

Caduceus



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EDITORIAL

THE NAME

Caduceus was the pre-war journal of the Hong Kong University Medical Society, and she "passed away quietly" at the end of the war. Now, thanks to the last Council Meeting of the Medical Society Caduceus is resurrected, although in a different form. For our newspaper, this name has a double significance. "Caduceus" is the symbol of the medical profession. Also, this is the wand of Hermes (Mercury) who the messenger of gods. This newspaper is intended to act as a messenger between our medical students, staff of the Medical Faculty, other Union members and foreign medical students. Acknowledgement must be made to Prof. K.S.F. Tang and to Dr. R. Khoo, who concurrently made the suggestion to resurrect Caduceus.

CAROL SINGING

Medical Students are often commented on as being narrow-minded and knowing nothing but books. The Christmas Carol Singing arranged by the Medical Society at Sandy Bay helps to clear up such a misunderstanding. We do care for the outside world. This care is expressed through such acts as the Blood Donation Campaign and Carol Singing at Sandy Bay as well as at Grantham Hospital. The implication is that we look at our less fortunate fellowmen with charity, and are willing to help them. More functions of this kind are needed frequently. It is only by such means that medical students and the community can be drawn more closely, so that we shall no longer be considered as being an "ivory tower" unrelated to the outside world. We expect to see more members participating in these functions at Christmas time.

THE SOCIETY EX-CO

The members of the Executive Committee have taken over their posts for nearly two months. It is now time to evaluate their achievements and estimate what they will do during the coming ten months. Undoubtedly a number of achievements have been made. Yet we are still badly in need of a proper common room in the Preclinical as well as in the Clinical Buildings. Furthermore, the distance between students and staff has to be shortened by the efforts of the Society. Indeed there is still much to be done by the Ex-Co members. The amount of work poses a great challenge to them. It is clear that their promises during the Election Campaign are always remembered, and we hope that they will not be reminded of these promises in the coming months.

THE DEAN'S UNDERGRAD MEETING

Before going into the details of the discussions of this meeting, I would like to say a few words about the purpose of this meeting. Briefly speaking, we are at promoting an intimate relationship between the faculty and the student body so that suggestions for improvement or complaints can be made to the Dean in who chairs the meeting. Other members of the meeting include the Ex-Chairman, Chairman, General Secretary of the Society and the Class Representative of each year. The meeting is held monthly in the Seminar Room.

The subjects discussed in the Dean's Undergrad Meeting held in October comprised the following important items. The matter concerning the setting up of a television set was brought up by Mr. Timothy Teoh and noted by the Dean. The setting up of notice boards along the corridors in Queen Mary Hospital was suggested. These corridors would be used for publishing matters of interest to the

senior students who are attending their clerkships. A complaint was made by the Final Year Class Representative that they were not allowed sufficient time to prepare for their Final Examination since they still had night duties one to two days before the actual Examination. Many of them had to go to their examination in dizziness and were hardly awake. Matters concerning the curriculum of the pre-clinical course were raised. The abolition of Organic Chemistry was strongly pressed for most of its syllabus had already been dealt with in the matriculation course. Investigation into the possibility was promised by the Dean.

In the Second Dean's Undergrad Meeting, solutions to the above problems were announced. Notice-boards were set up. The course of Organic Chemistry would vanish and any knowledge of this subject required for a better understanding of Biochemistry would be taught in Biochemistry lectures. Final

Year students would no longer have to attend night duties in the week before the Examination. For all these fine solutions to our problems, we are grateful to the Dean for his work.

Some other problems were raised in the Second Dean's Undergrad Meeting. The Fourth Year Class Representative asked whether it was absolutely necessary for it to be compulsory for every senior student to reside in the Medical Students' Centre Hostel during his clerkship as he pointed out that some of his class-mate lived near the hospital. The Dean was willing to see to this. A suggestion that microphones should be used in lectures was made since the voice of some lecturers was often not loud enough. The introduction of First Aid to the medical course was proposed. The poor lighting system of the Physiology Lecture Theatre was also the subject of complaint. Finally, it was suggested that the physical training course should be continued in the Second Year

Entertaining The Less Fortunate

Carolling at Sandy Bay and Grantham Hospital

It was 2 p.m. on the 23rd December, 1968. About 35 of us gathered in the car-park outside the Medical Library waiting to set off our Christmas Caroling to the children in the Sandy Bay Children's Centre. The Sandy Bay Children's Centre was founded in 1956 and run by the Society for the Relief of Disabled Children. It has undergone expansion ever since and is now the only Children's Orthopaedic Hospital in South East Asia. It offers complete care for a child admitted through the out-patient department with various forms of medical treatment including x-rays, surgery and physiotherapy, and rehabilitation of the convalescents.

Our Chorus was headed by Wong Chun Kuen, our Sports Captain, in the disguise of Santa Claus. With no reindeer but motor cars, no sleigh bells but an accordion, and no herald angels but a group of people ready to burst their lungs out, we arrived at Sandy Bay. Without much formality we were instructed to sing our way into the wards. There were around 25 beds in each of the 8 wards, 4 in the old building and 4 in the new wing.

Most of the children stayed in bed. To all appearances they were like normal children until we found out how they were bound down by belts, plasters and deformed limbs. Before sympathy was in time to arise in our minds, we were overwhelmed by their smiles, grins, clapping of hands and various gestures of delight and welcome. We sang carols and distributed to them

toys, paper hats, and sweets. They were at first a little bit shy but soon the barriers were broken down by our enthusiasm. The atmosphere was in such perfect harmony that for a moment we almost forgot that we had come to entertain and not to be entertained.

The most wonderful nature of children is that their laughter is as genuine as their sufferings. Their little talks, their naughty gestures, and their millions of small ways tickle the deepest of your heart. Their sufferings and traumas though borne so mutely yet appeal to you as if they were your own!

Most of the children in the Convalescent Home suffered from locomotor lesions due to polios, fractured bones, dislocated joints, T.B. bones etc. They were mentally normal. Not many of them could expect complete recovery of their physical fitness despite the physiotherapy offered. A number of

them such as those with cerebral palsy and CNS lesions were mentally retarded. These children need not only convalescent homes but also special centres where they can live in a world of their own in which competitions are kept out of their way.

The nurses and parents we met on our way through the wards greeted us with the warmest smiles and nods. If blessings were in our power to give, they would be given to the nurses who cared; the parents who loved and the children who suffered. Or has God already given them their due blessings which our human eyes are too short-sighted to perceive?

'Good tidings we bring to you and your kins. We wish you a merry Christmas and a happy New Year' was the last carol we sang. And we sang with hope and pride. To them we are to serve and to them we promise to bring days of good tidings.



No one cares to look at the camera when one can face so many lovely little angels.

Class Functions and News

1. Final Year:—

The final year students had two tests on Anaesthesia and Venereal Diseases, two very interesting subjects, in the middle of December. Following this, they were kindly invited by Dr. and Mrs. K.O. Wong, a specialist in dermatology, to a tea-party held on 22nd Dec. at their home. They were grateful to Dr. and Mrs. Wong's generosity. However, this tea-party was immediately followed up by their Final M.B. Part I which would be on Paediatrics.

2. Fourth Year:—

Again, the fourth year students had their exams before Christmas on Social Medicine and Forensic Medicine. They were not as fortunate as the final year students who were invited to a tea-party. Instead they invited some girls from Northcote College of Education to a social gathering in our medic canteen.

3. Third Year:—

Within a short period of two months, the third year had

managed to hold three successful social functions:

23rd Nov. — a social gathering with St. Margaret's Girls' College in JML.

20th Dec. — a class BBQ on St. Stephen Old Boys' Beach.

21st Dec. — a social gathering with the Commercial classes of St. Paul's convent School in JML.

4. Second Year:—

They are quite busy preparing for their 1st M.B. and so they have no functions in the Christmas season. Nevertheless, they have a social gathering with the Maryknoll Sisters in the first term. Interesting, isn't it?

5. First Year:—

The 1st year had a social gathering with girls from St. Stephen Girls' College on 22nd December in the Jordan Memorial Library. The party began at about eight o'clock and they were all disappointed when it had to close shortly before midnight. They hope they can arrange some more social gatherings in the second term.

Antibiotic From The Sea

One of the latest antibiotic achievements is the development of cephaloridine, from the Cephalosporium acremonium mould first discovered in 1945 by Professor Brotzu, an Italian scientist.

The antibiotic originated in Sardinia where Professor Brotzu took a Cephalosporium mould from the sea in 1945 and explored its antibiotic activity. He was looking for an antibiotic capable of destroying typhoid bacilli. From the micro-organisms that he scooped from the Mediterranean he isolated a fungus that did indeed produce a substance active against the typhoid bacillus.

His resources were limited and, after three years, he reported his results in a local scientific journal, expressing the hope that others would continue the work and isolate the active principle from the fungus and establish its nature. He sent a copy of his paper to a British Health Officer who, at the end of the war, had helped him in maintaining the health services in Sardinia. The information was passed on to Sir Howard

Florey, as he had led the team who developed penicillin nearly 10 years earlier at the Sir William Dunn School of Pathology in Oxford.

Professor Brotzu sent a culture of the fungus to Oxford, and Professor E. P. Abraham and Dr. G.G.F. Newton isolated several antibiotics from the mould. One of the last to be isolated was cephalosporin-C, and this looked the most promising but was present only in small amounts.

Progress was handicapped by insufficient cephalosporin-C available. The National Research Development Corporation enlisted the antibiotic production resources of Glaxo, whose fermentation research staff undertook several lines of investigation. One fundamental study was on the mould itself and, over some three years, 40,000 mutated strains of it were obtained and investigated. Step by step, a better strain was evolved to give much higher yields of the desired cephalosporin-C.

The Oxford team had determined the chemical nature of the cephalosporins and they isolated

the nucleus of cephalosporin-C. This work gave a sound start to the development of improved antibiotics derived from it.

The biological properties conferred by altering one side chain on the cephalosporin C molecule were not necessarily maintained if the other sidechain was then altered. The work became a prolonged trial-and-error process, with frequent rejections. Some 600 combinations of the two side-chains were made and tested. Then a compound, at first designated '87/4', that had given good results in its primary screening, caused some excitement when it maintained this promise in further tests. It was active against many bacterial pathogens in vitro, and it protected animals against experimental infections. It was shown to be bactericidal, an unusual property for an antibiotic with such a wide antibacterial spectrum. It was also found to be highly resistant to staphylococcal penicillinase.

In 1964 the new antibiotic, whose approved name is 'cephaloridine', was introduced to medicine. (Glaxo).

MEDIC BBQ

The first function organised by the Medical Society this year was held in early December in the form of a BBQ. This year we were honoured by the presence of our President — Professor Gibson, and Mrs. Gibson. Other members of the staff were well represented, too. It was just nice.

A lot of us had expected or at least hoped for a cold and windy evening to go along with the fiery business. Just imagine how nice it would then be to face the warm welcoming fire. But unfortunately Mr. Wind & Mr. Coldness were not on duty that night & we poor chaps confirmed that the fire was certainly hot. Some even got an additional bonus the next morning. Guess what? A radiant "Sun-tan".

Jungle law presided during the BBQ. It was a sad and simple story. Any resistance? Certainly not. Carcinogens? Bacteria? BLEH. Nobody cared.

Singing helped digestion and it was fitting to hold our annual class singing competition right after our fiery meal. Judges were chosen. The years performed amidst cheers and ap-

plause. In the end Second year stole the limelight by beating the very popular fourth year, and won the competition. Then things moved. One moment our judges were smiling happily. The next we saw them singing together. They gave us a new interpretation of the song "Three Blind Mice." It was met with tremendous applause from the audience.

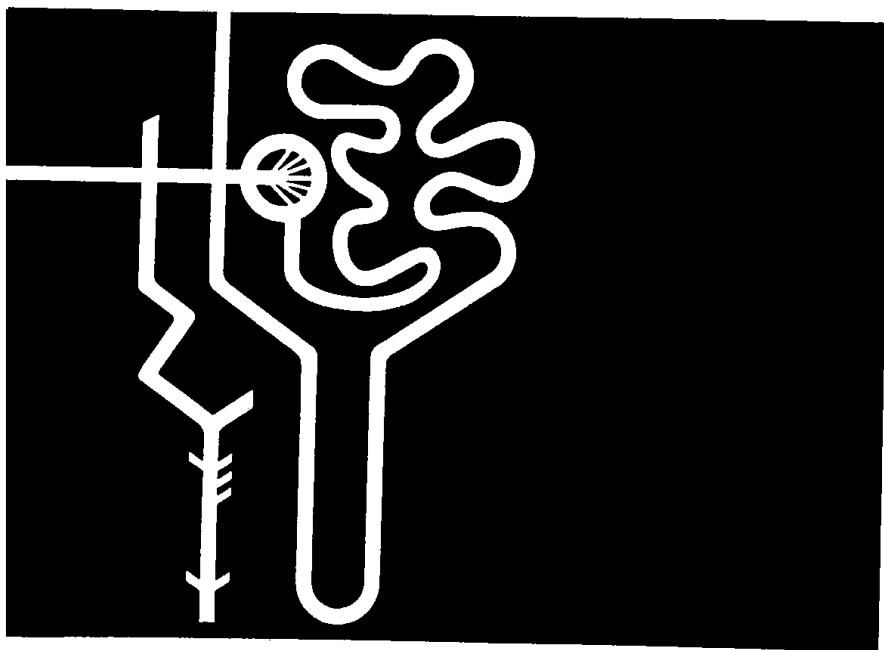
The lucky draw was drawn amidst cries of happiness and agony. Mrs. Gibson was very kind to give away the prizes. But who would you guess to be a sure prize-winner? Professor Gibson of course. We would let that pass. Anyway some of the prizes had been donated by — I won't say whom.

A talk on acupuncture will be arranged by the Freshman Fraternity Committee at 5:30 p.m. on 17th Jan., 1969. All Society Members are welcomed.

A barn dance will be held with the Arts students in the Medic Canteen on 18th Jan., 1969. Free of charge.

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Other conditions Ceporan is the primary choice antibiotic for mixed infections and for organisms likely to be resistant to penicillin. Since there is no cross-sensitisation with penicillin or its derivatives, it is also indicated for patients allergic to penicillin. Other conditions include respiratory tract infections (excluding tuberculosis), meningitis, septicaemia, bacterial endocarditis and

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Vials: 1 and 5 × 1 gram

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SPORTS

RESULTS OF THE INTERFACULTY COMPETITIONS FOR THE FIRST TERM

	Med	Arts	SS	Eng	Arch	SC
Badminton	10	0	3	0	7	3
Tabletennis	7	3	0	10	3	0
Basketball	7	3	0	10	0	3
Tennis	3	0	10	3	7	0
Soccer	0	0	3	3	10	7
Champion	10 points					
Runner up	7					
Third	3					

As before, our Society Badminton Team is invincible in Inter-faculty Matches. Our players, mostly stars of the University, easily captured the championship for the Society.

In basketball, we are rather unlucky. Our Team had in the past been thought of as the weakest amongst the six Societies. Despite the rumour that Social Science could beat us with little effort, we won the First Match. In the Second Match against Arts, we won again by more than 10 points. The Final Match was against Engineering. We led by 7 points when there were only 5 minutes left, and the medics were cheering like mad whenever our players scored. Unfortunately, the referee forgot to inform the players the time 5 minutes before the end of the match. Being unaware of this very important fact, our players became a bit lax and the Engineering Team managed to catch up in the last few seconds, carrying the championship away by a narrow win of 1 point.

Our Cheering-Team has been supporting us fairly well since October. It is hoped that more medics will come to cheer our Hockey, Lacrosse, Softball and Volleyball Teams.

PROGRAMME OF OMEGA ROSE BOWL COMPETITIONS, 1968-9.

DATE	TIME	GAME		
2nd Nov.	2.00	Tennis	Med-SC	Won
19th	7.30	Badminton	Med-ENG	Won
20th	4.20	Soccer	Med-SS	Lost
21st	5.15	Basketball	Med-SS	Won
23rd	2.00	Tennis	Med-SS	Lost
25th	5.30	Tabletennis	Med-SS	Won
26th	5.15	Badminton	Med-SC	Won
28th	5.30	Tabletennis	Med-SS	Won
	6.15	Basketball	Med/Arts	Won
29th	4.20	Soccer	Med-SC	Draw
3rd Dec.	5.15	Badminton	Final	Won (Champion)
5th	5.15	Basketball	Final	Lost (Runner-up)
	5.30	Tabletennis	Final	Lost (Runner-up)
7th Jan.	3.00	Hockey	Med-Arch	
21st	3.00	Hockey	Med/Arch-Eng	
28th	3.00	Hockey	Final	
24th Feb.	5.15	Lacrosse	Med-SS/Arch	
25th	4.00	Softball	Med-Arts/SC	
26th	5.30	Volleyball	Med-SC	
27th	5.15	Lacrosse	Final	
28th	4.00	Softball	Final	
3rd Mar.	4.00	Volleyball	Med/SC-Arch	
5th	4.00	Volleyball	Final	

The Nature and Value of Chinese Medical Practice

by Kevin Loh, Tang Tin Yan & Elaine Petigura

In Hong Kong, traditional Chinese medicine is still flourishing despite the dominance of its western counterpart. Yet there is a myriad of opinions, ranging from adulation to condemnation of this ancient art. In this article we attempt to view this

subject from three different angles — from the opinions of a traditional Chinese doctor and the Pharmacology Professor of this medical school.

An Interview with Professor Chen Chan-Yuen, President of Chinese Medical Institute.

By Kevin Loh

In order to understand better the practice of Chinese herbists in Hong Kong, I arranged an interview with an authority in Herbalist medicine, Prof. Chen Chan-Yuen who earlier on had already given Society members a talk on the History of Chinese medicine. He was very kind to answer the following questions.

Q: What percentage of Hong Kong population consult Chinese herbalists?

A: A rough estimate will be 35% of the population. Of course there are many other people who consult both Chinese and western doctors when they get sick.

Q: How many practising herbalists are there in Hong Kong?

A: About 3,000 strong. Of these, about 300 are bone-setters and 100 practise acupuncture.

Q: How does a herbalist approach for a diagnosis?

A: A herbalist bases his diagnosis on a detail history from the patient, careful observation of the patient's general conditions, inspection of the tongue and feeling of the pulse.

Q: What are the merits of Chinese medicine?

A: Chinese herbs have yielded especially good results in the treatment of influenza, fever, neonatal jaundice and hepatitis. They are also effective in the management of measles, chronic nephritis and correcting disturbances of menstruation. I can definitely state that herbalists cannot compare with western doctors in diagnostic work, but Chinese herbs have their merit in that they can often produce synergic effects when used together with minimal side effects.

Prof. Chen reaffirmed the effectiveness of Chinese herbs. He was sure that there were many valuable therapeutic elements still hiding in Chinese herbs awaiting the efforts of future scientists to discover them.

The Opinion of Western-trained doctors on Traditional Chinese Medicine.

By Elaine Petigura

In our desire to treat this subject on as broad a basis as possible, we sought an interview with three doctors working at Queen Elizabeth Hospital. Despite their varying background and years of experience there was hardly any diversity of opinion concerning Chinese medicine.

It seems that in the course of their medical education, they acquired a growing mistrust of a system of medicine that is not soundly based on knowledge of the physical sciences, or even, as one doctor remarked, "basic human anatomy and physiology." With this information lacking, he did not see how it is possible to attribute a complaint to any

definite cause. Being staunch believers in the scientific approach to diagnosis and treatment, they criticized Chinese medicine as being completely unscientific. In the words of one doctor, "it is more of a philosophy than a science." Methods of treatment were described as crude and unhygienic, often leading to infection and death. This occurs even in the treatment of haemorrhoids and neonatal jaundice, for which Chinese medicine is renowned. Bone-setting, for long a forte in Chinese medicine also came under attack. It seems that among the ranks of bone-setters in Hong Kong, are established a number of "quacks" — former plaster boys working in various hospitals who acquired enough grasp of orthopaedics to set up their own practices. The doctors claimed that some of the foremost bone-setters in Hong Kong belong to this category, although they declined to mention names. "These doctors can be trusted as far as simple fractures are concerned," they said, "but in multiple fractures, since only a small number uses X-ray equipment, there is a risk of deformity, and we have seen many cases of this."

In general, however, the doctors did not dispute the therapeutic value of the various drugs and herbs in Chinese medicine and feel that they offered a very rich field for medical research. What they criticized was the absence of surgery in Chinese medicine. "This means," said one doctor, "in the event of an emergency such as appendicitis, which is fairly common, Chinese medicine would be hopelessly incompetent, since the very idea of operating and transfusing blood, is foreign and unacceptable."

They were then asked about the apparent success of herbs in the treatment of minor complaints such as coughs, headaches, sore-throats etc. Concerning this the doctors felt that although the curative factor may very well be present in the prescribed medicine, such illnesses generally improve without any treatment whatsoever. Besides this, they pointed out that there is a psychological factor which is of overriding importance in the evaluation of Chinese medicine. Apparently, a number of patients today are seeking relief from symptoms not physically but psychologically induced. Such patients receive little reassurance from pills. Rather, they need Chinese medicine steeped in all its tradition and mystery before they can feel that they have received due attention. As one doctor put it, "it's not what you give, but how you give it."

When asked about the future of Chinese medicine, the doctors were not optimistic. They felt that in its present form, it would inevitably fall into extinction. In their opinion the value of Chinese medicine can only be assessed by a scientific study of the drugs and herbs used. However, any such knowledge would eventually be incorporated in western medicine, and the distinction between the two would disappear. Nevertheless, all agreed that it is an ancient art, and as such, is expected to retain a strong hold, in Hong Kong at least, for a number of years to come.

Opinion expressed by Professor C.Y. Lin in an interview.

Tang Tin Yan

The nature and value of Chinese Medical Practice.

The therapeutic agents used in Chinese medical practice are mostly natural herbs and, to a lesser extent, animal tissues and minerals. Physical therapy such as acupuncture, bone setting and plasters are also used. These uses are based entirely on empirical experience or deduction.

There are many shortcomings with this kind of practice. For example, the principle of health and disease of Chinese medicine are not based on knowledge of the anatomy and physiology of the body. Instead, they are based on undefined or ill-defined life-elements such as Metal, Wood, Water, Fire, and Earth (金木水火土) and 陰陽 and 根脈 which are not easy to understand and therefore not acceptable to the medical profession in other parts of the world.

Diagnosis of diseases is usually based on pulse-feeling and some simple signs and symptoms which may not be correct.

Although there are many ancient literatures on Chinese medical treatment they record only the prescription of drugs with simple description of diseases; there are no record whatsoever of investigation either to confirm or to refute, the success or failure of treatment of diseases based upon physiological and pathological principles. Let alone any statistical data to support the claim of a successful treatment.

However, since the Chinese people can survive for several thousand years with such type of medical practice, a number of the therapeutic agents must be of value. We should, therefore, make an effort to investigate them by means of scientific analysis, using whatever biological, chemical and physical methods at our disposal, to obtain their pharmacological basis.

Proposal to retain and to advance the knowledge of Chinese Medical Practice.

A special medical school—At the present moment, traditional Chinese medical practice in Hong Kong is without progress. In fact, it may be degrading, because Chinese physicians usually do not keep a record of their cases and after they pass away, an immense wealth of experience and knowledge are irreversibly lost. To retain and to advance such knowledge, a medical school to teach students these Chinese medical practices should be established. This school must be properly organized, constituted and staffed by well known Chinese physicians as well as by qualified teachers of western basic medical science.

The students in this school should be bilingual in Chinese and English. Besides teaching clinical uses of Chinese drugs in their clinical years they should also be taught anatomy, biochemistry, physiology, pharmacology, microbiology and pathology as in a western medical school in their pre-clinical years. It is hoped that by such a combined training of western basic medical science with the thera-

peutic application of Chinese drugs, the students will be able to retain the experience and knowledge taught to them by their Chinese physicians and at the same time help to put some of the valuable Chinese medical practices on a rational and scientific basis. An advance in the cause of Chinese medical practice may thus be achieved.

A teaching hospital — For the students to gain clinical experience in the use of Chinese drugs, a teaching hospital to admit patients for treatment with the traditional Chinese drugs should also be established. A special pharmacy department to supply Chinese drugs should be included in the hospital establishment. (To be continued on page 4)

THE MEDICAL SOCIETY, ITS INTERNATIONAL CONNECTIONS AND UNION CONSCIOUSNESS

An inaugural speech delivered at the 10th Council Meeting of the Student Union, 1968, by Mr. Paul Lam, External Affairs Secretary of the Medical Society.

Mr. Chairman, Mr. President, ladies and gentlemen,

Over the past few days, I have been wondering in my mind as to what subject I should choose to speak on, until I happened to read in the Undergrad, a short passage concerning my representation as External Affairs Secretary of the Medical Society in the Union Council. It struck me as a good topic to choose, because as well as introducing members of the Council to the international connections of medical students in the University, it will also serve to explain and clarify the seemingly strange situation of having an External Affairs Secretary in the Union Council.

International student movements in Asia, although hindered by many limiting factors, have nevertheless been in rapid progress in recent years. In this field, medical students in Hong Kong have never been left behind. Hong Kong is one of the four founder members of the Asian Regional Medical Students' Association. Since its establishment in 1966, ARMSA has been carrying out its work in four major fields — professional exchange, publication, health projects and medical education. With the expansion in membership of ARMSA, and the affiliation of ARMSA to the International Federation of Medical Students' Association, international connections of the Medical Society have been so greatly increased as to call for an External Affairs Secretary to enable more active participation in international projects, which indeed the Medical Society has never failed to. Besides hosting the second ARMSA general assembly, five members from the Medical Society represented Hong Kong in the ARMSA general assembly held in Kuala Lumpur in August, 1968. Bombay will be hosting the fourth general assembly in 1969, and Israel the general assembly of the International Federation. Australia is at present working at a grand project of hosting concurrently, in 1970, the general assemblies of IFMSA, ARMSA and AMSA (Australian Medical Students Association) in Brisbane. It is expected that the local Medical Society will take part in all these important meetings.

The second and equally important object of creating the

post of External Affairs Secretary in the Medical Society is concerned directly with the Students' Union itself. Due to geographical alienation, and also to the difference in academic programme, it has been felt by some that the medical students are unable to participate, as much as they hope to, in the affairs of the Union. The Chairman of the Medical Society used to sit in the Union Council. However, being the chief executive of a society himself, he is very much occupied. By allowing the External Affairs Secretary to sit in the Council, the Medical Society hopes that he is able to devote more time to affairs in the Union, and to stimulate greater co-operation between the two parties concerned. In fact I feel that we should try to integrate, as far as possible, certain projects of the Medical Society with those of the Union. The Student Health Seminar held last summer is a good start, and we hope more co-operation of this nature will be carried out.

As medical students, we are naturally concerned with the health of students, with the health standards of the community, and with health projects carried out by the government. In the Medical Society, health projects are carried out under the supervision of an Officer of Health and an Education Officer. Together they take charge of the projects in drug and medical equipment appeal for developing countries and arrange talks on medical education. It is in this respect that we see the greatest necessity of co-operation between the Students' Union, through the Student Health Committee, and the Medical Society. As an initial step in promoting this co-operation, I personally think that the Health and Education Officers named should become active members in the Student Health Committee, so that all activities in this field, either carried out by the Students' Union, the Medical Society, or even by the Hong Kong Federation of Students, can be integrated or closely co-ordinated to maintain maximum efficiency and achievements. I am sure that through arrangements of this kind, medical students, as well as other university students, will be given a better opportunity to fulfil their duties towards the community and towards the Students' Union. Thank you.

THE LIVING SKIN

(FROM GLAXO VOL. 30 WITH THE KIND PERMISSION OF GLAXO LAB LTD.)

Far from being, as many appear still to think, merely an impervious covering for more 'vital' parts, the skin is an intensely alive tissue; so much so that some have dignified it with the description 'organ'. More precisely, the skin is a collection of organs concerned with such important processes as the production of sebaceous secretions, the excretion of sweat and the synthesis of vitamin D and the pigment melanin which protects us from damaging radiations from the sun.

One of the main functions of the outermost part, or epidermis, is to produce a dead, impervious scale (keratin) to protect the organism against its environment. If this outermost scale is non-living, how then can it adapt itself to situations such as the great increase in size of the organism between birth and adult life, or how is it to be replaced if damaged?

The snake sheds the whole of its dead scale at intervals and has a ready-prepared new skin underneath; certain lizards and amphibia slough off large areas at irregular times. These processes, however, temporarily render the animal more vulnerable to its surroundings. But in mammals, including man, the dead layer rubs off imperceptibly and is continuously replaced by cells from below. The epidermis is thus never static and at no time is the organism at a disadvantage.

Today, as knowledge deepens with the help of such techniques as electron microscopy and isotope tracing, conventional anatomical and physiological outlooks on the skin may need reorientation. This approach may, likewise, throw light on the way in which living skin is affected by disease processes and on how this can be influenced by the use of drugs.

Structure and Function

Anatomically the normal epidermis consists of five main layers. The innermost is a stratum of columnar cells, known as the basal layer or stratum germinativum; this is orientated at right angles to the basement membrane. Normally, cell division is confined to this layer, and so far no evidence has been found that its cells have any specialized synthetic function.

Above the basal layer are several layers of polygonal cells with well-defined nuclei. In sections prepared for light microscopy, there appear to be spaces between the cells, except at some points of contact known as 'prickles'. As these appeared to be intercellular bridges, the epidermis used to be described as a syncytium since it was believed that the cytoplasm of one cell was continuous with that of its neighbours. But it is now known that there are no intercellular spaces and that these 'prickles' are artefacts. Nevertheless, the term 'prickle-cell layer' has persisted.

Electron microscopy has shown that each cell membrane is discrete and there are no gaps permitting continuity of cytoplasm between cells. The membranes lie closely opposed to each other, and at a few points on adjoining membranes there are nodes of thickening, which are points of particularly firm adhesion, called desmosomes. These are the sites of the so-called intercellular bridges, and when shrinkage occurs during normal processing for light microscopy, the membranes remain attached at these points, giving the prickle appearance. The desmosomes are also the attachment points of the tonofibrils — fine filaments criss-crossing the cell and probably playing an important part in keratin formation. The interlocking system of desmosomes and tonofibrils gives the epidermis stability against mechanical distortion.

Keratin formation

Above this is the granular layer, characterized by rhomboidal cells in which nuclei are present, though usually irregular and disorganized. These cells contain granules, originally said to consist of keratohyalin and considered to represent an early stage of keratin formation. They may merely be precipitates caused by nuclear and cytoplasmic disintegration, but the absence of this granular layer, for example in psoriasis, is associated with abnormal keratin formation. Although

rich in enzymes, its cells are probably non-replicating units devoted to the synthesis of keratin. In areas where the skin is thick, a single layer of clear flattened cell membranes, descriptively named stratum lucidum, can be seen between the 'stratum granulosum' and the outermost 'stratum corneum'. This uppermost part of the epidermis is composed of several layers of keratin.

The precise definition of the term keratin is difficult, as it has been used by chemists and biologists in different senses. Chemically it is a mixture of fibrous proteins of known composition, but from a more practical point of view it is the microscopic structure consisting not only of these particular proteins, but also of the membranes of dead, flattened, interlocking cells (squames) and many substances, including enzymes, that are remnants of living cells. Under normal conditions this layer is continually and imperceptibly being shed and replaced by cells from the lower layers.

Cell differentiation

Implicit in this apparently simple and well-known sequence of differentiation, death and replacement are fundamental processes that are rarely given consideration. There is, for example, the question of what determines whether a cell in the basal layer will remain to divide again, or will move outwards to synthesize keratin and gradually become a dead squame? One theory, which could be described as the 'jostling for position theory', seems to explain this in terms of distance from sources of nourishment. The epidermis has no direct blood supply and its nutrition is consequently dependent upon diffusion of metabolites. Thus, if the number of cells in the basal layer is restricted by the basement membrane, the cells from any division are pushed further from the sources of nutrition and die. This is, in itself, an unsatisfactory explanation, as epidermal cells may die without producing a normal keratin layer; but it may point to one of the factors involved.

It is likely that vitamin A plays an important part in mediating epidermal cell differentiation. For example, the mouse-tail scale epidermis, which does not normally have a granular layer, can be induced to form one under the influence of vitamin A. More dramatically, it has been shown in chick embryo tissue cultures that vitamin A can induce a normally stratified squamous epithelium to undergo metaplasia to a mucus-secreting epithelium. In adult mammalian skin, vitamin A increases the rate of synthesis of sulphated mucopolysaccharides in the epidermis, but not in the dermis, and these substances probably play an important part in fibre formation.

Multipotency of epithelial cells

If a portion of guinea pig footpad is grafted on to its chest, it remains as footpad tissue, producing masses of keratin, and does not take on the nature of its new site. In man, too, the donor site for replacement grafts must be chosen with care to obtain the most satisfactory appearance.

Because of this kind of observation it was believed that the epidermal cell from any one site had some innate tendency that caused it to retain the characters peculiar to that site. However, one incidental factor had been overlooked. With each slice of epidermal tissue removed, a thin portion of the basement membrane with underlying stroma was also being transferred. Embryological experiments have shown that if the skin graft is separated from its stroma by trypsinization and implanted on a site prepared by

removing epithelium in a similar way, the graft adopts the characteristics of its new site. Even a mucous epithelium separated from its underlying stroma and transferred to dermis behaves like skin. We do not know the nature of the inductive factors in the stroma that affect the epithelium, but they may well be closely associated with the composition of the basement membrane.

The multipotency of the epithelial cells is also demonstrated in the healing of partial thickness burns or of the site from which skin has been removed to make a graft. In superficial burns the whole epidermis may be removed. However, if the hair follicle and sebaceous gland epithelium remain undamaged, the epidermis is replaced by cells migrating from these sites to the surface, where they form circular islets of epithelium that spread and gradually coalesce to form a sheet of normal keratinizing epidermis. Satisfactory skin cover can thus be obtained even with epithelium derived from sweat ducts.

Cell replacement rate

It has been estimated that the epidermal turnover time or replacement rate in the human subject is about thirty days, that is to say, a cell formed by a division in the basal layer will be shed in thirty days' time. Under normal conditions, divisions are confined to the basal layer. For simplicity, let us say that the epidermis is thirty cells in thickness; then one squame is shed each day and must be replaced. This does not, however, imply that there must be one division each day in the basal layer to replace it, because the flattening process of keratinization leads to a squame covering approximately twenty-five times the area occupied by a basal cell. It is thus necessary for 1/25th of the basal cell population to divide each day; expressed differently, each basal cell must divide every twenty-five days to maintain this replacement rate. On this basis about one cell in every five hundred should enter into mitosis each hour.

(To Be Continued)

The Nature and Value of Chinese Medical Practice

(Continued from page 3)

ment so that the amount of drug used is properly recorded and the method of preparation is standardized by qualified pharmacists. Should the Chinese University decide to open a medical school, I would suggest that the authority gives some thought to the establishment along this line.

A research unit — As an essential step to evaluate the Chinese drugs, a research unit attached to the medical school to investigate the pharmacological activities and therapeutic uses of the drugs should be established. Obviously correct diagnosis of the diseases to be treated with, must first be obtained. Therapeutic trial of drugs should be conducted properly in this hospital. Progress of disease and number of successful or futile treatments should be carefully recorded and evaluated statistically. Chemical and pharmacological analysis of the drug can then follow. Research of such nature should be a collective effort. Members to participate in such a research unit should therefore include the botanist, zoologist, chemist, physiologist, biochemist, pharmacist, pharmacologist, pathologist, microbiologist, Chinese physician and western doctor.

To establish such a special Medical School and Research Unit is not a small matter. A lot of hard thinking in the planning must be given to it. Above all, such a very special medical school must have the moral and financial support of the public. It should also have government approval in order to obtain a legal status so that the graduates from this school can be granted a license to practise medicine.

Medicine Today

Hypnosis in Medicine

It has long been reported that hypnosis is of value in the treatment of psychosomatic disorders and psychoneurosis. However, it is still doubtful whether hypnotherapy is effective in physical illnesses. Some of the conditions which are suggested to be benefited by hypnotherapy include peptic ulcer, unstable diabetes, post-gastroectomy dumping syndrome and migraine. All these have a prominent emotional component.

Asthma is also one of these disorders and recently, the Research Committee of the British Tuberculosis Association has organised a controlled trial of hypnotherapy on a large number of asthmatic patients. One group of patients were given supplementary hypnotherapy regularly for a year, while the other group served as control. Results were such that when assessed by monthly FEV1 and Vital Capacity, both groups showed similar progress, thus denying the benefit of hypnotherapy. However, according to the clinical assessments made by physicians unaware of the patients' treatment, it seemed that hypnotherapy do benefit the patients significantly.

Lung Transplantation

Immunological rejection is the most well known problem confronting organ transplantation. But apart from this, there are also other difficulties which are specific to the organ to be transplanted. Lung transplantation exemplifies by having two additional problems.

Firstly, the lung lacks a built in mechanism of self control. Control of lung function involves not only autonomic nervous system, but voluntary and biochemical mechanisms as well. At present, a control mechanism can be provided only by retaining some of the host's intact lung.

The second problem is that the transplanted lung tends to function well below normal. This may be partly due to inadequate venous drainage leading to pulmonary oedema, but it seems more likely that the main cause is that the transplanted lung has to share its function with the remaining normal lung of the recipient, as the hypofunction can be improved by further excision of the latter. — Au K. W.

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