Caduceus

MEDICAL STUDENTS' CENTRE,
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EDITORIAL

STUDENT LEADER

The First Student Leadership Training Project has been successfully carried out during the last week of June. Leadership, however, is not something that can be trained overnight, nor can it be trained within a week. It will take a gifted person years to develop the necessary qualities, temperament and knowledge to become a true leader. Seminars and discussions are ways that may help in such development, but a real training requires, besides instructions and talk, hard work and practice. The project is therefore empty in this respect. Nevertheless, if the purpose is to familiarise Union members with the general work of student organization, or to get a bunch of people to run for the Union next year, then it has in many respects served its purpose.

The preparatory work of the organizing committee is praiseworthy. Except for the publicity, members of the committee arranged everything very efficiently and with good order. The working papers which amounted to over a hundred pages were well-prepared and available before the opening ceremony. Provision of meals as well as residence in the Old Halls allowed participants to have any further discussion continued during meal-time or late into the night when that was necessary.

However, any project can scarcely be successful if the people participating in it do not show their cooperation. Fortunately this phenomenon, although present in the project, was not severe enough to be of detriment to the whole scheme. It is deplorable to see quite a number of people who applied did not turn up, and there were some who came for only one or two days and then withdrew. If they did not take a serious attitude even in a small project like this, how can they be expected to work and practise earnestly? This reminds us of the parable of the Great Feast ——— many are invited, but few accept.

STOP PRESS

Recently quite a number of medical students have been complaining of the University Clinic that they have been given anti-cholera injections with syringes, each of which has been used on more than one person at a time. Since by doing so Homologous Serum Hepatitis may thus be transmitted, we strongly deplore such practice, and urge such iatrogenic error be amended.

ELECTIVE PERIOD

Professor Field of Department of Paediatric said,

"The elective period if used properly could give valuable experience to the medical student. In my opinion the value of such a period would be the opportunity for the student to make his own observations in whatever sphere of medicine he chooses to work. He should be encouraged to organise his own programme (with some guidance) and if participating in research should be encouraged to think for himself. At this stage perhaps breadth of experience is more valuable than depth but this will depend on circumstances. At present the only period available for the elective period is the 3 months before the final examination. If this were the period to be used, their revision for the examination must have a separate time table from the elective period time table if the latter is to be beneficial to the student. For those who can afford to go overseas they should be encouraged to do so providing proper arrangements can be made for their reception at an overseas medical center but the majority will remain in Hong Kong where I believe a wide variety of programmes can be arranged according to the student's individual interest. In Paediatrics the wider field of child care, child behaviour, the deprived and delinquent child remain to be studied as well as clinical laboratory studies which could be adapted for a combined staff/student team. Discussions with staff would be valuable and supervision of the elective period essential."

(What Professor Field means by combined staff/student team is that one staff member and one student both actively engage in a piece of work so that if the project is not finished by the end of three months the staff member can finish it.)

Professor K. K. Cheng of Physiology Department commented,

"The Physiology Department has offered elective study for a few first year students during the summer vacation four years ago. The results are satisfactory.

He thinks that elective studies will be most helpful to students for developing a scientific approach, objective critical analytical power, and discipline. By participating in active research they can learn the importance of persistence, honesty in research work.

What the Physiology Department intends to offer is research projects to be done by the students under supervision.

The major difficulty in such a project is the lack of staff. Since close supervision is necessary, a 1:1 staff student ratio is preferable. Besides, three month is too short a period. If the period were to be before the final examination the students might be too heavily stressed. He thinks that the summer vacation after second year is good for such a period for physiology. Difference between students in U.S.A. and students of Hong Kong is that the former got their B.Sc. degree before takeup medicine and they have some foundation in basic science."

Professor Gibson of Pathology Department said,

"The Pathology Department intend to accept eight students for elective period.

Professor thinks that such a period would be benefical to those who are interested in basic medical science. They may get a fore-taste of working in such branch and also deepen their knowledge about such subject.

The programme will probably consists of one month on post-mortem studies, biopsy and one or two months on blood and clinical biochemistry. They may help in arranging and labelling demonstrations and other teaching aids.

The major difficulty in management is lack of staff. Inexperienced students may mix up specimens which cause much extra works. There is bound to be some boredom in the routine work and students are advised to say what they would like to do at the beginning of the period. Only those who are really interested will benefit from such a programme."

Summary

All three professors favour the idea of an elective period. All of them emphasize the necessity of independent thinking. The major difficulty is the shortage of staff and the problem of suitably fitting such a programme into the curriculum.

Message From Mr. Richard Ng Vice-President of ARMSA

Mr. Richard Ng, Vice-President of ARMSA, has recently returned to Singapore after a three month stay in Scotland, where he had been taking a clerkship under the Nuffield Exchange Scheme. On his way home Mr. Ng had the opportunity of visiting Israel, the venue for the General Assembly of the International Federation of Medical Students' Association to be held in August and Bombay, where the 4th General Assembly of ARMSA was originally scheduled to be held, as well as medical student associations in other countries. To keep our own students informed of recent developments of these two international medical student organisations, the following is an excerpt from Mr. Ng's report:

1. EUROPEAN: Amsterdam, Paris, Athens

I was very well received and assisted by the medical associations in all these cities. I had very useful disscussions with their Presidents and National Exchange Officers, about common problems in IFMSA & ARMSA. In Zurich, Robert Steffen, immediate past president of IFMSA very kindly played host during my 2 days stay.

News of immediate importance to ARMSA is that most European Associations are now seriously contemplating withdrawing full memberships from IFMSA into associate memberships and forming a United European Medical Associations instead. I learnt that very possibly only a token representation would be sent to their next general assembly in Jerusaleum in August. This new but major problem I gather, is due to loss of confidence in IFMSA as an effective working body, and also to the non-unanimous choice of Isreal for their next G.A. Much disagreement was said to exist over the latter issue of Israel, at their EBMs in Copemhagen and Amsterdam.

Thus ARMSA as a new regional Association has much to learn from such problems arising in IFMSA.

2. WORLD UNIVERSITY SERVICE, GENEVA.

I had useful talks with the Secretary General, Mr. S. Chidambaranathan and Assistance Secretary for Asia, Mr. Hema Dassanayake; regarding ARMSA and WUS and ways in order one can help the other.

WUS wishes to compliment and thank ARMSA for the splendid work carried out by Hong Kong, Malaysia and Australia in their successful Drug Appeal Projects and asked that more of such noble projects be carried out. They shall be only too pleased to advise on any related matters. Also, All E.B. members and associations of ARMSA would now received regular WUS publication & news.

3. ISRAEL: VENUE FOR IFMSA GENERAL ASSEMBLY 18-31

Organisation for the General Assembly here has gone into deep preparations and a most promising programme is already set. Mr. J. Golan, Director of SCOPE and co-organisers of General Assembly for IFMSA; and myself are in full accord that Israel (being members of both ARMSA & IFMSA) would now be a possible venue for ARMSA'S General Assembly as well. I shall be happy to stage this first bipartite assembly.

Distance is the only problem, but I think Israel should be seriously considered at this stage.

4. INDIA:

a. Madras: From Dr. A. E. Soorya in Bombay, I learnt that the "representatives" (Kumar & Chabdrashekae) "representing" all India Congress Students Association of Madras at our Third General Assembly in KL 1968 are not medical students, but in Engineering and Catering Courses. Since there has been absolutely no news from them I urged that the next General Assembly seriously consider this matter, re-studying their credentials, seek official letter from their associations and if necessary, revoke membership.

b. **BOMBAY:** I managed to contact Dr. Soorya in Bombay after arrival, and discovered that the situation is bad. Very unfortunately, Soorya is now no longer in the Topiwala Medical College, since September 1966, and thus cannot do much for ARMSA.

I could not meet other official as it was vacation time and I was in Bombay on Saturday and Sunday, with a sizzling temperature of above 100°F.

5. Venue for General Assembly, ARMSA

Soorya can only give a definite answer to the General Assembly in Bombay after June. But even if it's 'yes', I feel that the situation here, and the facilities available, would not permit an assembly of our requirements. My opinion thus is to change the venue right-away, and urge the new venue to commence preparations immediately. Choice of Venue for General Assembly.

I would place in order of preference the following places:

1. Hong Kong or Singapore, both being good focal points in Asia.
2. Israel: to be seriously considered as all ARMSA DELEGATES would have an excellent opportunity to attend IFMSA General Assembly representatives from each association should be sent. Political differences should not be taken as a barrier.
3. Bombay: slim possibility. Soorya is the only man acquainted with ARMSA here.

The Standard/Sing Tao 'Fat Choy' Drive Medical Students Loan Fund

The Standard/Sing Tao 'Fat Choy' Drive, through Sin Poh Amalgamated (H.K.) Ltd., has generously given the University the sum of $50,000 to establish a loan fund for medical students. Students in any year of the course for the degrees of M.B.,B.S. may apply for loans, which will be repayable within three years of graduation. The number and amount of the loans will be decided by a committee comprising the Dean of the Faculty of Medicine, the Professor of Preventive and Social Medicine, a representative of Sin Poh Amalagamated (H.K.) Ltd., and one medical student.

For further information, please inquire at the Dean's Office, Faculty of Medicine.

• Correspondence

WE SHOULD LEARN ALL

Dear Sir,

As one who had written something on the questionaire issued by the Medical Delegation of the Students' Commission for Uneversity Reforms. I would like to utter a few words. What we have written on that questionaire expresses only our personal view. It is just a reflection of our judgement on whatever events that has occurred and asked in the questionaire.

What a questionaire serves is just a review of the things that have been imposed upon the answers. What it needs is the faithful and objective feeling of that particular person who is answering. It is not specially made to go against anything or to gain approbation; and I dare not have the slightest intention to make joke at that particular juncture.

The results cannot be said to be right or wrong. The value of Truth and Falsehood has no place in the discussion of the results, as the results are only just a reflection of the way which a particular group of people looks towards certain events, and nothing else. It cannot be said that what is answered in the questionaire will entirely be subjective — though it may play some part; and one cannot deny that objective judgement will at least play an equal, if not a major part.

In the Correspondence in Caduceus Vol. I, No. 5, medical students are referred to as no good, have not a degree of scholarship, do not respect scientific precision and terminology; we only want to be a doctor after some years of apprenticeship from our clinical vocational trainers, we aim not to gain education but merely want to get model answers and pass the examination in a most ugly way, so as to disgrace the whole Medical Faculty and the respectable profession.

These "Facts" certainly made any medical student very uncomfortable when he/she has the chance to read it, or even to recall it from memory. Nevertheless if we calm down and think it over, we have to admit that we are really not so good as the science students in the sense that on the average we are poor in mathematics, more so in biomathematics. Likewise, we have not studied our lessons well enough so that we cannot have the concept and a sound grasp of the basic principles of the tops, though some of them are not even spoken under the breath during lectures. For the reason that we do not know "all" the things in the subject, we are really not very justified to have that University Degree even after we have finished our course.

In order that the medical students are not left too far behind the science students, we must study very hard and learn more, especially in biophysics, biomechanics, and bioelectronics, etc., so as to catch up with this ever advancing age.

I wholeheartedly congratulate those who have gained distinctive results in the Degree Examination of Biochemistry, for they will surely do very well in their future profession. I also feel very sorry for those who have their Biochemistry course exempted, for they will be certain that they would not have any achievement in their later years.

I like Pathology and the Pathology Department. It is not because they are vocational or they give us tips; but it is from which I can get some basis to become a vocational doctor.

I like Physiology and the Physiology Department. It is not that their staff-student ratio is satisfactory; but it is from whom I realise the profound meaning of scholarship.

I also like Biochemistry because from which I begin to know and wonder how perfect the creation of God in our own bodies is.

May I take this opportunity to thank all my honourable teachers in the Medical Faculty for their patience and talent in bringing me up to be a useful person in this society.

Yours,
A not good medical student

The Braga Cup Competitions

This is a series of games that is organized for the medical students on an interclass basis. The number of games are increasing every year and now, we have 11 altogether, 8 for men and 3 for ladies.

The method of calculating the results is as follows:

champion	10 points
runnerup	7
third	3

The class getting the highest score will be the overall champion and will become the owner of the Braga Cup for one year.

This year, after a close competition between the four classes during May and June, the second year emerged as the champion. The results are as follows:

	I yr	II yr	III yr	IV yr
badminton ladies	7	10	3	3
badminton men	3	3	10	7
basketball	10	3	3	7
hockey	3	10	3	7
lacrosse	3	10	3	7
netball	3	10	7	3
soccer	3	7	3	10
tabletennnis ladies	3	10	3	7
tabletennis men	3	10	7	3
tug of war	3	10	7	3
volleyball	7	3	10	3
TOTAL	48	86	59	60

It must be remarked that most of the classes show good sportsmenship and enthusiastic support by their respective cheering teams. The first year students are very eager in participating in the competitions, however, may be due to lack of experience, they could only win the champion in basketball. The second year students furnished the strongest teams and swept away 7 champions including all the champions for ladies. The third and fourth years had a very close fight and finally the fourth year managed to win the overall runnerup.

WHO FAILS WHOM?

Dear Sir,

I was glad to note in the May issue of Caduceus, the letter written by Prof. Walsh and Dr. D. Gray of the Dept. of Biochemistry. Such an open and earnest response is recommendable, and essential, as a first step towards understanding each other.

Firstly, I too, must express my dissatisfaction with the manner of conduction of that departmental survey. A questionnaire can at best, serve only as a preliminary measure that must be followed by more exhaustive and intensive investigations in areas indicated by the preliminary survey. Students are often blind to the fact that in filling out questionnaires, they are but echoing the sentiments of their producers.

However, this is not to say that the results of the survey (tinged as they may be, with prejudice, misjudgement and misunderstanding,) are altogether worthless. The reasons behind the students' discontent with the Dept. may never be revealed, but there are undoubtedly contributory factors, however remotely connected they may be to the standard of teaching in the department.

Prof. Walsh and Dr. Gray do not believe that the standard of teaching in their Dept. falls short of that in the Anatomy or Physiology Depts. If this is so, how must we account for the consistently poor Biochemistry results of the 1st. MB, which reached a record low in 1968? It would be too easy to dismiss this as evidence of the poor quality of medical students, for in Anatomy and Physiology, are we not examined as well "on our degree of scholarship, our ability to express ideas and concepts clearly, our grasp of basic principles and our respect for scientific precision and terminology"? It would be far easier to conclude that Prof. Walsh and Dr. Gray expect a degree of scholarship and inspiration in medical students, which they have proved incapable of instilling with their present teaching standard.

Another fact which is relevant here, is the peculiar nature of the examination paper year after year. It varies so considerably one from the next, that the nature of the coming paper has as much predictability as Hong Kong's future. Apparently, an examination of 'basic principles' and 'concepts' also includes: intricate detailed biochemical knowledge, wide historical background of biochemistry and considerable mathematical interpretation of biochemical principles. It is little wonder that Biochemistry has assumed the proportions of a towering giant to the preclinical student, and as such, it is totally unjustified.

I hope that what I have written above will go a little way towards explaining how, in my opinion, the Biochemistry Department has failed medical students. Perhaps members of the dept. could explain how medical students fail Biochemistry.

Signed,
LIBRIAN

RECREATION CORPS FOR THE BLIND requests VOLUNTEERS for:—

1. Teaching blind people 'General Hygiene' (at Form 3 level).
   Once per week.
   Time: Monday, 9.30 — 12.30 a.m.
   Place: Society for the Blind. (Kowloon City Pier)
2. Teaching blind people Oral English, Mandarin (at elementary level)
   Once per week.
   Time: as desired.
   Place: Society for the Blind.
3. Teaching blind people 'English Composition & Phrases' (at Form 2 level); once per week (three sessions only)
   Time: Saturday, 9.00 — 12.00 a.m.
   Place: Society for the Blind.
   Date: starting from 12th July, 1969.
4. Teaching one blind youngster (age 27) Physics, Chemistry, Biology (G.C.E. ordinary level) for six months.
   Time & Place: as desired.

Will anyone intended to help please let us know your address and telephone number at your earliest convenience.

The Hon. Secretary,
Recreational Corps for the Blind,
Old Halls, Room L120,
University of Hong Kong.

AIR POLLUTION AND ITS EFFECT ON HEALTH

—with reference to Hong Kong

by F. W.

Introduction

Air pollution can be defined as the presence, through the actions of man, of foreign substances in the natural air.

The pollutants can be either solids or gases. As for solids, they can be dusts, grits, soots or sublimations. Sulphur dioxide is the commonest form of gasous contamination. Water vapours and smokes sometimes are also very troublesome.

The major sources of potential air pollution may be grouped as:

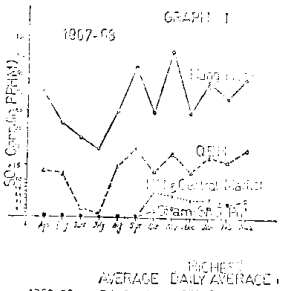
a. Industrial processes,
b. Industrial and domestic combustion of fuels, which produces smoke, dust and sulphur dioxide.
c. Motor vehicles, which are the potential sources of carbon monoxide, lead, nitrogen oxides and particulate matter, are also responsible for irritating and malodorous fumes and smoke, especially from disel-powered vehicles.

Besides the effects on health, air pollution is also important in many other respects. For example, heavy pollution can reduce the amount of ultra-violet radiation reaching ground level from space; it can increase the tendency for fog formation; it reduces visibility; it will also reduce the amount of natural illumination so the need for artificial illumination arises. Furthermore, it will exert a destructive effect on cloth fabrics and building structure, especially when concentration of sulphur dioxide is high. It also damages natural vegetation.

IN HONG KONG

The first step towards control of air pollution began in 1960 when the Clean Air Ordinance was passed. In 1963, a monitoring station was set up in Hung Hom area of Kowloon to measure the degree of contamination of the atmosphere by sulphur. dioxide. Twenty-four-hour air sampling was done and standard lead peroxide candles were used for measurement. It was carried out as a joint project by the Industrial Health Section of the Labour Department and the Urban Services Department. In 1966, three more monitoring stations were set up in Queen Elizabeh Hospital, Sham Shui Po area and Kowloon Hospital. The latter was discontinued in September, 1967 and replaced by a new one on Hong Kong Island at Central Market in October of the same year. In 1967, the Committee on Air Pollution, chaired by Mr. J.L. Marden, with three subcommittees, were set up to report on the causes and extent of air polluion over the colony and to make recommendations with regard to the existing Clean Air Ordinance and other measures which may be necessary to control the increasing problems. At the request of the Committee, 22 more sites were selected where monthly sulphur dioxide level was measured, to provide a wider monitoring system. In 1968, a Smoke Abatement Adviser was appointed to the Labour Department. His duties include advising the Commissioner of Labour on establishing an air pollution control unit which will have advisory and law enforcement functions, responsibility for monitoring work associated with air pollution and for training local officers in all respects of air pollution work.

A complete report on the subject is expected to be published by the Committee on Air Pollution some time later this year. But from the isolated data available in the Annual reports of the Labour Department in the last few years, an outline of the situation in Hong Kong can be made. Graph 1 shows the monthly average sulphur dioxide level recorded at the four monitoring stations in 1967-68. (Note the scale used in the vertical axis) Graph 1 show the yearly average and highest daily average level of sulphur dioide measured at Hung Hom area in the period between 1965 and 1968. (Followed by Graph 1).



	AVERAGE	HIGHEST DAILY AVERAGE
1965-66	54.9 pphm	301.0 pphm
1966-67	73.9 "	467.2 "
1967-68	61.8 "	315.6 "

SO_2 CONCENTRATION RECORDED AT HUNG HOM

Two interesting points can be noted. The most striking is the very high level of sulphur dioxide in Hung Hom area (average 61.8 parts per hundred million or pphm), Sham Shui Po (average 0.2 pphm) and Kowloon Hospital and Central Market (average 0.5 pphm). The highest daily average recorded in Hung Hom district in the last three years is 487.2 pphm.

The second point is the heavier pollution during the winter months. At Hung Hom, a reading as high as 116.8 pphm was recorded in November, 1968, but only 16.0 pphm was recorded in July. Also, during the period between April and September, no sulphur dioxide can be detected in the atmosphere at the Sham Shui Po and Kowloon Hospital Stations.

The two potential sources of pollution in Hong Kong harbour are the Hok Yuen Power Station and Green Island Cement, both of them are situated in Hung Hom. During the process of production of electricity or cement, a large quantity of sulhpur dioxide is formed as it involve burning of fuels. This will escape into the atmosphere if no due precautions are taken to prevent it, especially when the fuel used is of inferior grade. The installation of electro-static precipitators and provision of tall chimneys in Green Island Cement make it less offensive but by no means satifactory.

The heavier pollution during the winter months is due mainly to temperature inversion. At certain time of the year, one can get a layer of warm air over the harbour trapped beneath it a layer of cold air. This trays the air pollution and smoke and cuts down visibility. It is likely to occur any time during winter, but the worst months are February and March. Fortunately, Hong Kong is well placed geographically to avoid the worst effect of atmospheric pollution. High concentrations are unlikely to prevail over an extended period as Hong Kong is situated outside the belt of stationary anticyclones so that calm periods seldom persist for more than one or two days.

Effects on health

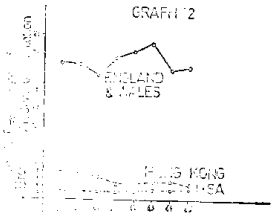
The effects on health depends on the nature and concentration of pollutants found in the atmosphere. From a report by the World Health Organisation (Wld. Hlth Org. Techn. Rep. Ser., 1968,406), sixteen air pollutants have been discriminated to have recognized or potential long-term effects on health at usual air pollution level. Among them, seven are though to have potential chronic effect **per se**, while others, in appropiate combination and concertration, become potentially dangerous to health. A complete list is quoted below with their effects given in parenthesis.

1. Arsenic (arsenical dermatitis)
2. Asbestos (asbestosis, mesothelioma)
3. Beryllium berylliosis
4. Carbon Monoxide
5. Carcinogens
6. Fluoride (fluorosis)
7. Hydrocarbons
8. Hydrogen sulphide (possibly with mercaptans)
9. Inorganic particulates (pulmonary sclerosis)
10. Lead
11. Nitric oxide
12. Nitrogen dioxide (mild accelerator of lung tumours)
13. Organic oxidants, peroxyacyInitrates
14. Organic particulate, asthmagenic agents (asthma)
15. Ozone (chronic lung changes, accelerated aging
16. Sulphur dioxide, sulphur trioxide.

Many of the above mentioned pollutants are normally not found in urban atmosphere. They are found in substantial concentration only in certain industrial districts where various industrial processes or enterprise are taking place.

By far, the most important composition of urban air pollutions are soots, dusts and sulphur dioxide. Studies of the long term effect of urban air pollutions on the longevity of life have been inconclusive partly because of the difficulties in differentiating the effect from that due to cigarette smoking and partly because of the lack of records and vital statistatics.

Nevertheless, it is well known that there is a very good correlation between the incidence of pulmonary diseases with the degree of pollution. The following graph demonstrates clearly the high incidence of yearly death rate from bronchitis in England and Wales as compared with the United States and Hong Kong. The total number of death from bronchitis in 1965 in the United Kingdom is 33,179 while that in Hong Kong is only 154. (Followed by Graph 2).



The mechanism of chronic effect of pollutant on respiratory tract is not well understood. But they are known to be capable of producing narrowing of airway calibre, increase in secretions, fibrosis and granulomatous reactions, with the result of increased resistance to airflow and the production of cough. It is not hard to understand that they play a very potential part in precipitating exacerbation of asthma, the airway of which is already narrowed by disease processes. For example, the high incidence of asthma in Yokkaichi, Japan, has been concluded by Katsumi Yoshida to be related with air pollution, (Ach. Environ. Health Vol. 13, 763-768).

Recent interest has been drawn to the possibility of air pollution as an etiological factor of pulmonary carcinoma. Again, the effect of cigarette smoking is difficult to separate.

Another aspect where many research has been done is mutagenicity in relation to air pollution. Dr. Eugenr Sawicki, in a recent sampling of the atmosphere in smog-bound cities in the United States, has recovered certain mutagens which has proven effect on animals. In his report to an air pollution conference in Chicago, he, however, said that no test had yet been made to determine their effect on human beings. (Far East Medical Journal, Vol. 2 (4), 145).

Conclusion

Though legislation is necessary for the control of air pollution, due co-operation by industrial enterprise is equally important. Smokeless fuels should be used throughout and constant monitor of the concentration of various end products escaping into the air should be made. WHO has prepared a table of recocmended safe concentration for international adaption for certain important industrial pollutants (Wld. Hlth. Org. Techn. Rep. Ser., 1969, No. 415).

We anxiously look forward to the coming report by the Committee on Air Pollution, and expect a lot of advice on the improvement of the polluted conditions in Hong Kong, especially in the Hung Hom area.

Angel In Shadow

My Friend,

It was so nice to receive your letter, especially at the time when I felt the whole world have forsaken me and I had to find some new objective to live for.

I have finally managed to survive, though the bleeding wounds take time to heal. But the worst is over, and in the darkness I can catch a glimpse of light beneath yonder horizon.

You have always disapproved my maudlin sentiments and believe me, my good friend, I tried to listen to you. But so weak is my mind that I gratify every wish of my heart, like a mother spoiling her child. I always believe that I live for love and slight the guidance of my prudence. Back in those youthful years I have cherished in my heart the soul of an all-perfect angel. With such tenderness I cared and adored it, bestowing on it all the beauty and virtues of life and nourished it with my warm blood until it attained full bloom and glory. Then she walked into my life, and so gently without a whisper I offered her this treasure of mine and found my angel in her.

That was the happiest moment of my life, my friend, when my dream turned into reality. All that I had been wishing came true. I found in her the sole purpose of my existence and all the virtues and beauty that were never present so fully in a single soul. I looked with contempt on my friends because I thought I had found the key to paradise and the star that lead the way and pitied others for their ignorance and concern over things which I considered so insignificant compared with my affection.

You told me that she did not exist, that she was only the outcome of my imagination and I was loving only a detached part of myself. But how could I believed you at that time when my mind could think of nothing but her smile, when my heart leaped only when she was in sight and when the whole world seemed so small in front of her. Forgive me my friend for I see not with my reason.

Her refusal only aroused more passions in me. I was sad but I was secretly rejoicing. In my deep agony I felt proud that I was capable of offering her such sublime emotion and admired my saintly devotion. Love is to give, love is sacrifice, love is pain; I tried to comfort myself. But all the words in the world could not soothe a sorrowful soul. You knew how I lived that part of my life. Nothing in the world seemed worthwhile to me. My studies retrogressed and my body grew weak. But I was happy over these, for they proved once again that I was willing to sacrifice anything for her sake. In those sleepless nights I often wished I could die for her, and a few tear drops from her lovely eyes would sanctify my soul. But I knew very well she would not cry for someone like me, and the thought only mocked my sincerity. You were the only one whom I could turn to in my distress, and may God bless you for all you have done for me.

But I am myself again my friend. Though I have temporarly lost the star that shines my way, I am sure another star will irradiate. This is not a perfect world and there is no perfect being. I was too fascinated by my imagination and was carried too high above reality. I loved because I never got close enough to her and saw in her only what I painted on for her. The body is hers but the soul is mine. I look into her but failed to recognise myself, though that was my best part. I think I have matured, though by the painful way. But I have risen after the fall and now am on my own two feet again. I am ready to go on, to search for my new star. I have a faith that is firmer than ever, and believe me I will never stop till I find it.

Yours faithfully,
S. N.

THE HORIZONS OF CARDIAC SURGERY

J. S. LEUNG

As more is known about its physiology, the human heart is gradually stripped of its time-honoured glamour and becomes simply a muscular pump. To-day, few organs in the body are more vigorously attacked by clinicians and surgeons. Surgical advance have impelled parallel developments in the clinics, the laboratories, and the postoperative intensive care units. It is now insufficient for us to label a child as having "congenital heart disease." (A medical student would have passed his examinations comfortably with that diagnosis ten years ago.) We now have to identify the anatomical fault, to quantitate the physiological disturbances, and to decide whether a surgical correction is indicated and if so what would be the risk involved.

Many congenital heart defects have become correctible. Fifteen years have passed since Gibbon first repaired an atrial septal defect under cardiopulmonary bypass. In many centres all over the world, closure of "holes in the heart" has become a matter of routine with consistantly good results. Tetralogy of Fallot remains a challenge even to the most experienced team, although in this condition the disability and poor life expectancy justify the surgical adventure even more. Transposition of great vessels was once abandoned as hopeless, but creation of an atrial septal defect, either with the knife or with the balloon of a cardiac catheter, has successfully prolonged life to early childhood. Recently, Mustard and his associates have developed the ingenius use of a pericardial patch to redirect the venous blood to the arterial ventricle, thus resulting in total correction. Operation mortality in the Mustard procedure remains high. In a well-established centre overseas, I have observed 4 consecutive operative deaths followed by four successes.

Valvular diseases were among the earliest heart disorders tackled by surgeons. Simple procedures such as close mitral valvotomy still has an important place to-day. With the introduction of the ball valve prosthesis by Starr ten years ago, a reliable replacement is available for the badly damaged mitral or aortic valve. As more experience is gained on the artificial valve its shortcomings also become apparent. Thromboembolism, ball-variance, and flow obstruction are important items in a list of complications that have kept long term rsults rather humble. In the meantime, valves taken from the cadaver (homograft), or the pig (heterograft), have been advanced for the replacement of the diseased valve.

Replacement of the entire human heart was first attempted by Hardly in 1964, using the heart of a chimpanzee which actually kept beating for a few hours in its new host. Meanwhile Shumway and his associates have made extensive studies in experimental heart transplantation and achieved survival in dogs up to over a year. With the work of Barnard, Cooley, and others, some success in human has been achieved at least in the early stages. Many questions remain unanswered. How long will the transplanted heart survive without being rejected or undergoing degenerative processes, no one can tell. Immunosuppression of the host has undergone much sophistication, from body irradiation to extracorporeal irradiation, from mustards to imuran, and from lymphoresis to antilymphocytic sera. Other pioneers are placing more emphasis in matching the donor and the recipient. In a visit to Shumway's unit two months ago, I was more impressed by the painstaking procedures of histiotyping of donors and recipients in the laboratory than by the actual surgery of the transplant which has become almost routine in his team. The ethical, religious, legal and cultural backgrounds in certain places literally exclude the possibility of heart trannsplantation while in many other places the future remains gloomy due to poor current results. "Will you try again?" I once asked a surgeon whose heart transplant patient died at the end of five weeks after operation. He said he would, given the correct indication, the right donor and the right recipient. Transplantation is not a subject to be taken up lightly, nor is it something to be given up easily.

The alternative to a transplant is the artificial heart. Some form of "heart pumps" has been devised by Akutsu, DeBakey, Kolff and others. At their best artificial hearts have only maintained life for a number of hours in animals (and on rare occasions human patients). The future of the artificial heart lies in the technical perfection of an implantable unit which will function reliably for long periods.

Coronary arterial surgery is not a new subject, but its status is now much boosted up in many centres. Logically much new impetus is derived from the more elderly group of cardiologists themselves. Earlier attempts of coronary endarterectomy and various forms of revascularisation have been discouraging, but more recent procedures mainly following Vineberg's method of internal mammary artery implantation have yielded good early results. One of the final papers presented at a Thoracic Meeting in San Francisco last April by Johnson and his associates gave excellent results of the aggressive surgical approach to coronary diseases. Using a combination of vein grafts and internal mammary arterial implants, they obtained improvements in 187 out of 192 patients. And I recall that there was a much longer applause following this paper than those following papers on heart transplantation.

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Cardiac surgery in progress