course I am interested in the future. It is where I plan to spend the rest of my life!" The other is Marshall McLuhan. "It is perfectly natural," he wrote, "to go on making 19th century plans for 20th century communication. It is also *absolutely fatal!*"

Exhibition of "Donation to the Art Gallery"

The Exhibition of Donations to the Art Gallery was held from 14th April to 22nd May, 1978 to mark the Opening of the Conservation Annex of the Art Gallery.

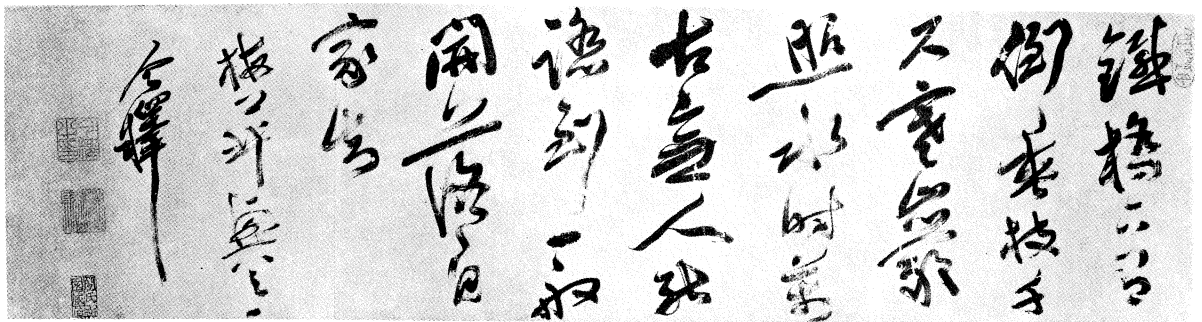


*Rhinohorn cup with carved decoration of magnolia flowers
Ching, Ch'ien-lung*



*Jar with applied decoration of two dragons and two pearls in three-colour glaze
Yuan*

Poem in running script by Chin Shih, Monk



Chinese University Bulletin

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University Sports Field, on the left is the spectator stand donated by The Royal Hong Kong Jockey Club (Charities) Ltd.

Photo by Mr. Lee Chung-Nin



Tennis courts built with government funds

Photo by Mr. Wong Fook Chuen