The Madras Medical College Magazine

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President:
Dr. R. V. RAJAM, M.S., M.R.C.P.

Vice-President:
Dr. D. S. IYER, M.S., F.R.C.S.

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M. M. THAHIR.

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R. RAMAMURTHI.

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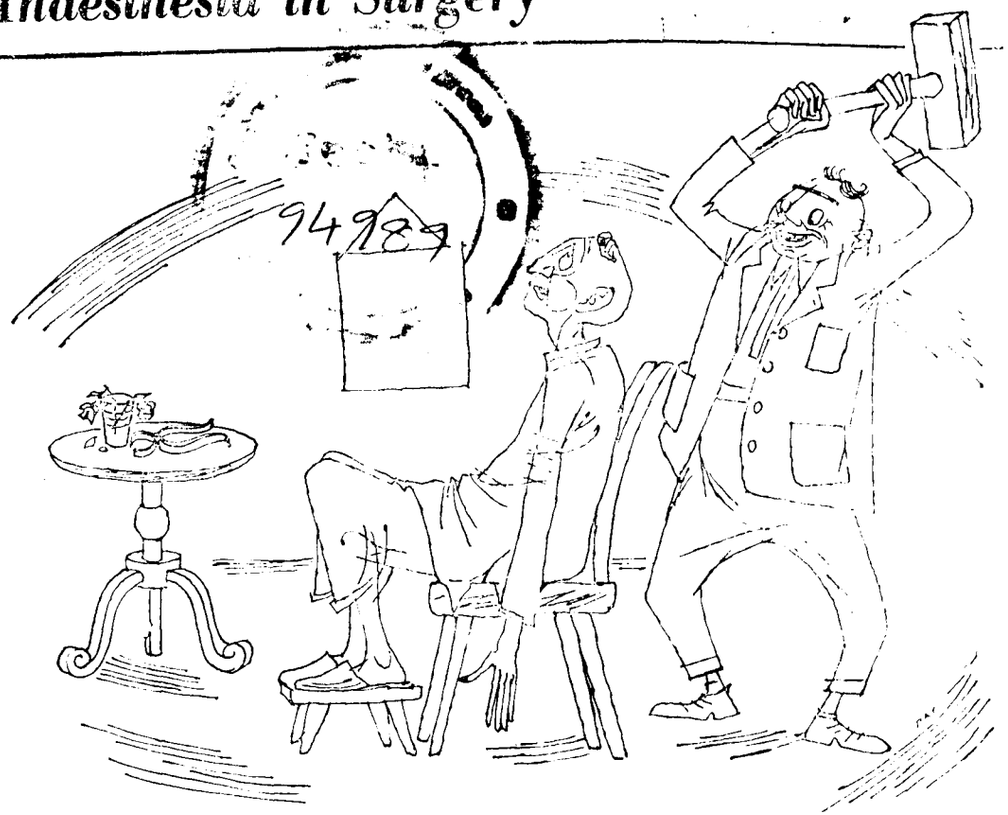
Anaesthesia in Surgery



The path of science is strewn with dead theories and discarded practices. Look at modern anaesthesia for example. The idea is not new, but it has taken long decades of ceaseless experiments with unsatisfactory methods to arrive at the perfected technique of today. Where an anaesthetist in the past used crude and violent methods frequently leading to fatal consequences, he now administers an inhalation anaesthetic like 'Trilene' or an intravenous anaesthetic such as 'Kemithal,' with complete confidence in their safety and efficacy. 'Trilene' and 'Kemithal' exemplify I.C.I. leadership in modern medical and surgical science.

ICI *a symbol of quality*

Imperial Chemical Industries (India) Ltd

IX-P 95

TABLE OF CONTENTS

DECLARATION OF GENEVA

Adopted by the

General Assembly of the World Medical Assn.

AT GENEVA, SWITZERLAND, SEPTEMBER, 1948.

At the time of being Admitted as Member of the Medical Profession :—

I SOLEMNLY PLEDGE myself to consecrate my life to the service of humanity.

I WILL GIVE to my teachers the respect and gratitude which is their due ;

I WILL PRACTISE my profession with conscience and dignity ;

THE HEALTH OF MY PATIENT will be my first consideration ;

I WILL RESPECT the secrets which are confided in me ;

I WILL MAINTAIN by all the means in my power, the honor and the noble traditions of the medical profession ;

MY COLLEAGUES will be my brothers ;

I WILL NOT PERMIT considerations of religion, nationality, race, party politics or social standing to intervene between my duty and my patient ;

I WILL MAINTAIN the utmost respect for human life, from the time of conception ; even under threat, I will not use my medical knowledge contrary to the laws of humanity.

I MAKE THESE PROMISES solemnly, freely and upon my honor.

INTERNATIONAL CODE OF MEDICAL ETHICS

Adopted by the

Third General Assembly of the World Medical Assn.

AT LONDON, ENGLAND, OCTOBER, 1949.

Duties of Doctors in General.

A DOCTOR MUST *always maintain the highest standards of professional conduct.*

A DOCTOR MUST NOT *allow himself to be influenced merely by motives of profit.*

THE FOLLOWING PRACTICES *are deemed unethical:*

(a) *Any self advertisement except such as is expressly authorized by the national code of medical ethics.*

(b) *Taking part in any plan of medical care in which the doctor does not have professional independence.*

(c) *To receive any money in connection with services rendered to a patient other than the acceptance of a proper professional fee, or to pay any money in the same circumstances without the knowledge of the patient.*

UNDER NO CIRCUMSTANCES *is a doctor permitted to do anything that would weaken the physical or mental resistance of a human being, except from strictly therapeutic or prophylactic indications imposed in the interest of the patient.*

A DOCTOR IS ADVISED *to use great caution in publishing discoveries. The same applies to methods of treatment whose value is not recognized by the profession.*

WHEN A DOCTOR IS CALLED UPON *to give evidence or a certificate he should only state that which he can verify.*

Duties of Doctors to the Sick.

A DOCTOR MUST *always bear in mind the importance of preserving human life from the time of conception until death.*

A DOCTOR OWES *to his patient complete loyalty and all the resources of his science. Whenever an examination or treatment is beyond his capacity he should summon another doctor who has the necessary ability.*

A DOCTOR OWES *to his patient absolute secrecy on all which has been confided to him or which he knows because of the confidence entrusted to him.*

A DOCTOR MUST GIVE *the necessary treatment in emergency, unless he is assured that it can and will be given by others.*

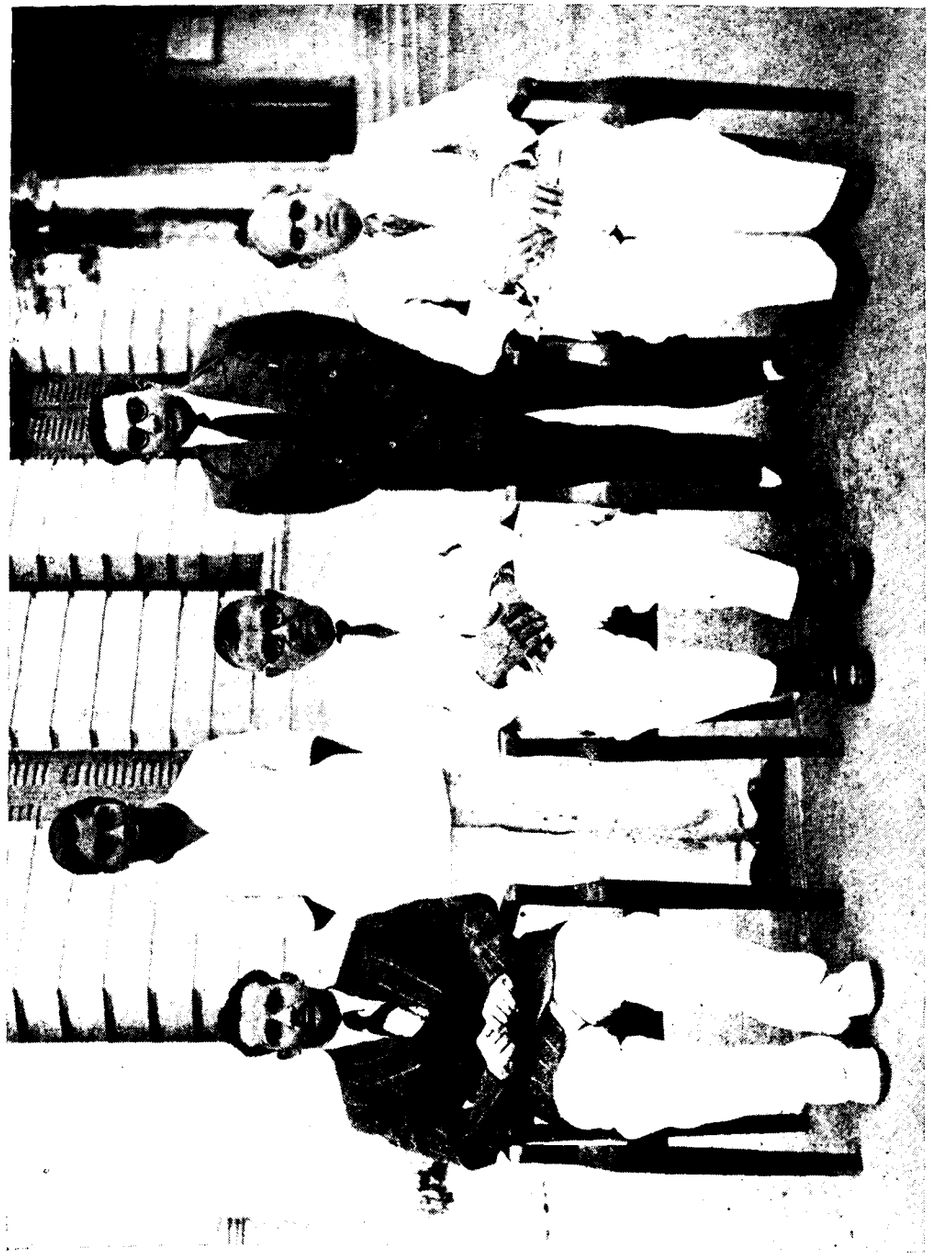
Duties of Doctors to each other.

A DOCTOR OUGHT *to behave to his colleagues as he would have them behave to him.*

A DOCTOR MUST NOT entice patients *from his colleagues.*

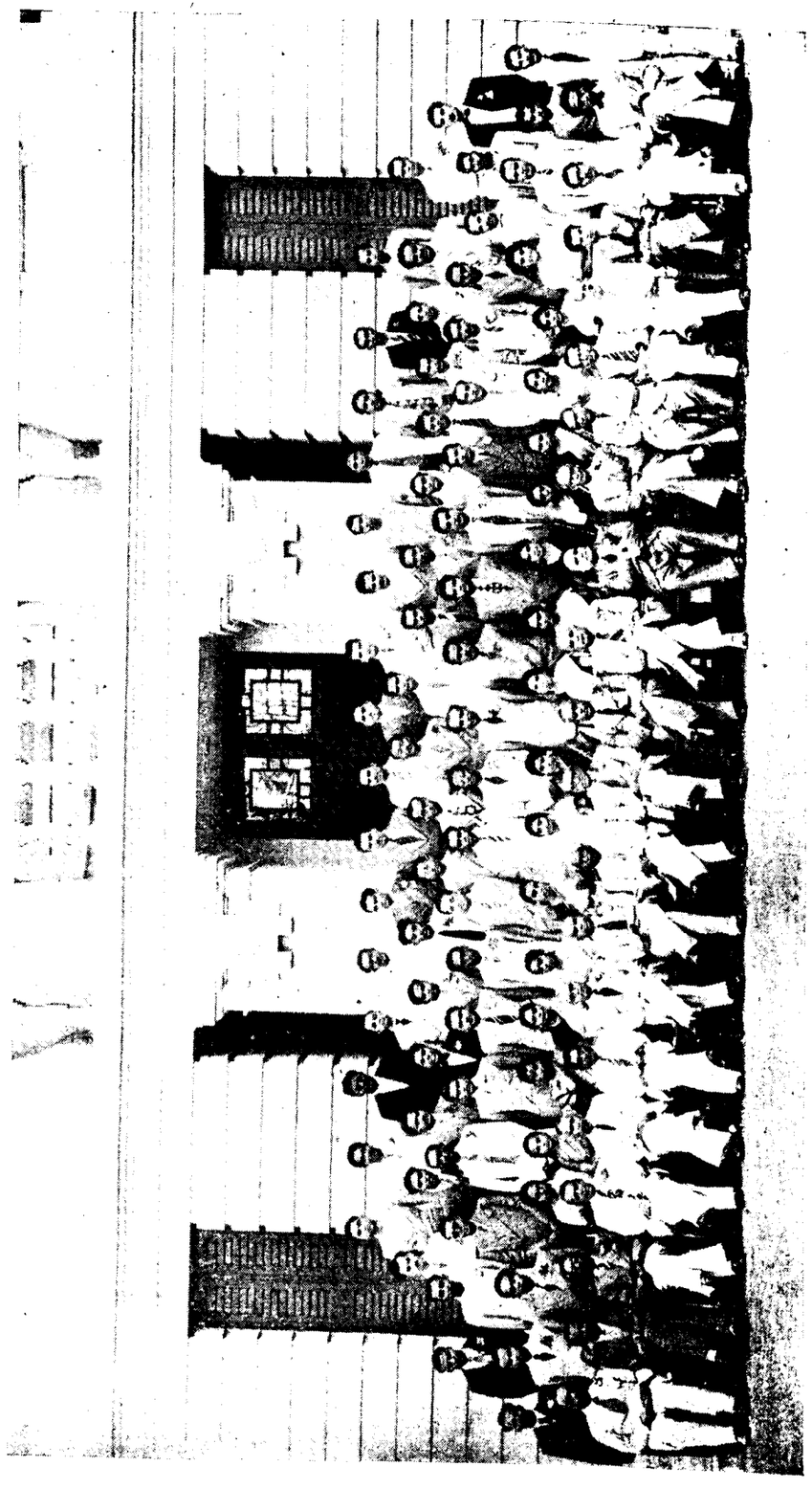
A DOCTOR MUST OBSERVE *the principles of "The Declaration of Geneva" approved by The World Medical Association.*

THE MAGAZINE COMMITTEE 1951—'52.



Sitting:—(L. to R.) M. S. Khan (*Publisher*) Dr. R. V. Rajam (*President*). Dr. D. S. Iyer (*Vice-President*).

Standing:— R. Ramamurthi (*General Editor*). M. M. Thahir (*Associate Editor*).



THE GRADUATES OF THE YEAR 1950—'51.

Editorial

A NATIONAL PHYSICAL FITNESS PROGRAMME

THE need and importance of a National Physical Fitness Programme cannot be overemphasized. Food production has to be stepped up. Industries have to expand. We will have to defend our frontiers. For all these, manpower, strong and efficient, is needed.

Physical Fitness implies biological, organic and psychological fitness. Physical health includes also mental health.

The problem of Physical Fitness is to be tackled by the mother, the teacher and the medical man. A mother acquainted with the rudiments of maternity and child welfare can be of incalculable service to the nation. Schools and colleges, equipped with playgrounds and gymnasia, can help to train our youth, in physical exercises and games. The medical man can be of great help in studying the physical ills that affect the country, *e.g.*, malnutrition and preventable diseases, and devising ways and means to combat them.

The first step in the right direction will be the institution of a Central Board of Physical Fitness, with Central and State Directors, Nutrition experts and Physical Fitness authorities working as a team. A Survey of existing Physical Fitness conditions can be made and comprehensive Five or Ten year plans drawn out. Wherever possible, throughout the country, parks and playgrounds must be built, stadia and gymnasia constructed, various types of games and sports encouraged and provided for, with ample funds. The staff necessary to work out these schemes must be intelligent and educated, endowed with a capacity for leadership and fired with a missionary zeal for service.

Health education is an important adjunct to Physical Fitness and must be systematically imparted, to all sections of the people. Education about food, sex and care of the body should be given to every individual right from the elementary school, till graduation. Propaganda, in the form of posters, pamphlets and popular lectures, must be carried to every nook and corner of the teeming villages and the masses impressed with the importance and blessings of a hygienic, healthy and happy living.

Insanitation, poor and inadequate housing, insufficient and infected water-supply, unbalanced and inadequate foods and, above all, a fatalistic attitude to life, conservatism and ignorance are problems that need our urgent attention and redress. Will we rise to the occasion?

R. Ramamurthi.

Problems of Medical Education

Dr. A. LAKSHMANASWAMI MUDALIAR,
B.A., M.D., F.R.C.O.G., F.A.C S., D.Sc., LL.D.
Vice-Chancellor, University of Madras.

(Text of a speech delivered on 19th September 1951 at the Annual Day Celebrations, Madras Medical College)

THE problems connected with medical education and the standards to be achieved by those who are declared as qualified to practise have been from time to time subjected to enquiry and careful scrutiny in different countries. And, whenever it was found necessary that changes should be introduced to ensure proper standards being maintained, regulations have been framed or suggestions made to the different authorities conferring such qualifications. It may be of interest to you to note that, a couple of years ago, the Indian Medical Council appointed a special committee to consider the revision of the curricula of studies for the M.B.B.S. degree and, consequent upon the report of that committee, the Executive Committee of the Indian Medical Council, I understand, is placing certain recommendations before a meeting of the Indian Medical Council which is to be held on the 20th of October.

The main recommendations of the Executive Committee based on the report are that the period of training before registration should be 4½ years of academic training in the pre-clinical and clinical subjects, the period of training in pre-clinical subjects being limited to 18 months and that for clinical subjects being 3 years, followed by a year of internship in a hospital recognised for this purpose. You will thus see that an internship will be a compulsory part of training that has to be given in future for all medical students and I think it is a very useful and fundamental change which we must all welcome. It is my hope that as soon as the Indian Medical Council gives its approval to these recommendations, we shall be in a position in this University to implement the recommendations of the special committee which, I feel, are more suitable than the recommendations made by the Executive Committee.

It is regrettable that the Executive Committee should in these days suggest 12 months of internship after the final examination under a medical practitioner recognised by the University as a teacher for the purpose, instead of emphasising that such internship should be in a recognised hospital where all modern facilities for scientific approach to the practice of medicine will be available. I must however confess to a painful feeling that the Executive Committee of the Indian Medical Council, constituted as it is at present, is suggesting changes which will radically lower the standard of attainment of medical practitioners in this country and will lead to chaotic conditions in the medical profession.

It is recommended by the Executive Committee that in order to increase the number of medical personnel available in the country, the double-shift system in instruction to medical students be introduced as an immediate measure where suitable arrangements could be made by the Universities and the Executive Committee do not consider it necessary at present to make any inspection for this purpose. The Executive Committee has further recommended that an additional number of students might be admitted into medical colleges each year not exceeding 25 per cent over and above the number approved by the Medical Council for each such institution and that the number of admissions as arranged above may be allowed for 5 years. One would be shocked to hear of these suggestions from a responsible body such as the Executive Committee of the Indian Medical Council. It is unfortunate that the fundamental function of the Medical Council, namely, to establish minimum standards of qualifications in medicine and to see by a process of inspection and report that these standards are being maintained, has been lost sight of by the Executive Committee. Nor is the Executive Committee right in taking upon itself the onus to suggest ways and means of increasing the number of medical personnel in this country. I cannot help feeling that political considerations inconsistent with the principles for which the Indian Medical Council has been established have motivated those who have made these recommendations to the Council. I do hope and pray that the Indian Medical Council will throw out these suggestions which will, in effect, mean that the Indian Medical Council must go into hibernation and must not function for the very purpose for which it was created.

If Universities which adopt double-shift system are to carry on by making suitable arrangements without any inspection for this purpose, granted that the double-shift system is to be permitted, where is the necessity for an Indian Medical Council to exist and what can the Indian Medical Council do? Surely, it cannot be suggested that Universities which do not adopt the doubleshift system and refuse to take the Executive Committee's

suggestions seriously, will be subjected to inspection and not others. I have been a founder-member of the Indian Medical Council for the last 20 years but nothing has pained me so much as to see at the evening of my career in the profession that all the good work that has been done by the Indian Medical Council in the past is sought to be ruined by those who, at present, fortunately or unfortunately, are at the helm of affairs in the Council. It is my respectful wish and prayer that the Indian Medical Council will rise to the occasion and will throw out, without further argument, suggestions such as these calculated to ruin the Medical profession and the young men who seek to join the profession in future.

I hold that one well-trained efficient Medical man is better than four ill-trained, immature and ill-equipped persons turned out of such medical colleges. I do not know whether the fact that a particular State has, without competence, introduced such a system, is responsible for the entire Executive Committee trying to see other States and Universities into a like position. But I do not think that we need be unnecessarily worried or alarmed. So far as the University of Madras is concerned, knowing the University authorities so well as I do, I can say without any hesitation that these recommendations will be kept safely on record and that no such suggestion will ever be implemented. Let us remember the good old proverb "The best is cheapest, not the cheapest best," and to the extent to which we can put every effort to increase the number of medical personnel—not by turning medical colleges into pial schools but by seeing to it that medical colleges are opened with proper facilities and what is far more important, with proper trained personnel to man them—to that extent can it be said that a solution to this question has been found.

This brings to my attention a very serious problem that exists even at present in our medical colleges. Fortunately, before the War, a large number of people had obtained higher qualifications and had gone abroad and got themselves better equipped to shoulder the responsibilities of the Chairs to which they were naturally selected. Unfortunately, owing to an economic depression sometime ago and owing to the impression that has deplorably not left the minds of administrators and politicians that the medical profession can also be got to do any work that is demanded of them and that they need hardly be paid adequate salaries for these responsible posts, there has been a depletion in the number of well qualified persons available for teaching posts. I am sure I am voicing the opinion of all those interested in medical education, when I say that it is time that we did emphasise the need for introducing cadre systems in the important pre-clinical and clinical laboratory subjects as they existed formerly. The most important Chairs in any Medical College are the

Chairs of Anatomy, Physiology, Pathology and Chairs of the associated branches thereof such as Biochemistry, Bacteriology, Pharmacology, etc. The special committee that has been constituted by the present Government had stressed, as also the Bhore Committee, the importance of introducing the cadre system in all these subjects more particularly and had suggested scales of pay which were considered the minimum to attract the right type of people. I wish to take this opportunity to state most emphatically that unless this recommendation is implemented as soon as possible, there will be difficulties in getting the right type of people to man these Departments.

I do hold that Demonstrators, Lecturers, Assistant Professors, Readers and Professors should have a gradation which will enable them to get the minimum scales of pay suggested by the Bhore Committee. Likewise, it seems to me of fundamental importance that in the clinical subjects there should at least be one full-time professor for each of the subjects who will be paid a scale of pay ranging from Rs. 1,200 to 2,500, whose entire time will be devoted to undergraduate and post-graduate teaching and to the furtherance of the research activities of the college concerned.

Speaking of post-graduate studies reminds me that, to-day, the world over, in all medical educational institutions, the emphasis is more on post-graduate studies and research than on undergraduate studies. In fact, it is taken for granted that, if the quality of post-graduate education and the aptitude for research is developed in the personnel manning such educational institutions, the undergraduate education will forsooth be of a higher quality and very little of special attention need be paid to it. It has been my privilege in recent years to have gone round and seen many medical institutions in the United States of America, in Canada, in Great Britain and in the Continent, in Switzerland, in France, and in Australia as well; and I can say without any fear of contradiction that every medical institution devoted to the training of students is now directing its utmost attention to research and to facilities for post-graduate instruction. I hope you, my friends, will forgive me when I say that we have got to make a great leeway in regard to research in our colleges.

It seems to me that two things are essential if research is to be promoted. In the first place, there should be a certain amount of security of tenure and sufficiently fair terms to attract the very best, more particularly in the non-clinical subjects that I have mentioned. It is also highly necessary that there should be a sufficient number of people in each of these Departments to carry on the work, not merely the routine work but also the work pertaining to research. In both these directions, we are sadly lagging.

If our Departments are so worked that it takes a week or more for a fractional test meal to be done, for a pathological report to be available or for a skiagram to be taken for grave conditions associated with the gastro-intestinal tract; and if the staff are overburdened with a very large number of cases both from the mofussil as well as from the metropolis, even the best of us will quail and the incentive will lie buried. It is for this reason again that the special committee that was constituted by the Government, recommended that the Departments should be freed of the routine work that is necessary for the hospitals both in the mofussil and the metropolis and those connected with post-graduate studies and research work should have their attention concentrated to these. No medical institution can hope to claim any place in the medical world of to-day which does not, by the active contribution of its personnel, help to enlarge the field of knowledge in the medical sciences. Great as are the drawbacks—and I have mentioned them very plainly—I still hold that in spite of these handicaps, it must be the endeavour of all connected with training institutions to do their utmost in the field of research and I would have been happier if, on a day like this, the major part of the report that you, Mr. Dean, have read, consisted of work connected with research done by students towards futherance of the knowledge in the different fields of medical sciences.

Let me next address myself to my young friends who have gathered here. I am not accustomed to preach because I do not think I am competent to do so. But as one who has for over 40 years practised the profession zealously, may I avail myself of this opportunity just to say a few words. You, my young friends, will ere long—I hope all of you—join one of the noblest and most exacting of professions. I heartily congratulate those of you who have emerged from the portals of your college, for I am aware that some at least of your examiners or professors might have entertained the hopes of enjoying your company for a little longer within the precincts of your College. To you, opportunities for service and congenial work are abundant though the wages of labour may not be equally in evidence. The profession of medicine is not for those who are anxious to get rich quickly or amass large fortunes nor is it meant for those of the leisured class whose social engagements monopolise the bulk of their daily routine. As one who has spent over 40 years in the practice of medicine, not without some little success, I would exhort you to realise that you are entering a profession where the joy of service should overcome consideration of personal comfort and where promptitude in attendance and a cheerful outlook are essential for your success. Remember opportunities will knock at your door but once and if you be not prepared, you may find yourself left behind for ever in the race for success. Remember also that in these days of rapid

advances in the many branches of science, a doctor should be a perpetual student and that your profession demands of you those essential qualities of tolerance, sympathy, freedom from the prejudices of race, caste, creed or colour and detachment from acute, polemical, political or other controversies. Thus, no doubt, your influence for good and your value to the State and society will be far greater and you will have an opportunity to reap a rich reward of gratitude from the poorest and the most lowly.

Let me exhort you also to cultivate a hobby for therein you will find a relaxation of body and mind and a sanctum of peace where you can retire in comfort. Blessed are they who can take to their respective professions as hobbies; but the man of culture would always find a hobby cultivated in earlier life a great solace throughout his life.

Let me also emphasise that when you pass out and enter your profession, you owe a double allegiance: firstly to the profession which you have taken so seriously, and secondly to the role you have to play as a citizen of an independent free country. It has been a puzzle to me why we of the medical profession feel so diffident that we are not in a position—I refer to the large bulk of our profession—to take that part which we ought to in the present day world, not merely to play the role of the demogogue but to see that those fears which try to dominate the fickle and the weak are controlled, that there is a very free and very earnest attempt made to see that the democratic institution which has been ushered into existence is nurtured and saved from insidious assaults.

You, my young friends, who have graduated recently, stand on the threshold of your destiny, facing a world torn asunder with conflict, suspicion and distrust—a world which, in spite of two global wars, would appear still to be hesitating to follow the way of reason and tread along the narrow path of peace and harmony guided by brotherly love and human sympathy. Many will be the obstacles in your way, many the difficulties; many will be the siren voices tempting you to walk into this or that particular parlour. Let not the ephemeral popular cries of the day lead you to devious paths and make you forget that which you owe to yourselves as alumni of a University of which you may be justly proud.

Self-knowledge, self-reverence, self-esteem
These three alone lead life to sovereign power.

And after all, the slogans and battle cries of to-day will vanish into nothing when to-morrow they are studied dispassionately in the cold light of reason. Man's inhumanity to man has darkened many a page of human history. Yet,

Man wants but little here below,
Nor wants that little long.

Let the burden of our song then be as befits our noble profession and as befits our intellectual and moral attainments and as it was with Abou Ben Adham and let us beg of the Angel of Peace to write us down as those who love our fellow-men.

★

FOOD FOR THOUGHT:

"Where there is love for humanity, there also is love for the art of medicine."
—*Hippocrates.*

"Medicine absorbs the physician's whole being because it is concerned with the entire human organism."
—*Goethe.*

"Science increases our power as it lessens our pride."
—*Claude Bernard.*

"The future belongs to those who shall have done most for suffering humanity."
—*Pasteur.*

"Science commits suicide when it adopts a creed."
—*Huxley.*

"The man of science appears to be the only man who has something to say just now, and the only man who does not know how to say it."
—*Sir James Barrie.*

"Knowledge comes, but wisdom lingers."
—*Tennyson.*

To the Student:

"Learn to see, learn to hear, learn to smell and know that by practice alone can you become expert. Medicine is learned by the bedside and not in the classroom. Let not your conceptions of the manifestations of disease come from words heard in the lecture-room or read from the book. See and then reason and compare and control. But see first."

"Do not waste the hours of daylight in listening to that, which you may read by night. But when you have seen, read. And when you can, read the original descriptions of the masters who, with crude methods of study, saw so clearly."

"To study medicine without books is to sail an uncharted sea, while to study medicine only from books is not to go to sea at all."

Sir William Osler.

A Blueprint for Co-operative Co-prosperity

Lt.-Col. C. R. KRISHNASWAMI, M.S.

WE often hear politicians and public men emphasizing the need for more and more medical men and eulogizing the nobility of rural medical service. Is it not very disheartening to find young newly passed out graduates not being properly utilized but made to go from place to place in search of jobs? The following scheme is an attempt not only to provide employment for medical graduates but at the same time afford medical relief to the rural population.

I strongly hold that the idea of medical men working in small firms offers not only better prospects to the partners of the firm but also ensures more efficient service to those that seek medical aid therein.

The disadvantages of individual practice are many, *e.g.*, the necessity for

(*i*) continuous presence of the physician at his post during regular hours of duty and his availability at all other hours, day and night.

(*ii*) lesser chances of holiday and recreation for him.

(*iii*) absence of the moral support of another professional brother at times of stress and strain.

The scheme I am proposing ensures not only a decent and honourable living to the participants, but also service at places where, at present, there are no medical facilities, I mean, the rural parts.

THE SCHEME PROPER.

I. Three medical men must pledge to work together.

II. Amongst the three medical men, it is better to have persons of varying bias, *viz.* one with a medical bias, another with a surgical bias and the third with laboratory bias.

III. A place must be selected away from the district headquarters and big towns and so situated as to be at the centre of seven to ten villages and able to cater to their needs. The area of this site must be at least one or preferably two acres. The land can be taken on a long lease in the joint names of the three individuals. The site selected must have not only the electric mains running close by but served also by a good second class road at least.

IV. Each person invests Rs. 2000/- and the firm therefore starts with a capital of Rs. 6000/- necessary to meet the initial cost with respect to accommodation.

V. The barest necessities with respect to accommodation are:

(*i*) **Basha huts**:—3 in number for the three medical men to live in.

(*ii*) **A bigger basha hut**:—(*a*) with two cubicles for two medical men to sit and use as their office and consulting room.

(*b*) with a central hall to accommodate about 8 to 10 beds.

(*iii*) **A smaller basha hut**:—(*a*) to house a small dispensary.

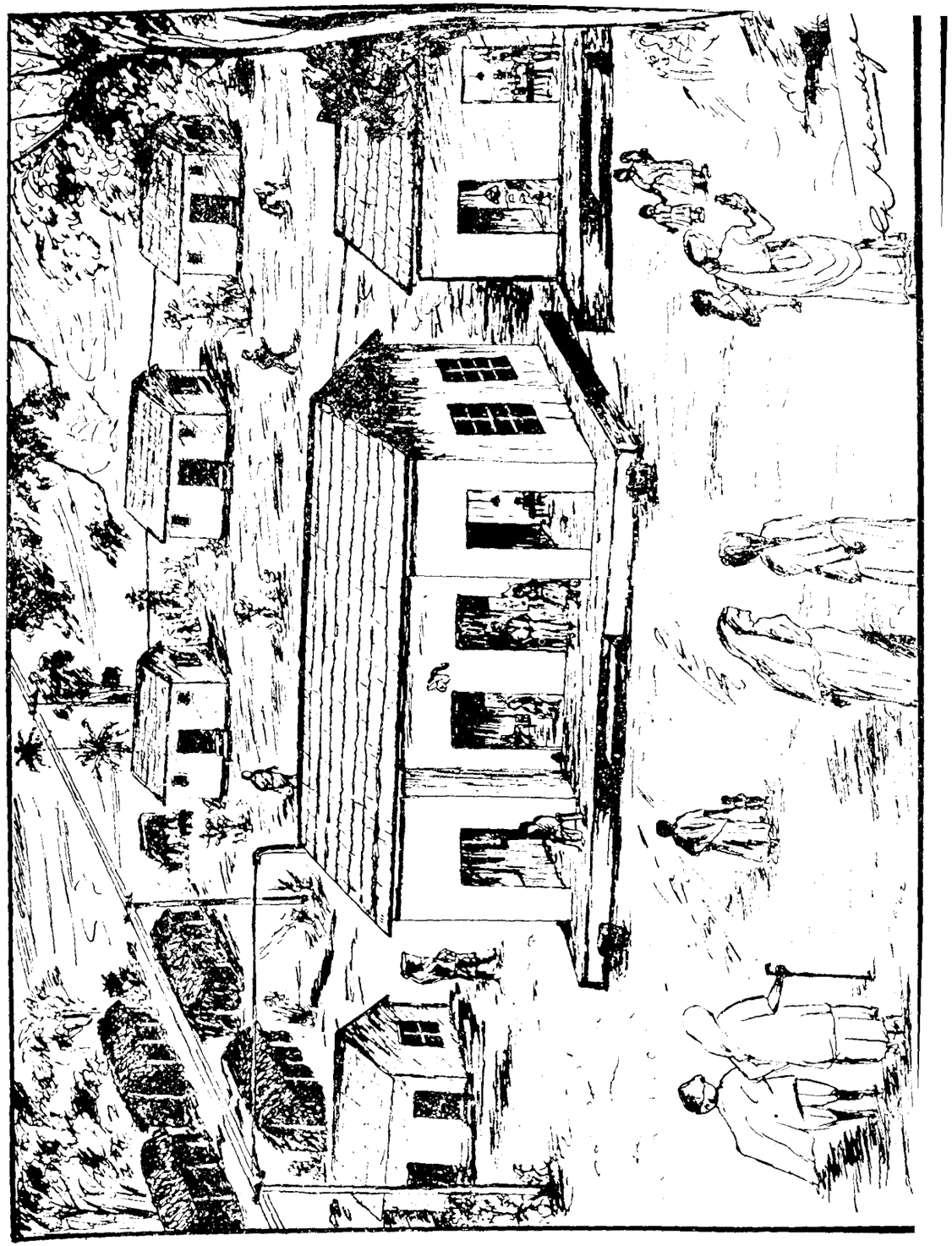
(*b*) a small laboratory.

(*c*) a small theatre.

(*d*) and a cubicle for the medical officer with the laboratory bias.

(*iv*) Servants' quarters—3 or 4 huts.

(*v*) A few huts to house the patients' relatives.



VI. Individuals, in any scheme, if they have to give their best, must have convenient and comfortable living quarters and so the whole place must be electrified so as to enable the medical men

(*i*) to solve the problem of lighting their quarters.

(*ii*) to have a radio.

(*iii*) and to have electric lights in the laboratory and the theatre.

VII. The place can be provided with the modern amenities of plumbing and refrigeration. When these conveniences are provided, work, even in rural parts, becomes really a pleasure. Conversely, work under inconvenient and uncomfortable environments and circumstances often tends to become, if not impossible, at least degenerate in quality and quantity. Moreover another advantage of the scheme is that the M. O.s have a wonderful opportunity of living in the country a happy and healthy life with less cost. A badminton or tennis court will help to relieve the monotony and boredom and afford chances for physical exercise. Maintenance of a good pony will serve two purposes, *viz.* use in a tonga and for a ride when there is no work.

VIII. Keep a regular record of every individual who visits the clinic either by the card index or any other system. This will enable you in the course of years to note down the early manifestations of some chronic diseases, and the stages of the progress or retrogression of other diseases, and the effects of drugs and other treatment on some diseases.

IX. M.O.s must qualify or be able to practise in two specialities instead of one *e.g.*, the surgeon must know something of gynaecology and midwifery, the physician something of laboratory work, and the anaesthetist must be able to take a hand in laboratory work or minor surgery It must be clearly understood that I do not mean here the intensive type of specialization of knowing more and more of less and less of things.

X. **Staff needed** :—*Superior staff*—3 medical graduates.

Inferior staff—1 compounder cum clerk.
2 male ward attendants.
1 female ward attendant.

Menial staff—1 thoti.
2 general servants.

Nurses and Midwives can be thought of as business starts to flourish.

XI. Charging the patients is a tricky proposition. In the first instance, charge for the medicine only with a little profit. Charge separately for housing patients. The patients' relatives can be allowed to provide for the patients' diet.

XII. The first charge on the revenues will be the pay of the menial staff. The second charge will be the living expenses of the medical officers after paying the interest on the capital, say at 6%. Irrespective of the nature of work, each medical officer will get equal emoluments.

XIII. During the first year, it is going to be only a hand to mouth existence. But from the second year onwards, there is bound to be increasing volume of work and increase of income. A small portion of the revenue should be put aside as a reserve fund to meet recurring expenses and repairs, and the rest of the profit can be divided equally amongst the three medical officers.

XIV. **Hours of Work**:—Every M.O. must be at his post of duty, whether he has work or not, during the hours of work, properly dressed. Slovenliness in dress and general deportment is one of the main causes for mutual disregard to creep in amongst individuals. Loin cloth and a bare body may be all right for a Gandhi, a Mahatma, but for common mortals like us, conformation to accepted conventions and formalities fosters good relationship and mutual regard amongst individuals, more specially when the three of them are thrown together all the year round in a quiet corner.

XV. **Discipline**:—To ensure correct discipline, one of the three must be the dictator for one year, though this term might create unnecessary fears in the minds of people—call him, if you like, the Chairman or President. This dictator will not only be on overall charge of the menial staff of the whole institution and be responsible for the general discipline of the menial staff but will also detail M.O.s for duty. The other two medical officers should give him unquestioning obedience and must abide by his wishes without showing any least sign of vexation, even though the dictator's decision may not meet with their complete approval. The dictator will lay down his office at the end of the year when another takes his place. He will now have a chance of putting his ideas into execution. But no decent man will ever make any revolutionary changes except with the full concurrence and approval of his colleagues. With the exercise of tact, no difficult or awkward situation will ever arise.

The following pledge must be taken by the medical officers:—

(i) *I will never interfere with another medical officer's work; I will only make a suggestion but will never make any criticism or pass any remark as to wound one's feelings or self-respect.*

(ii) *I will be ever ready to render any assistance that may be demanded by my colleagues either by day or by night.*

(iii) *I will ever strive to eschew altogether any uncharitable ideas about any of my colleagues that may obtrude in my conscious threshold.*

(iv) *I will always be regular in attendance and punctual at my post of duty.*

(v) *I will always observe rules of decorum with respect to dress and behaviour during duty hours.*

(vi) *I will not accept any private remuneration from any person coming to the clinic. But whatever is paid into my hands for services rendered will be credited to the clinic.*

XVI. Each medical officer will be on duty for one week. He will attend to all cases that will come up during off hours and will also attend to outside calls from the neighbouring villages; the fees collected from such visits will go the common fund but never to the M. O. who makes the visit. If a case appears to belong to the speciality of a particular medical officer who is not on duty, the dictator can send for him. Whatever order that is given by him should be made to appear as a request and every request from the dictator should be taken as an order.

XVII. After the clinic has got established, each medical officer can take a holiday of 15 days in a year by turn. Once in 3 years, each medical officer can take a holiday of 2 or 3 months and have a postgraduate brush-up at any place he may choose, during which period, a fixed remuneration to meet his expenses shall be paid to him from the common fund.

XVIII. If and when the volume of work increases, they can employ other medical men at fixed remuneration, but they will not be members of the firm.

XIX. If at any time a medical officer wishes to retire from the firm, either he may be paid at once the sum he had invested at the beginning or given the same when the new man, who joins the firm, pays his share-capital. The leasehold of the place will be in the name of the subsequent three. But if two persons choose to retire and leave one man, he may take full charge of the clinic after paying off the two others and run the show as he chooses. Such a situation will never arise, I am sure. Note the example of big European firms which go on and on without a break for years.

XX. The three medical officers, if they fear that any misunderstanding may crop up, may co-opt two respectable gentlemen in the neighbourhood, thus forming a panchayat whose final decision will be absolutely binding on the whole body. On no account shall they go to a court of law.

Rural medical relief being catered by these medical officers, they may be inclined to ask for a subsidy from the Government. But the hand of the Government is a blight and every Tom, Dick and Harry, deputed by the Government, will want to poke his nose into your affairs and you will be asked to submit periodic reports. But if the Government wishes to offer a subsidy on respectable terms, you may accept.

I foresee a time when small cottage hospitals, like the one I have described above, will arise in large numbers. I cannot find any difficulty in a good surgical centre arising out of these humble beginnings. Look at many of the missionary institutions. See how they have grown up. After all, it is not the money that gives a man pleasure, but the soul-satisfying feeling that one is able to do the work one likes in the manner one wishes to do it. The growth of a number of such institutions will lead to healthy villages and great progress in the profession in general. In fact, I visualise a future when respectable citizens from towns and cities will flock to these centres for medical advice and relief. The Government institutions will never be your rivals as they are always at a disadvantage, because of the constant change of staff and their unfailing knack of putting a round man in a square hole. There need be no fear that, being tucked away in a corner, you are going to be a back-number. A close study of one or two decent medical journals will keep you fully informed of the progress taking place in the outer world.

I can write at length on the general merits of the scheme. I do not deny that, in some of the details outlined, there may be the possibility of troubles arising, which can certainly be easily met as they arise. I also concede that some slight alterations on the general outlines may be made with benefit.

The underlying secret of success for this scheme is the possession of that great virtue of being able to get on amicably with the rest of the individuals engaged in a common pursuit. With the exercise of generosity and a little tolerance, there should arise no awkward situation at all. And the more I think of this plan, the more am I convinced of its great potentialities and the impossibility of failure.

★

The Medical Student

Dr. D. GOVINDA REDDY, M.D.

TO study in the Madras Medical College is a proud privilege. It has been so in the past and it will be in the future. Your College has a rich heritage and its alumni have made a name, second to none, both here and abroad. This Medical Institution which started functioning as Medical School in 1835, admitted ten Medical apprentices of British origin and eleven Indian medical pupils. The enthusiasm and devotion to duty of the Indian Students was appreciated from the very commencement as can be gathered from the first anniversary report. In those days, the examination for the pupils was conducted at the time of the anniversary, in the presence of a large and distinguished gathering invited for the function. The subjects the Candidates were examined in, were Anatomy, Physiology and Materia Medica and the report runs "the promptitude, clearness and precision with which replies were given could hardly be exceeded; and there appeared to be an aptitude for instruction and an emulous desire of acquitting themselves well manifested by all, European, Indo-Britain and Indian, which forms the best augury of success that could possibly be afforded".

The continued success of the School and the high standard of education of the pupils led to its status being raised to that of a College in 1850. The marked success of the early students of the College who went abroad for higher Studies had still enhanced the reputation of the College. In 1868, nine Madras Medical College Students competed with the home-trained students for His Majesty's Indian Medical Service and all had been successful. The College council's proud statement runs: "several students of this College have already distinguished themselves in the Medical Schools of Great Britain, obtained Diplomas and even appointments in Service and it is to be hoped that their example may be followed by others".

The present Lady Students owe a debt of gratitude to the noble example of the first batch of lady students admitted to the College in 1875. It is their character and hard work that has helped to maintain the scheme of admission of women students into the Medical Schools. It is difficult for the present girls to appreciate this, unless they are acquainted with the state of affairs in that period. Upto 1875, no other Medical College in India had thrown open its portals for the admission of lady students and even in Great Britain, the admission of lady students into Medical Colleges was a controversial subject. This epoch-making experiment in our province was a great success. The first four lady students who entered the Madras Medical College have paved the way for their future sisters, as can be perceived from the annual report submitted by the Principal of the College in 1878.

"This day marks an epoch in the history of the Madras Medical College. For the first time since its foundation, its teachers have the satisfaction of having carefully trained four ladies in the practice of the Medical profession..... I should state publicly that during their collegiate career, they have been remarkable for their assiduity, regularity of attendance both at lectures and hospitals, for the keen interest they have taken in their studies and for their strongly marked desire to attain proficiency in every branch of the work they have so nobly undertaken and brought to a successful issue—virtues which have had their own rewards, not only in the high place they have taken, both in the classes and the pass lists, but also in the remarkable fact that their proficiency has been seldom surpassed by the alumni of this College. Mrs. Scharlieb, Miss. Whyte and Miss. Beale have won many prizes..... I feel certain that I echo the feeling of the whole presidency in wishing our lady doctors every success in the professional work, especially in that large and unexplored field of labour, the women of India".

The wisdom of training lady students as doctors has been substantiated as Mrs. Scharlieb later qualified for M.D., and M.S., of the London University and settled down there, as one of the Professors of the Royal Free Hospital and School.

So, the Madras Medical College has a name now, second to none other and into its portals you have entered. You are welcome. But what is it that has induced you and your predecessors to choose Medicine as a career? I am sure it is not easy to answer. Still, it should be possible to analyse the very odd objects, which have destined us to take up this profession. Some take it up out of strong conviction to be of service to his fellow men in distress and they usually prove to be competent doctors.

A good many enter it, because their fathers or relatives are doctors and they wish to succeed to the family practice. There are some medical parents who, out of mistaken dynastic sense, influence their children unduly into following their foot-steps, forgetting that transmission of distinction is as rare as it is in other professions. Very many are attracted by the prospects of assured income; some are impressed by the power and popularity wielded by the family doctor and lastly some are overpowered by the rosy picture of Medical Students' life, narrated to them. Having entered the College, some students find that they are wholly unsuited for this course. The fault is not theirs; it lies with their parents, advisers and teachers who failed to assess their capabilities and their natural aptitude. The sooner they are out of the College, the better.

One should not imagine that the study of medicine is the best type of University education. Let us compare a history student, a student of science and a student of medicine. The student of history has few lectures to attend. He spends major part of his time in reading and hearing eminent men speaking on diverse subjects. Usually his subject bears no direct relation to his future work, which may lie in commerce, trade, service or law. He pursues his studies with the satisfaction that he is exercising his mental faculties for some wider spheres. In addition he has ample time to develop his personality in social, political or artistic spheres. This is University education in the real sense and at its best. The science student can think of many industrial and research posts and if he succeeds in getting one, his life work will be a direct continuation of his University work. However, as he has to spend long hours in learning and mastering the technique, compared with his history friend, he has little time to think for himself and enjoy the wider cultural activities. The Medical Student sees before him a long vista of courses and examinations. An intelligent student gets bored by the repetition in teaching, while the dullard never improves. He hears from his seniors that most of what he is being taught is useless. Some of his teachers tell him that they themselves have forgotten all their anatomy and physiology. Long hours of work preclude him from participation in the recreational and cultural life of the University, while the mass of incoherent facts which he has to absorb prevents him from exercising his higher mental faculties. The preclinical teachers often happen to be too academical and sometimes impracticable. They forget, that their pupils will only learn for examination purpose. They have not the enthusiasm for knowledge for its own sake; in fact, if any enthusiasm comes later, it is only when they have finished their examinations. "Pre-Clinical teachers are in the same position as unmarried School-Mistresses instilling knowledge into girls whose future lies in matrimony".

In spite of these shortcomings, there is no profession so charming, so noble and so useful as that of yours. All the hard work and the very many failures in the examinations never freeze the enthusiasm of the Medical Student. He is always cheerful, happy and resourceful. He is the envy of the rest of the University students. The Madras Medical College has a name now, second to none other. You have to keep the honour and reputation of this great College whose students have won distinctions in whatever job they have undertaken, and we, your teachers, trust that, in your hands, its lustre will never grow dim.

★

DEFT DEFINITIONS—

Deliberation : The act of examining one's bread to determine which side it is buttered on.

Patience : A minor form of despair, disguised as a virtue.

Comparison : Insulting two at a time.

Stenographer : A girl whom a man pays to learn how to spell while she looks for a husband.

Neutrality : The position you assume when the fight is between you and your wife.

Jealousy : An emotional barometer for a neighbour's prosperity.

Bachelor : A man who didn't have a car when he was young.

Chivalry : The attitude of a man towards a strange woman.

Adolescent : A minor who has become a major problem.

High-brow : A person who talks about things neither you nor he understands but makes you feel it's all your fault.

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★

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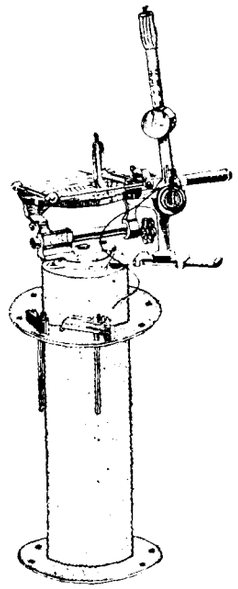

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Euthanasia

Dr. B. RAMAMURTHI,

M.S., F.R.C.S.

"ANYWAY it was a merciful release." Lots of people came to sympathize with the family of Mrs. J. Mrs. J was a very popular lady but since the last year she had been ailing a lot. For the family of Mrs. J, it was difficult to decide what was uppermost in their mind, the feeling of relief or sorrow. They had seen Mrs. J suffer very badly; they had been through it with her and their strain also had been great. Though feeling the loss keenly, they also said "Anyway it was a merciful release."

How often does this situation confront us both as medical and laymen! Though as medical men we bear other people's pain and suffering with stoic calm, when it comes to our own doorsteps,—specially prolonged suffering,—probably we may also eagerly await the day of release.

Human mind, however debased it may be in certain cases, according to social standards, is sustained by the faith that one is in some way useful to others and that one is wanted by others. For anybody who feels utterly useless and who begins to feel he is not claimed with affection any more, life becomes an utter misery and burden. When this feeling is associated with physical helplessness, pain and the necessity to await somebody else's help even for the small things of life, it is no wonder that even strong minds succumb and await the day of merciful release.

To the relatives and the attendants of a patient, initially, when the disease is expected to be short and the recovery swift, it is a pleasure and joy to nurse. But later as the disease gets prolonged, the initial enthusiasm wanes and the sense of duty hangs more heavily. And when the disease is known to be incurable, it requires all the ties of strong affection and

sympathy to be a good and kind nurse to the suffering patient Luckily in India with our culture, such affection for the immediate relatives like a husband or a mother or a father is strong and does not get strained too often.

The patient himself, as the disease becomes more painful and prolonged, begins gradually to feel neglected; and unless he is exceptionally strong-minded, this feeling begins to react on him forcefully and he becomes more demanding and more despondent.

Thus the whole atmosphere of the sick-room containing a patient suffering from a prolonged, incurable disease must be properly appreciated. This comes with experience. The medical man has a special duty in such an atmosphere. Here his pride and probably his medicine as well, are at an end. He takes on the role of a friend who comforts not only the patient but also the relatives and cheers them up. In his heart, he knows the hopelessness of the case but still concealing it he spreads a wave of cheer and solace. Under these circumstances, quite often he may feel why all this farce and why all this suffering, waiting for Time and Death. ("Kala" means Time and also Death. What an appropriate synonym chosen by the Indians!) Why not end it all quickly, painlessly and peacefully? The patient and his relatives too may feel like that often.

Thus arose the idea of Euthanasia. (Gk; Eu = well. Thanatos = Death. *i.e.*, an easy way of death.) "Anayasena Maranam, Vina Yachena Jeevanam." To live without begging and to die without suffering" is a prayer quite often expressed. Only we medical men who see so much human suffering can appreciate the deep significance of such a prayer. I wonder whether there is any medical man who has not wished that he himself should die a quick, painless death, specially when faced with a problem as the above. In many cases, euthanasia seems justified. But can it be legalized?

To the Western mind, that seems not too difficult. Do we no shoot a dog or a horse when it is suffering and thus relieve it? It is but a step further, to mercifully release a human being also in a similar fashion.

Dr. S, had a patient suffering from a painful, incurable cancer. Both the doctor and the relatives of the patient felt often that she was suffering too much, unnecessarily. It is said that, to end it all, the doctor put in 20 C. C. of air I. V. and the patient died. The doctor was put on a trial for murder. He was released on some technical grounds.

It took much longer for the medical council to take him on the Register. Since then the clamour for the legalization of euthanasia is growing stronger in the U. S. A.

In U. K 's Voluntary Euthanasia Legislation Society was formed in 1935 with Lord Moynihan (the famous surgeon) as the President. They introduced a Bill in 1936 for legalising Euthanasia. The House of Lords did not pass it. Last year again they had a debate on this problem.

Is euthanasia necessary? Must it be legalized? As far as we in India are concerned, legalization must still remain an academical question. Our medical services are far from adequate,—primitive in the majority of areas. Our people, though they have plenty of insight or a native intelligence, are still ignorant of so many things. They have not known the ordinary comforts of life. In a life of one long suffering, a small additional suffering from disease does not seem to make much of a difference to them. Our fatalistic attitude makes us accept our miseries with resignation. This is in one way good when suffering can be borne stoically but probably at the same time it makes our people slow to seek relief from suffering. Hence till the general standard of living rises, the question of legalising euthanasia does not arise.

So far we have been discussing only incurable pain and suffering, and seeking release by euthanasia. If the principle is extended, how about people who are ill, though not in pain, and who are useless to society? Will we seek to erase them out of existence? For example, a cerebral dipleğic or a mongoloid idiot,—to stretch the situation further so as to include mentally diseased and underdeveloped persons. If this is accepted, will human society hesitate to wipe off people, who, it feels, are a menace to it? Like Hitler trying to exterminate the Jews? It is difficult to conceive how far human society will go. Only after thousands of years of striving have humans slowly risen above the level of animals. But it is quite often that we descend to their levels and will society be safe if restrictions on ending others' lives are removed? These are questions to be pondered over.

People supporting euthanasia suggest applying it only in incurable conditions. The critics ask, what is the criterion of incurability? Many diseases which are incurable in places with no facilities, become curable in other places. But certain broad conceptions of incurability could be applied in such cases and supporters have suggested establishing a panel of medical men to decide incurability.

What is the role of medical men? The relationship between a patient and his doctor is on a basis of faith and confidence that the doctor will strive his best to make the patient better or at least more comfortable. The introduction of legalised euthanasia will bring a new and disturbing element in the doctor's assessment of a case. "There is something very terrible about this reversal of the morale of the sick-room."

Must a medical man concentrate all his endeavours on the maintenance of life, despite the nature of the illness and even despite the imminence of death? The answer to this question has been given to us hundreds of years ago by Indian physicians, though opinion in the West is gradually turning to it only now. "One should make the act of dying more gentle and more peaceful even if it does involve the curtailment of the actual span of life." So can we make dying more peaceful?

If the pain and suffering of the patients are the only criteria for euthanasia, modern surgery offers methods of relief for pain. Neuro-surgeons are trying their best to seek relief from pain. Division of pain-conducting fibres in the spinal cord, the medulla and the midbrain are practised. Of late, frontal leucotomy has achieved a useful place. These measures obviate to a great extent the necessity for euthanasia, if only the medical men realise when and where to apply them. If such methods prolong the life of a patient, giving him comfort, we are adding useful months to his life.

Science has placed plenty of material in our hands to build or to destroy. Still it will be the height of conceit to think that we can always save a patient's life or cure him of his disease. In all humility we must approach the problem of "incurable" diseases. If the patient is near Death's door, then, as good doctors, we must be "aware of the distinction between prolongation of life and the unnecessary prolongation of the act of dying."

—★—

Nobility Without Illusions

V. KAMESWARA RAO.

"Freedom is the recognition of necessity"

—*Frederic Engels.*

A few years ago the inherent "nobility" of the medical profession was something to be taken for granted, like the existence of God, and, anyone questioning it, would have been looked down upon as a cynic or a heretic. But recent events, particularly, the last war and the emergence of a new attitude to science in general and a new understanding of the social functions of science caused grave doubts in the minds of at least some of the members of the profession about the correctness of former shibboleths: and, out of these doubts, is emerging a new outlook and a new understanding of professional ethics. It is my attempt in this article to try to postulate the basis of the new outlook. This is certainly no exhaustive study and the compulsion of space forces me to make some "a priori" formulations without much argumentation. Yet I would be well content if this article does nothing but provoke even a single spasm of thought on the subject.

The first thing to be grasped clearly is that in practising medicine, we are working,——working in much the same sense as people engaged in any other profession, trade, craft or industry. Therefore, while the special nature of our work creates a few special problems needing specific solutions,——and this is the case with every kind of work,——the general basis of our ethics has to be essentially the same as that of all work.

All work has social implications whether the worker knows it or not, because it necessarily produces diverse consequences on society. But all work is not necessarily noble, because the fruit of an individual's effort may be directed towards unsocial or even anti-social ends. The ethics of work should therefore be based on realisation by the worker of the social implications of his work. Once the worker realises these implications, simple logic will bring him to the conclusion that he must act to change the situation, if the implications are anti-social.

If this is broadly the basis of the ethics of all work in general, what is the basis for those of the medical profession in particular? We can unhesitatingly say that the basis of medical ethics is the correct evaluation by the doctor of himself as well as his patient in relation to the social environment in which they both work and live.

To go into it a little more in detail, a patient suffering from syphilis must conjure up before the doctor the picture of a depraved and bungling world of social anarchy. Or a poverty-stricken textile worker, dying from tuberculosis, must bring home to him the horrible privation and misery that is the lot of the majority of our people and should arouse in him deep indignation against the denial to man of the equality of opportunity that is his birthright. If these and the innumerable other similar cases confronting him daily arouse in the doctor, what we may call his social conscience, he will realise that the duties of a doctor as stated at present,—cure first and prevention next,—are in the reverse order of importance and that there are more than physical ills that ail humanity and that revolutionising the conditions of life,—in other words, changing the social structure,—will eradicate most of mankind's common diseases.

There can be no ethics worth mentioning in a doctor devoid of this sense. Any amount of window-dressing in the way of "bed-side manners" can at best only be a cheap substitute for the real thing. And occasional outbursts of sentimentality only serve to satisfy his vanity or his conscience, a sort of opium, and, objectively speaking,—in spite of his possible good intentions,—a fraud.

No discussion of this subject can be complete without reference to the question of what a doctor ought to accept in return for his services. The efficiency of a scientific worker, such as a doctor, depends directly upon the remuneration he gets and it would not be unworthy to protest against the existing state of affairs. But this does not however justify some doctors who cast the vaunted nobility of the profession to the winds and let themselves loose like ravaging wolves on gullible and what is worse, needy people. If the thoughtless arrogance in evaluating his own place in society and the sense of benevolent condescension towards society which is the consequence of the former, are given up, a doctor will accept the position that what he deserves in the way of fees is what his patients can afford to pay him. This, inevitably a vague statement for the question of doctors' fees, will remain a moot point till society is reorganised on rational lines when people will be assured proper medical attention and the doctor in turn of an adequate living. But what is important is not the actual amount which a doctor receives, though rapacity has to be condemned. His attitude and understanding of the man who pays him and the society to which he belongs is the deciding factor in evaluating him. The inculcation of such a social sense ought to be an integral part of medical education.

* *"By the historical method alone can many problems of medicine be approached profitably."*

—OSLER.

RISE OF MODERN SCIENTIFIC MEDICINE

BY

GOPALAKRISHNA KHANDIGE

I am greatly indebted to Dr. D. V. Subba Reddy, M.B.B.S., M.Sc., Professor of Physiology and a recognised authority on the History of Medicine, without whose invaluable guidance, encouragement and inspiration this section would not have found form or shape.

—G. K. K.

Those were the days when men swore by Galen that animals and men were alike in their Anatomy. A brave pioneer, Andrew Vesalius, who would not take anything for granted and insisted on painstaking dissection, laid the foundations of Scientific Anatomy. Undeterred by a bitter agitation against "body-snatchers", the Science of Anatomy marched on..... The names of Fallopio, Sylvius, Willis, Stensen and a host of many others are household names, recalling to the mind of the reader who knows his anatomy, a tube, a cerebral fissure, a vascular anastomosis, a duct or some other anatomical structure, named after the discoverer. William Hunter was a great anatomist, teacher and founder of a private school of Anatomy in London. Cooper was as great an anatomist as a surgeon. Gray's name is immortally linked with his Text-Book of Anatomy, written about, a century ago, but still popular. In the impetus following Darwin's theory of evolution, Comparative Anatomy sprang to the forefront and imparted meaning to much that was vague and inexplicable in human anatomy. But most enchanting of all is the magic wand of Embryology, which, in the hands of great men like Keith, unravels the story of life from a single cell to a world of cells.

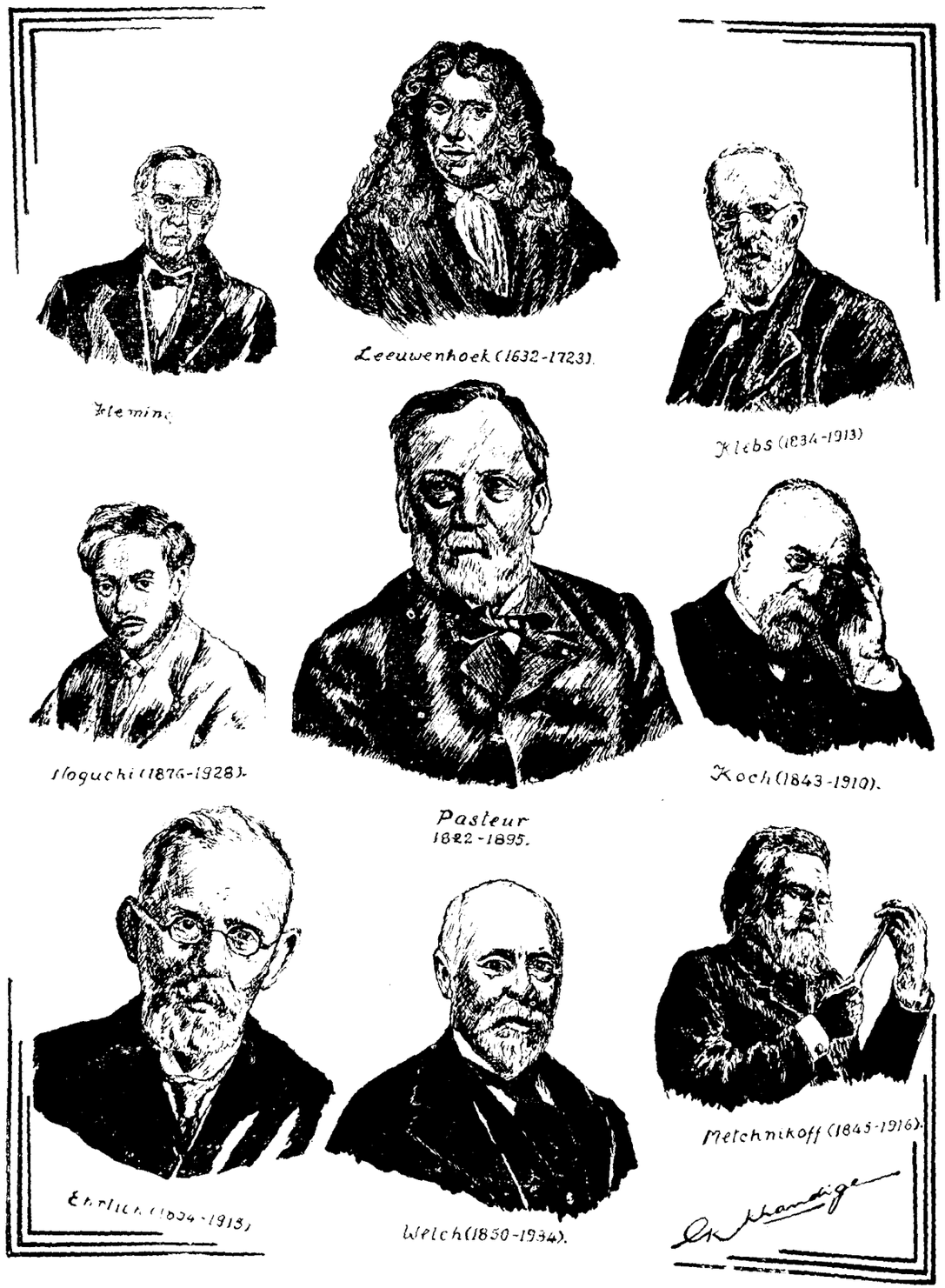
—R. R. & T. K.

Spirits and humors haunted the Land of Physiology till Harvey came on the scene and made it a precise experimental science. "His demonstration of the circulation of blood remains in every detail a model research". Malphigi confirmed the existence of capillaries with the microscope and laid the foundation for the study of Histology. Haller, a brilliant scholar, is renowned for the myogenic theory of the action of the heart and his work on irritability of muscles. Bell's classification of nerves into sensory and motor and Muller's law of specific nerve energies place them among the pioneers of neurology. Ludwig, the greatest teacher of physiology that ever lived, did much to advance our knowledge on blood pressure and renal function. Aspiring to become a dramatist but advised to take to medicine for a livelihood, Claude Bernard rose to be the greatest experimental physiologist since Harvey and will be remembered for his work on digestion, metabolism, and vasomotor physiology. Among the outstanding contributors to the study of the nervous system in recent times are Sherrington on Integrative Functions of the Central Nervous System and Pavlov on Conditioned Reflexes. Thus shorn of the vitalism of its early days, Physiology made rapid progress and revealed the human body as a perfect co-ordination of various physico-chemical processes. The discovery of hormones and further studies in Neurophysiology have certainly led to a better understanding of ourselves.

—*R. R. & T. K.*

Pathologists, time and again, have returned to Death to unravel Life's ailments. Morgagni was among the earliest to correlate post-mortem findings with clinical symptoms and was, in fact, the founder of Pathological Anatomy. Bichat directed attention to the pathological changes in tissues and formed the connecting link between Morgagni's organ pathology and Virchow's cellular pathology. Baillie brought out the first book in any language treating Pathology as an independent science. But not for long did it remain in its own water-tight compartment. With the advent of Samuel D. Gross, who closely correlated pathological knowledge and surgical practice all his life, Carl Rokitansky who studied the diseases of heart and blood vessels, the Great Men of Guy's, Addison and Hodgkin, whose names have been preserved in firm linkage with morbid states and Aschoff who revealed the reticulo-endothelial system and the damage of rheumatic infections, Pathology became the common meeting ground for the various medical sciences. Virchow stormed the medical world with his classic "Cellular Pathologie" and his immortal aphorism "Omnis cellula e cellula". In recent times, great strides in technique are being made every day and the pathologist is now an integral part of all well-equipped medical institutions, clinching the diagnosis and helping the surgeon decide on prognosis and treatment.

—R. R. & T. K.



If the germs had their say, they would hang the bones of Pasteur and Koch, who, between them, put Bacteriology on a sound scientific footing just a century ago. This was inevitable after the discovery of the microscope by Leeuwenhoek, a mere draper, who was the first to see and describe "the animalcules." Given unto the world by the wine industry, Pasteur correlated micro-organisms with diseases and demonstrated the utility of protective inoculation. Koch revolutionized cultural methods by the introduction of solid media. After discovering the anthrax bacillus and the cholera vibro, he went on to his classical work on tuberculosis and formulated his famous postulates. An era of microbe-hunting followed—Welch isolated Cl. welchii, the chief causative organism of gas gangrene Klebs and Loeffler, the diphtheria bacillus. Noguchi, a versatile genius, contributed largely to the study of spirochaetes and culture methods. Ehrlich's concept of antibodies and Metchnikoff's experiments in phagocytosis paved the way for the study of Immunology. The Second World War and after saw great progress, especially in Chemotherapy, Virology and Bacteriophagy and with the epoch-making discovery of Penicillin by Fleming, the banners of our knowledge advance but many problems still await solution.

—*R. R. & T. K.*

The Art of Medicine comes down to us from the hoary past, veiled in the mists of magic and superstition. The accurate observation and logical reasoning of Hippocrates made it a Science and with the growth of Anatomy and Physiology, the last vestige of superstition was gone. But schools and systems grew like mushrooms after the monsoon rain, till Sydenham, the great clinician, honoured as the 'English Hippocrates' swept them into oblivion and called for a return to Commonsense. Auenbrugger's discovery of percussion as an aid to diagnosis, popularized two decades later by Corvisart and Laennec's auscultation with the stethoscope laid the foundations of Modern Clinical Medicine. Further progress was inevitable and many great physicians have left their indelible imprints on the sands of Time—Bright, for his work on kidney disease; Charcot, on nervous disorders; Cullen and Trousseau, the great clinical teachers. The memorable work of Ross on Malaria initiated the study of tropical medicine. In recent times, medicine has grown vast and powerful, enriched by the advances in Physiology, Pathology, Bacteriology, Preventive Medicine. Radiology and Pharmacology. Dramatic changes have occurred in the prevention, treatment and prognosis of many diseases, not to forget the wonders of the day that became placeboes of the morrow. "Hystera" and evil spirits have given place to Allergy, Adaptation Syndrome and Anxiety Neuroses. Greater emphasis has been rightly laid on the understanding of the personality of the patient for the treatment of disease. "And we are as yet but on the threshold."

—R. R. & T. K.

Carrel (1873-1944).

Pott (1714-1788).

J Hunter (1728-1793).

Lister (1827-1912).

Paré (1510-1590).

Abernethy (1764-1831).

Paget (1814-1899).

Dupuytren (1777-1835).

Larrey (1766-1842).

Surgery is truly a child of the Wars. Through the centuries that divide Troy from Korea, each war created new problems and enriched surgical technique. Ambrose Pare, the father of modern surgery, was himself an army surgeon who made original contributions on the treatment of gunshot wounds and fractures, besides inventing the artery forceps. Great names stand out in the period of progress that ensued—Pott with his classical descriptions of the disease and the fracture named after him; bold and skilful Abernethy; the great military surgeon, Larrey; and Dupuytren whom "all admired, few loved and none understood." But, towering above them all like a Colossus, stands John Hunter, the founder of Surgical Pathology, who raised Surgery from a mere technique to the great science that it is to-day. Emphasis on diagnosis was the keynote of the work of Paget. No doubt anaesthesia had been introduced but still the patient "faced danger equal to that of the battlefield." Lister's antiseptic surgery made it safer for the patient and ushered in a new glorious era only to be superceded later on by the modern aseptic age. Diagnosis and treatment in modern times have advanced considerably with the application of X-rays and radium. Carrel was awarded the Nobel Prize for his work in suturing of blood vessels and the transplantation of organs. Cushing, with his famous intracranial operations, was the first exponent of Neurosurgery, a branch new and growing. From the barber to the modern surgeon is a far cry indeed and it is a delight to watch the latter operate if it is not still exactly a pleasure to come under his knife.

—*R. R. & T. K.*

*There could be no more suitable note on which to conclude this brief review of the healing art down the centuries than Sir William Osler's reflections upon our medical heritage: "We may indeed be justly proud of our apostolic succession. Schools and systems have flourished and gone.....the philosophies of one age have become the absurdities of the next, and the foolishness of yesterday has become the wisdom of to-morrow; through long ages which were slowly learning what we are hurrying to forget, amid all the changes and chances of twentyfive centuries, the profession has never lacked men who have lived up to the Greek ideals. They were those of Galen and Aretaeus, of men of the Alexandrian and Byzantine schools, of the best of the Arabians, of the men of the Renaissance, and they are ours to-day."

Medicine Today

Science progresses by constant self-revision. Since the early days when blood-letting and leech craft were the accepted lines of treatment for all illnesses, hundreds of methods for the treatment of disease have been tried out and thrown on the scrap-heap of discarded experiments until, today, Chemotherapy—a rational system of treatment— has been evolved. Drugs such as 'Paludrine,' Crystalline Penicillin,'Sulphamezathine,' 'Avloprocil' etc., exemplify I.C.I. leadership in the development of this modern aspect of medical science.

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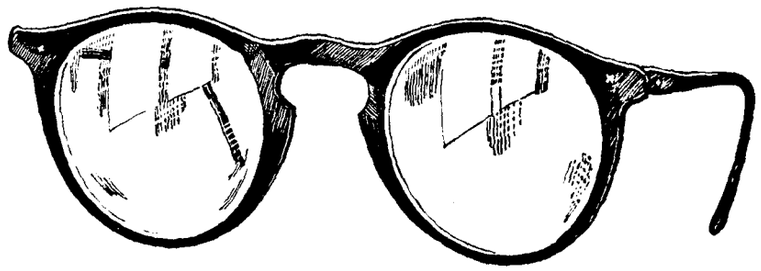

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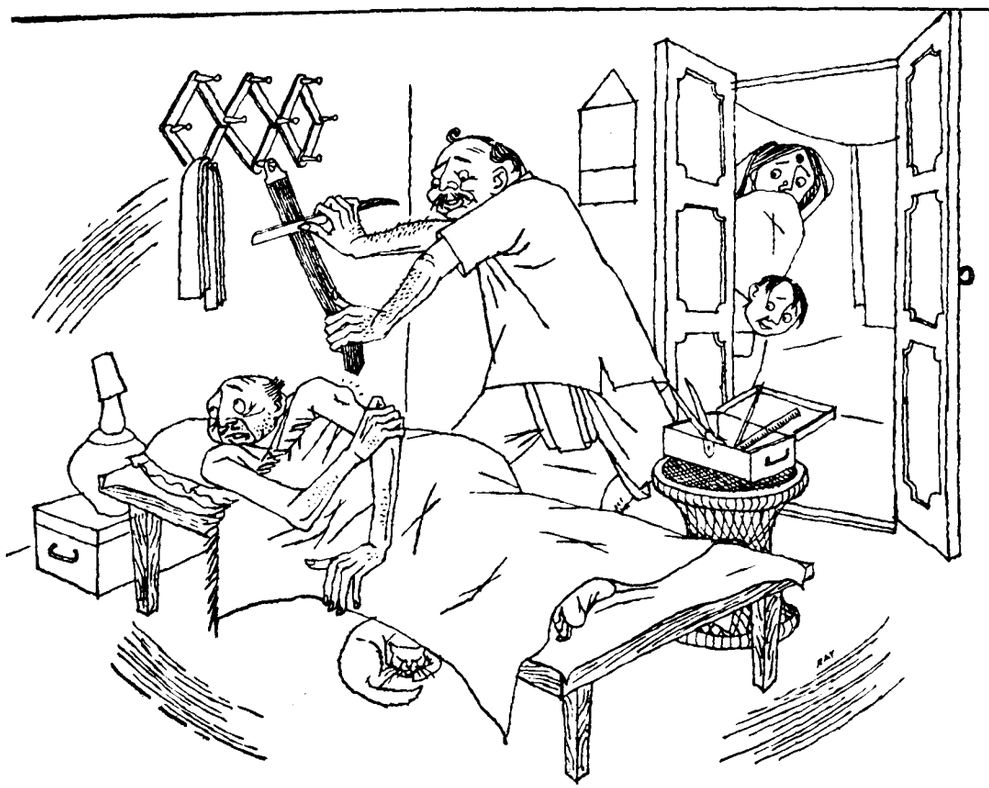

A rusty razor, a leather strop to sharpen it on and a pair of **bare hirsute hands.** Imagine these as a surgeon's equipment ! Yet in the days when asepsis was still unknown, these were about all that he could call to his aid. Modern surgery has, however, made revolutionary progress with the mature science of asepsis as its able hand-maid. A notable contribution to aseptic technique was the development of 'Cetavlon' — a development typical of I. C. I. leadership in various branches of modern medical and surgical science.

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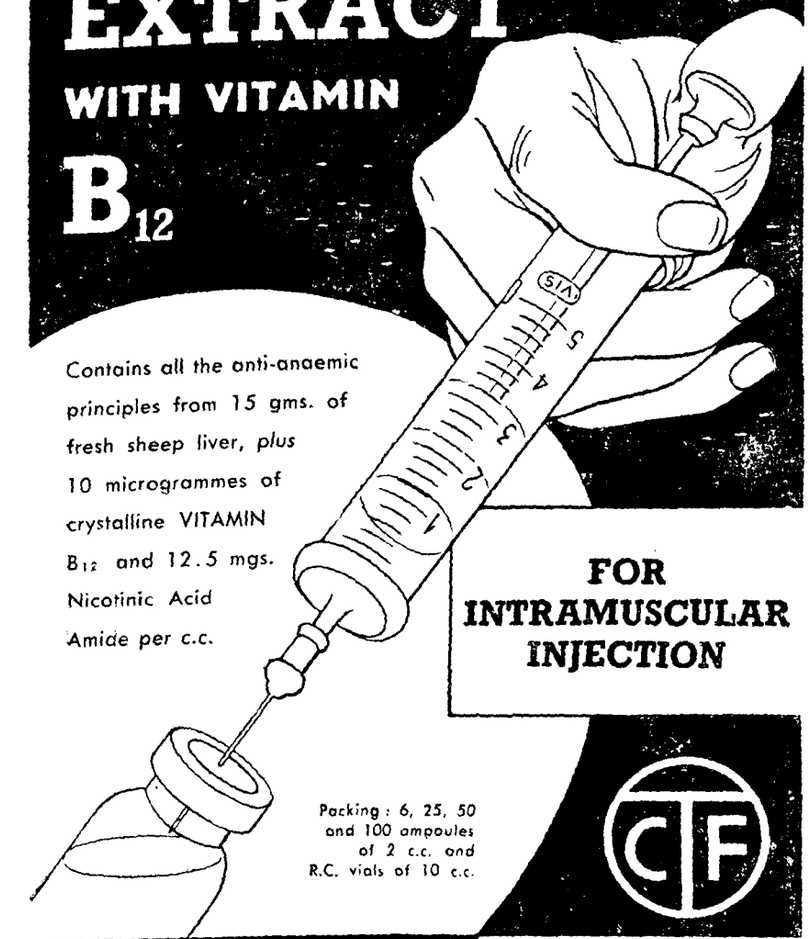

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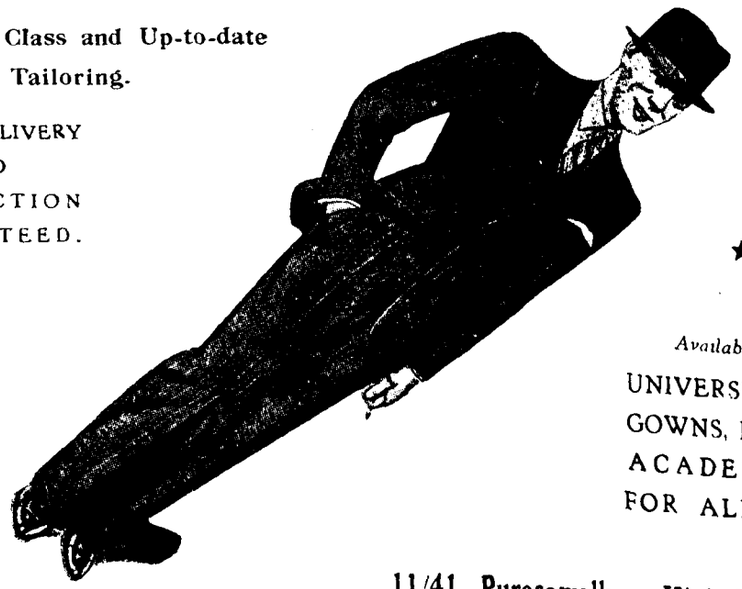

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Antimalarial Drugs

Dr. V. ISWARIAH,

B.A., M.B., M.R.C.P.

MANY drugs are there today for treating Malaria in its several aspects but comparative efficacy, utility and ranking of these still remain obscure. Nay, data that appear yearly, seem to fluctuate or reverse earlier findings. To illustrate what is meant, an author in 1947 dealing with antimalarial remedies remarked "Since now we have *Three* superbly fine synthetic antimalarials *i.e.*, chloroquine, paludrine and mepacrine, it becomes necessary to admit, though not without some sadness, that venerable old quinine has become a drug of relatively little importance when used alone in the treatment of vivax malaria. I shall therefore deal with it very briefly "(Beckman—Treatment P 110) Before the ink is dry on paper comes in 1948 a statement by another in the line 'In Monk's study intermittent course of quinine and pamaquine gave better results even in vivax infections than paludrine. One notices these days a rather healthy return to good old quinine, after disappointing or distressing results with the newer ones" (B. M. J. Vol. 1, P. 1225—1948).

The discovery of exo-erythrocytic forms of malarial parasites in 1946 by Hamilton Fairley and subsequently corroborated by Shortt and others has atleast clarified to some extent the reason why some antimalarial drugs claim to effect a radical cure and why others dont. It has also tended to clarify vagaries in response to antimalarials, of the three common infections. The exo-erythrocytic forms in P vivax and P. Malaria are persistent. The symptoms of infection in these two may be dormant or quiscent for a prolonged period. On the other hand with P. falciparum, the erythrocytic forms, if vigorously attacked by antimalarials, a cure is possible; for the exo-erythrocytic forms, normally tend to extinguish spontaneously. This biological variation between the M. T. forms on the one hand, and B. T. or plasmodium malaria on the other is of considerable importance in treatment.

The next discordant or distressing finding in malaria study, is that different strains of malarial parasites or even morphologically identical strains found in different parts of the globe are not uniform in their response to drugs. It is said that the West African strain of falciparum parasite is more resistant to the same drug than the New Guinea form. This finding raises two doubts.

(1) Are we justified in calling the strains identical on morphology alone? (no two match sticks are alike) and (2) Has one developed resistance to drugs while the other still remains susceptible due to varying treatment or dosage of the same drug? A Negro is said to have natural resistance to P. vivax infections. These findings lead one to only one irresistible conclusion *i.e.* that no standard of treatment could be prescribed for malaria-nay, for any disease if one may say. We shall now consider the approved antimalarial drugs in order. They are (1) Quinine (2) Pamaquin (3) Mepacrine (4) Proguanil or Paludrine (5) Chloroquine and (6) Camaquin.

1. **Quinine**:—One is not dogmatic or irrational in laying down that "15 gr. of quinine salt, three times a day for two days followed by 10 gr. t.d.s. for five more days, should bring down any acute attack of malaria" One may go ahead and say that, with this treatment, if the fever does not come down, either the fever is not malaria or the stuff administered is not quinine. Simultaneous alkali administration tends to enhance quinine action either in the direction of facilitating absorption or better action. It also tends to reduce chances of toxic action of quinine. Several questions may here be posed in corroboration or challenge of the dogmatic statement.

(*a*) Isn't 15 gr. t.d.s. for two days and 10 gr. t.d.s. for five subsequent days a dosage schedule rather on the excess side? I know that some clinicians are satisfied with 5 gr. t.d.s. *In vitro* experiments do not often bear out *in vivo* happenings. Blood concentration of quinine cannot be arbitrarily laid for effective therapeutic action. The U. S. Army has specified this dose, but one may be justified in feeling that American extravagance and American Physiological stamina cannot be translated to Indian conditions. British school advocates 10 gr. t.d.s. for two or three days followed by mepacrine, which dosage looks reasonable.

(*b*) Does quinine act equally well on all the three common forms of Malaria? There is some evidence to show that quinine acts better on Plasmodium falciparum, while quinidine acts better on plasmodium vivax. This is mentioned to point out that the crude totaquine which contains both alkaloids, may be more valuable in certain circumstances when the exact strain is not identified.

In serious forms of malignant malaria, intravenous quinine still remains the best treatment, provided it is given in sufficient dilution, slowly, with adrenaline always beside for emergency.

(c) Should quinine be started at the earliest opportunity or should it be given when the fever is declining? Should quinine join hands with the natural defence mechanism of the body? This is yet a moot point This principle is enjoined in the treatment of syphilis; it is said that arsenic and bismuth should not be given soon after diagnosis of treponema infection but one should wait some time for the building up of some amount of body resistance. It is more or less established that quinine acts better in the presence of some pre-existing immunity as in relapses, than in primary infections. The advocates of immediate treatment may argue that, despite quinine administration, the parasites are there in the system—alive and active or dead, to exert antigenic action. A rational answer should really come from the immunologist; however one feels that despite this academic dispute between the advocates of immunology and advocates of chemotherapy, it is safer to start treatment at the earliest, soon after diagnosis.

(*d*) What is the place of quinine vis a vis Blackwater fever? The exact etiology of Blackwater fever is still in the speculative stage, but it is accepted that black water fever is a bizarre manifestation of falciparum infection. There is also some evidence that taking of large quantities of quinine in repeated attacks of malaria, precipitates black water fever. Experiments conducted in West African Command in 1942 and 1945 revealed that a high proportion of cases of falciparum malaria treated with quinine, went in for haemoglobinuria, while those who were given mepacrine in place of quinine showed low incidence.

Large doses of quinine tend to cause haemolysis, but quinine haemoglobinuria is not the same as blackwater fever. However, the problem is not serious today as cases of blackwater fever who harbour falciparum parasites are to be treated with mepacrine and not quinine.

A similar problem faced clinicians once in treating malaria associated with pregnancy, as quinine tended to cause abortion. This has been successfully solved by mepacrine.

The other question, "Which is superior, quinine, mepacrine, proguanil or chloroquin"? will be dealt later. Two words about cinchonism and theories of mode of action of quinine.

Cinchonism :—In the treatment of malaria with quinine, the only side effect commonly noticed is tinnitus or a mild giddiness. The more serious symptoms are associated with idiosyncracy ; dosage certainly plays a part ; the higher the dose, the more the chances of symptoms of cinchonism. The minor symptoms may be covered by bromides The severe manifestations of cinchonism are disturbed vision leading to amblyopia, urticaria, lowering of blood pressure with bradycardia, occasionally haemorrhages. Malarial amblyopia is also possible, which has to be distinguished from quinine amblyopia. Severe forms of cinchonism may even be fatal. There is no known drug to correct it.

It is said that hyperthyroid patients have marked tolerance for quinine and may resist cinchonism. This however has not led clinicians to administer thyroid to correct cinchonism.

Mode of action of quinine :—These are mere theories, but it is just well to have an idea of them for a mental picture of possible action.

(1) Quinine is said to destroy immature parasites in the plasma before they enter the R.B.C. There is also evidence of retardation in the rate of production of asexual merozoite forms.

(2) Quinine is said to be absorbed on the surface of R.B.C. acting thereby as a barrier against entry of merozoites or trophozoites.

(3) Quinine actually kills some parasites first and these act as antigens for the body to produce antibodies which do the major job of killing all the parasites. This is a theory applicable to all chemotherapeutic agents ; one feels that this puts too great a strain on immunology.

(4) Quinine hastens natural immune process by mobilising and activating phagocytes or stimulating reticulo-endothelial system and large mononuclear cells. This finding has not been widely corroborated. On the sexual phase or the exo-erythrocytic phase, quinine has no appreciable action.

It is also said that the inhibitory action of quinine on the asexual phase, actually accelerates conversion to sexual or gametocytic phase. This means that the use of quinine necessitates the use of pamaquin.

Pamaquin :—This is taken up next as, chronologically, pamaquin succeeds quinine. It was synthesised in 1924, when altering the molecular structure on Methylene blue which is also an antimalarial drug. At that time it was thought that chronicity of malaria was due to persistance of

sexual forms and medico-chemical energies were directed to destruction or eradication of the sexual forms. But strange enough, pamaquin shows some desirable action on the exo-erythrocytic forms which we know today to be the cause of chronicity, though at the time of the synthesis of pamaquin, neither fact was known.

The main actions of pamaquin are (1) effect on gametocytes, in particular the M. T. sexual forms (2) absence of action on schizonts of M. T. (3) in addition to the gametocidal action on the vivax and plasmodium malaria forms, slight action on their asexual forms and (4) appreciable effect on the exo-erythrocytic forms. And so a powerful drug acting against the sexual cycle like quinine or mepacrine, combined with pamaquin that exerts some action on the other phases, should be an ideal ; one being a complement to the other. Unfortunately, pamaquin is a toxic drug with a low margin of safety, particularly when the action on asexual and exo-erythrocytic forms are desired.

Epigastric pain, cyanosis, methemoglobinaemia, liver or cardiac damage are all possible. Under the limiting circumstances therefore, the best use to which it can be put is to combine quinine with pamaquin to combat asexual and sexual phases with the added hope that it will also have some effect on the exo-erythrocytic phase.

An important fact to note here is that pamaquin should not be combined with mepacrine as chances of toxicity definitely increase by such a combination, while pamaquin can be combined with quinine. As you probably know, there are many quino-plasmoquin compounds on the market. Pamaquin may, however, follow mepacrine, but never together. The reason *surmised* for the enhanced action amounting to toxic action of the combination of pamaquin and mepacrine is that the side chain of the two are identical and to tend cause additive or cumulative poisoning.

"**Improved Pamaquin compounds**" :—When the action of pamaquin on the exo-erythrocytic forms of malaria was brought to light and when its wider use was precluded because of its toxicity chemists were kept going for the synthesis of related, but less toxic compounds capable of freer use for action on the exo-erythrocytic phase. Thus came pentaquin. Pentaquin was synthesised with the hope that it would be much less toxict than pamaquin, but in reality it is atleast 50% as toxic as pamaquin. In 60 mg. doses with 2 Gm. of quinine daily in two or three divided doses for about 10-14 days, pentaquin appreciably reduced relapse rate in vivax malaria. More than 60 mg. daily dose invariably led to toxic symptoms. Haemolytic anaemia was often noticed in coloured patients specially.

Treatment with pamaquin or pentaquin is advised only for hospitalised patients, as a strict watch has to be kept for toxic symptoms. Efforts to get less toxic compounds than pentaquin continues; the latest Iso pentaquin which has a maximum tolerated dose four times that of pamaquin. A recent substitute is called Premaquine.

Quinacrine or Mepacrine:—It must be remembered that mepacrine then known as atebrin, was prepared not because a better antimalarial than quinine was in demand, but because quinine was not available during the first war, more so during the second war. Mepacrine is an acridine derivative, related to a criflavine. The pharmacological interest attached to the chemical structure of mepacrine, is that its long side chain is identical with the side chain of pamaquin. The basic ring of quinine and pamaquin *i.e.*, quinoline, made some believe that the antimalarial property resided there. But pamaquin and mepacrine have distinct ring structure, but the lengthy side chain is the same. That raises the interesting speculation as to where the antimalarial property resides—in the main ring or the side chain? This is of some interest to synthetic chemists who venture on fresh fields for synthetic compounds, having a particular therapeutic action in mind. Reference will be made to this interesting aspect later.

An earlier question "Which is superior or what are the relative merits of quinine and mepacrine as schizonticides" has to be faced here. The answer is difficult. Mepacrine is less unpleasant to take and has a smaller dose. It lacks the toxic manifestations of quinine, but has its own train of toxic actions *i.e.*, vomiting, abdominal pain, yellow colouration, rarely delirium with a transient or permanent psychosis. Jaundice apart from yellow colouration has occasionally been noticed.

As an antimalarial, mepacrine is useful in all the three common plasmodial affections. It is said that quinine acts better in falciparum malaria. Mepacrine 1½ gr. dose t.d.s. for a week, is effective in suppressing attacks. Mepacrine methanosulphanate is available for intramuscular injection, being official in the latest British Pharmacopoeia. Some strains of malarial infections respond better to one drug and the others to the other.

So far, mepacrine resistant malaria has not been encountered, but one may venture to say that there is greater possibility of mepacrine resistant malaria than quinine resistant malaria.

As observed, quinine goes well with pamaquin while mepacrine cannot be combined with pamaquin.

Monk (1948) (B. M. J. Vol. 1, p. 1225) after an extensive study of antimalarial compounds feels that quinine-plasmoquin combinations had better effect in eradicating vivax relapses than any other (excluding chloroquin and camaquin that were not available then), which finding seems to assign to quinine a higher place than mepacrine (Old is after all gold) On the other hand, the World Health Organisation in its report Vol. 3, Nov. '49 p. 256 opines "In the light of recent experience it seems preferable to provide for the manufacture of synthetic drugs, rather than to develop the cultivation of cinchona, which would take up acreage which could be employed for other purposes. Generally speaking, it seems that quinine will be gradually replaced by the synthetic drugs which as will be shown have many advantages over it" (This smells of an agrarian-industrialist dispute.)

Other actions of Mepacrine:—It may not be out of place here to refer to other actions of mepacrine. Chemotherapeutically, mepacrine has been found to be valuable in giardiasis and lamblia infection of the gut. Mepacrine has also been found effective in the treatment of cutaneous infections of Leishmania Americans, by local infiltration.

A more fascinating finding is that mepacrine controls auricular fibrillation, like its partner quinine or quinidine. This action of mepacrine is associated with inhibition of choline-esterase, thus resembling eserine or physostigmine. Vomiting and diarrhoea occasionally noticed after mepacrine administration may be due to this action.

The reverse action is also possible *i.e.*, by inhibiting vagus, mepacrine can cause reduction of gastric secretion. Mepacrine here counteracts the action of insulin which is said to augment gastric secretion. These effects are brought about by fairly large doses of mepacrine.

Proguanil or Paludrine:—The boom and the drumbeat with which paludrine, subsequently named Proguanil or Chlorguanil, was hailed is gradually yielding place to more sober appraisal. Paludrine has not been able to prevent establishment of vivax infections by weekly or even twice weekly administration. What is worse, for suppressing acute attacks of falciparum infections, proguanil has often to be supplemented by quinine or mepacrine, which job the other two can do unaided.

A month's intermittent course of quinine and pamaquin gave better results in vivax infections than daily administration of paludrine, the aim being complete eradication of the infection.

Though Hamilton Fairley in 1947 recorded a high radical cure of New Guinea strain of Plasmodium falciparum following a ten day course of 300 mg. paludrine daily, reports from elsewhere including India indicate that relapses do occur after a full course of paludrine. Does that mean that different strains of P. falciparum exist and that they respond differently to the same drug? If even the suppressive action is doubted, its acclaimed curative action by its specific effect on exo-erythrocytic forms is not applicable to all strains of malaria.

Paludrine has also some sterilising effect on gemetocytes *i.e.*, making them incapable of fertilisation, unlike mepacrine, quinine and chloroquin that claim no such action. The net result is that for rapid and certain effect in clinical attack, proguanil needs to be augmented by quinine or mepacrine. One may then ask, why include paludrine at all when quinine or mepacrine is more certain of effecting clinical cure or suppression? The off shoot of all these discordant findings is the fact that Proguanil is capable of inducing resistance in certain strains of malarial parasites, perhaps in all forms, just as sulpha drugs have produced resistant strains of staphylo and gonoccocci or streptomycin resistant tubercular organisms.

We need not go into the questions (1) if there are naturally resistant strains of malarial parasites to paludrine (2) if paludrine alone induced resistance to malarial parasites and not the other antimalarias, (3) what exactly is the mechanism of development of resistance etc. We know, that so far, mepacrine and quinine have not induced drug fastness in malarial parasites.

One must say that the non-toxicity of paludrine is a point in its favour, but nontoxicity with impotency is of no value.

Other actions of paludrine:—Like mepacrine, paludrine also diminishes vagus action on heart. Paludrine is also said to diminish the effect of histamine on gastric secretion. It is learnt that this action is trying to find a place in treatment of peptic ulcer. The surprise given by these findings to a pharmacologist is that quinine, mepacrine and paludrine are chemically dissimilar compounds, but with strange similarities apart from antimalarial actions. Pamaquin is more allied to quinine in a sense but is related to mepacrine by the identity of its side chain. May I be permitted here to refer to a subject that often does not evoke interest in a clinician?.

Chemopharmacodynamics of antimalarials:—This subject is of theoretical interest and that mainly to a synthetic chemist, but without details should interest any medical man, even a clinician.

Analysis of quinine had revealed the existence of a quinoline ring and another called quinucledine. This helped in the synthesis of pamaquin which has also a quinoline ring. Chemists then played about with the side chain retaining the basic ring and later with the basic ring retaining the side chain. Mepacrine has the same side chain as pamaquin, but different basic ring *i.e.*, acridine. The ever active and adventurous chemists then departed from the conventional quinoline and acridine rings to find a new system capable of easy synthesis for antimalarial action. The choice fell on pyramidine ring, because the chemistry of the ring had become familiar in the course of work on sulphapyramidine derivatives (Sulphadiazine) and the compounds had also some animalaria property. (I may mention here in case I had not earlier, that sulphonamids also show some antimalarial action.) Different sulpha compounds seem to show differing effects. Some have noticed better results on W. African and N. African falciparum infections with sulphadiazine and sulphamerazine than with quinine and mepacrine (*Vide* Findlay et al-annal of Trop parasit vol. 40, p. 358, 1946 Investigation in chemotherapy of malaria with sulphonamide compounds).

On vivax infections sulpha compounds exert less marked action. The uncertainty and divergence in results have not secured for the sulpha compounds a place among anti-malarials. It has even been suggested (Findlay 1946 *vide* above) that patients with malarial parasites in blood and who fail to respond to quinine or mepacrine may be successfully treated by sulphapyramidine compound.

The pyramidine nucleus which occurred in many systems of vital physiological importance such as nucleic acid, enzymes, vitamins was therefore deemed of vital import in drug actions. Chemists synthesised a pyramidine compound called "2666" which had some antimalarial property. With the recognition of importance of pyramidine compounds, came another fact that antimalarial property may be due to the phenomenon of 'Tautomerism' *i.e.*, a property exhibited by a compound in behaving in different reactions as if it possessed two or more different chemical structures. For example the compound '2666' is capable of existing in six different forms. The introduction of a guanidine group joining the benzene ring and pyramidin nucleus, still further increased the total number of tautomeric possibilities, and thus another substance called '3349' was prepared.

It was then found that a pyramidine ring was not an essential component for antimalarial activity, but any related system, not necessarily a ring system with alternating simple and double bonds in which carbon

and nitrogen formed alternating elements might be antimalarial. And thus was synthesised paludrine or proguanil by a rather ingenious train of chemical observations and arguments.

Chloroquin :—Barring paludrine which is a British product, the rest are all German. Chloroquin though it is hailed today from America, in a sense is also of German origin, it is said. I dare say you are acquainted with its discovery in N. African campaign of Romell and Montogmery, how the Germans when they were retreating from N. Africa, left this precious therapeutic agent or an allied one called Sentaquin or Resochin. It was then taken over to America, studied carefully and with a few modifications was named chloroquin.

Chloroquin is a pamaquin derivative where OCH3 in quinoline ring is replaced by Cl.

Chloroquin is able to eradicate falciparum infection readily but not vivax infections. Acute attacks of all varieties of malaria are readily suppressed, sometimes more readily than by quinine and mepacrine. Relapses after the acute attacks are fewer and far between, which makes one suspect if it has some action on the exo-erythrocytic phase.

So far, no natural resistant forms are known, nor are parasites known to acquire resistance to chloroquin. Hence today it is claimed superior to paludrine or proguanil.

An initial dose of 600 mg. followed by 300 mg. after 6-8 hours and subsequently a single dose of 300 mg. daily for 3-5 days controls acute attacks. It is claimed for chloroquin that complete cure of falciparum infection is possible; a claim unsuccessfully associated with paludrine. As for vivax infections, chloroquin terminates attacks, but has to be continued for a fairly prolonged periods, perhaps months, to avoid relapses, which is only a suppressive action.

Final opinion as to the merits of chloroquin is not possible today, though in America it is claimed to be the best curative for malaria so far.

As an aside, it may be mentioned that chloroquinex is a valuable drug in non intestinal amoebiasis to-day.

Camaquin :—This is just a recent variant of chloroquin. It is said to be several times as active as mepacrine against experimental avian malaria. Though rapidly absorbed orally, it is vague in its distribution in body tissue. It is less toxic than mepacrine when used for a prolonged period.

In line with other antimalarials on their first appearance it is claimed that a single dose of 10 mg per kilo cures malaria. Single large doses are said to produce better results than divided doses. This single dose claims an early clinical arrest of malaria, with reduced relapse rate. The single dose treatment was compared with 0.3 G t.d.s. for 6 days and 1 G every six hours for 24 hours. The results were not very different. Falciparum parasites disappeared from peripheral blood in 30 hours and vivax parasites in 36 hours.

In doses of 0.1 G daily for 15 or more days, there were symptoms of uneasiness, weakness, loss of appetite and occasionally insomnia. Such a prolonged treatment is ever found necessary. The claim for single dose cure is yet to be substantiated. To sum up, as a suppressive chloroquin seems to hold the first rank today even against vivax infections. To terminate an attack, paludrine is slower than quinine and mepacrine, not to speak of chloroquin. Paludrine cannot be relied in emergencies, by itself. The worst sequel to paludrine is that the parasites tend to get resistant, a finding unfortunately associated so far only with paludrine. Resistance is said to be on the increase in W. Africa. Resistance is likely to develop when relatively heavy infections are exposed to doses with sublethal effect.

In the treatment of malaria as with most diseases, either a 'sledge hammer' stroke is to be delivered with carefully regulated course and dose, not necessarily a standard treatment applicable for all infections in all countries, or 'polychemotherapy' is to be tried with more than one drug so that those that escape Scylla may face a Charybdes.

(**Antimalarial Drug** :—Chronicle of World Health organisation Vol. 3, Nov. 1949, page 256.)

Bacteriophage - Its Prevalence and Action

Dr. S. GOVINDARAJAN, M.D.

WHILE hearing to the radio talk a fortnight ago on the subject of Bacterial viruses, you must have noted that viruses infecting the Bacteria exist, and they have certain characteristics which entitle them to be classed amongst the living agents.

The bacteriophages occur in nature like other viruses. They may be found as free living agents, or attached to a bacterium, and capable of releasing themselves, to act on other related bacteria. They may be found infecting the bacteria and multiplying in them, and finally bursting the bacteria and releasing themselves.

When a child is born, its intestinal tract is sterile *i.e.* free from any bacterium for a few hours till the process of deglutition is initiated and carries the bacteria into the intestinal tract, and during that period no phageis found. No phage is found in the foetus either. It takes 4 to 7 days after the birth of the child, before any phage appears in the gastrointestinal tract.

The phages are found in the intestinal tracts of man, animals and birds, and in nature, wherever the bacteria gain access. The phages may be found both in the healthy man and in the infected person. When a person gets infected with an organism such as dysentery bacillus, he goes through the disease known as dysentery, manifested by passage of mucus and blood in the stools. After some time, the dysentery phages that have been lying low begin to show their appearance in the motion. As days roll on, they increase in number, indicating that they have been proliferating. This they do, at the expense of the infecting bacterium. With the

Radio talk by Dr. S. Govindarajan, M.D., delivered at 21-15 hours on 23 3 '51.

appearance of more and more of the phages, it becomes difficult to isolate the infecting organism from the motion. As more and more phages develop, the condition of the patient also improves and in convalsescence, the phages are easily isolated. After some time, the infecting organisms completely disappear. Now the phages are not able to develop or proliferate. But, they continue as such in a free state or get attached to the other organisms normally found in the intestinal tract, and are propagated along with them and can be isolated from the motion, a long time after the illness.

When the faecal matter gains access to sewage or water, the phages gain access to water along with the bacteria. It takes some time for the phages to multiply and in the rivers contaminated with sewage or excreta, there is a greater possibility of finding the phages in great numbers as we reach more and more of the down stream. The bacteria and the phages may also reach the soil and be found there especially when faecal matter is used as manure. They may percolate the soil and be filtered through sandy areas. The infecting organisms may be filtered out and the phages reach the wells and be found there.

The fowls and the animals swallow all sorts of infective material along with the phages. The bacteria infective to man, but innocuous to the animals, develop in their intestinal tracts and the phages are propagated along with them. When the birds or animals are encaged and have no access to faecal matter, the phages are not found in such great numbers and do not show such variability as a free bird or animal ingesting all sorts of matter.

Thus, we have in nature the phages in healthy and diseased men, animals and birds ; in sewage ; in river waters specially in the downstreams ; down in the sea near the site of discharge of the city effluents, on the soil and in water wherever the infecting material and the phage gain access.

Dumas found the phages in drinking water of Paris and in garden soil heavily charged with manure. Beckenrich and Hauduroy found them in the waters of the rivers Ill and Rhine. D'Herelle isolated them from the sea water in the estuary of Mekong and from the waters off Alexandria and outside Marseilles.

In the laboratories, the phages have been noted to occur along with the bacteria, and their presence is noted by their action on the bacteria and their colonies. They are quite often obtained from old cultures.

Bacteria are grown in the laboratories by supplying them nutriment either in a fluid medium or on the surface of solid media.

In the liquid media when an organism grows and multiplies it renders the medium opaque. If the phages are added to a medium containing very young forms *i.e.*, say 4 hours after inoculation of the bacteria in the medium, or the phages and the bacteria are simultaneously added to the media, the medium that is turbid or rendered turbid, suddenly clears up. If they are allowed to grow together for some time more, the bacteria begin to grow once again and render the medium turbid again.

On the surface of the solid media, the bacteria grow and multiply and each bacterium forms a colony of its own. The colonies of each organism have their distinct uniform appearance. When the phages are present, they show a worm-eaten appearance on the surface of the colonies or a bit of nibbling away of the colonies or a bare spot may be seen in the midst of the colony. If the phages are of proper quality and strength, they produce a complete dissolution of the colonies. When the phages are allowed to act further, new colonies spring in the midst of the bare area. These new colonies consist of bacteria, that have developed resistance to the phages in their surroundings and exhibit the resistance to the phage in subsequent subcultures. Though the bacteria have developed resistance to this strain of phage, this resistance is not against all phages for all times. These resistant bacteria can be lysed out by other different strains of phages.

If the phage is grown along with such resistant bacteria, the phages lose their virulence, but the phages can regain their virulence by growing them on bacteria which are sensitive to them.

The phages produce a biologic and structural variation in the bacteria. The organisms lose some structure on their body and are rendered innocuous. The organisms that are normally smooth become rough and rarely *vice versa*.

When the bacteriophages are grown with young sensitive organisms under optimal conditions, the phages develop a higher sensitivity to the organism and the virulence of the phage can be increased considerably, provided they are transferred to sensitive cultures at proper intervals. By such transfers, we can also increase its concentration in the medium. At a particular concentration, it will produce its maximum effect in the form of complete lysis.

When a person is infected, if he possesses a highly virulent phage, and if the conditions are favourable for their development and proliferation, they are able to deal with the bacteria, immediately, and prevent them getting a foothold and producing disease and the disturbances accompanying or preceding the disease. If, on the other hand, conditions are not so favourable, but yet not unfavourable, and if it takes some time for the phage to develop in the body; the victim of the disease may get away with a mild attack, or the disease may be aborted. When the virulence of the phage is low, and the resistance of the infecting organism is high, the phages take some time to develop increased virulence in the body and in the race between the bacteria and the phage, whoever gets the upper hand wind; the disease progresses or retrogresses.

When the disease ends, and during convalescence, if the phages have a role to play in limiting the disease, then the phages are seen in these patients. Whenever phages are found, the outlook is better, than when the phages are not found. This does not mean that the phages are the sole agents in limiting an infectious disease. There are various other factors in limiting the disease and the phage is only one of them.

It is noteworthy that the phages are more resistant to the inimical agents than the bacteria themselves. They can stand drying for a few months. They are viable for a number of years and are destroyed at a temperature of 75° C. in half of an hour. They are ubiquitous and when they get their prey they develop at their expense and exterminate them. But some time has to elapse before the phages develop in sufficient numbers and in proper quality to limit the disease or the spread of the disease. The phages have their own limitations. They are at their best in surface infections.

The bacteriophages are as much transmissible from one individual to another as the bacteria are. They take the same route of dissemination as the bacteria. If the susceptible individuals in a community are infected with the correct type of bacteriophages active against the particular type of bacteria causing infection and epidemics in them, they are lucky to ward off the attack, but in this, they are as much exposed to infection as others, and the factors that determine the existance, growth and virulence of the phages, determine, in a way, the outcome of the epidemics as well.

Is it not good for us to know "out of evil cometh good and all is well that ends well"?

—★—

VIEWPOINTS :

If modern materialism were simply an unintelligent acquiescence in the material life, the advance might be infinitely delayed. But since its very soul is the search for knowledge, it will be unable to cry halt ; as it reaches the barriers of sense-knowledge and of the reasoning from sense-knowledge, its very rush will carry it beyond.

—*Sri Aurobindo.*

There is also a class of men, who, although as disharmonious as the criminal and the insane, are indispensable to modern society. They are the men of genius. They are characterized by a monstrous growth of some of their phychological activities. A great artist, a great scientist, a great philosopher, is rarely a great man. These ill-balanced beings are often unhappy. But they give to the entire community the benefit of their mighty impulses. Their disharmony results in the progress of civilization. Humanity has never gained anything from the efforts of the crowd. It is driven onwards by the passion of a few abnormal individuals, by the flame of their intelligence, by their ideal of science, of charity and of beauty.

—*Alexis Carrel.*

And so we have to labour and to work and work hard, to give reality to our dreams. Those dreams are for India, but they are also for the world, for all the nations and peoples are too closely knit together to-day for any one of them to imagine that it can live apart. Peace has been said to be indivisible ; so is freedom, so is prosperity now, and so also is disaster in this One World that can no longer be split into isolated fragments.

—*Jawaharlal Nehru.*

At present respect is secured by wealth ; in a society where wealth was unobtainable and poverty not to be feared, less material standards would prevail. In such an atmosphere, art might revive and science might cease to be prostituted to commerce and War. The human spirit, free at last from its immemorial bondage to material cares, might display fully for the first time all the splendour of which it is capable. Life might be happy for all and intoxicatingly glorious for the best.

—*Bertrand Russell.*

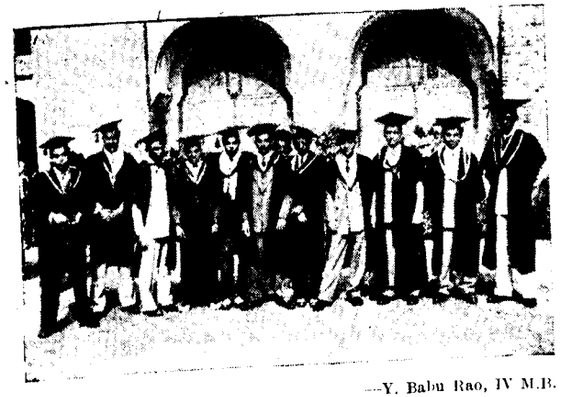
GRADUATES' RECEPTION

Dr. K. VASUDEVA RAO, M.D., F.R.C.P., T.T.D.
Director of Medical Services.

He addressed them...

—Y. Babu Rao, IV M.B.

"Leave not your profession..."



—Y. Babu Rao, IV M.B.

"Army? Govt. Service? Private Practice?..."

Y. Babu Rao, IV M.B.

Doctors of Medicine.

"Research..."

VARIETY ENTERTAINMENT

Under the greenwood tree...

The Cup that Cheers...

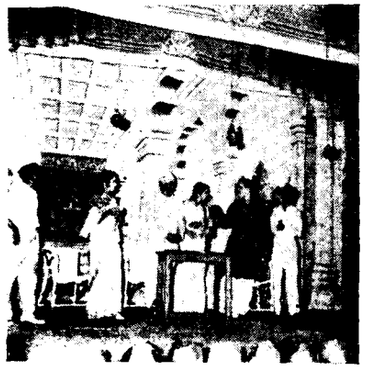
The hand that heals...

"Bachpan ke dil bhulana dhena..."

Songs Galore.

Prize-winning performance
Congrats, Dr. Baski.

Gypsy dance.



All's well that ends well...

INDEPENDENCE DAY

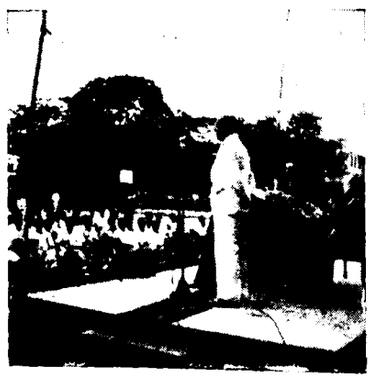
Jana Gana Mana...

"No clenched fists, only open arms..."

Inaugural Address.

Gents' Hostel Day.

Law and Medicine...



Lt. Col. C. R. K. addressing...
A blue print for co-operative co-prosperity.

- V. N. Viswanatha Rao, Final Year.
Prizes and Praises.

A. Janaki, IV M.B.
Judgin' between Doctors.

Hygiene Excursion to Periapalayam.

D. Sundara Rao, IV M.B.
The festival was disappointing...

First Years at Ennore.

Heart and Nutrition

Dr. K. RAMACHANDRA, M.D.

IT is well-known that many infective diseases have a deleterious effect on the heart early or late in the course of the disease. Such an entity is the oft-seen affection, Rheumatic Carditis which cripples individuals early in life. Their life-span is shortened and their existence made miserable. In middle age, the heart is susceptible to many other infections of which syphilis can be cited as a common cause of invaliding. Cardio-Aortic syphilis has been a menace to the pleasure-loving population, so much so that, later in life, gross cardiac lesions have been the common cause of sudden death. Other infections occurring in hearts which are congenitally defective have always been the cause of permanent ill-health and cardiac damage, of which bacterial endocarditis is a common example.

The heart suffers damage with disablement in many other diseases of vascular origin where the nourishment to the heart has been withheld due to progressive narrowing of the vessels which carry nutriment to it as in arteriosclerosis. The myocardial fibres are thereby replaced with a non-contractile tissue interfering with its functions of rhythmicity, conductivity, etc. This is a serious condition associated with many disturbances to the vascular system and other tissues which depend on a proper functioning of the heart. Sudden death is a common terminal event in such forms of heart disease.

Leaving aside these forms of heart disease commonly met with in cardiological practice, there are other conditions, nutritional in origin, which baffle the physician in the proper selection of the therapeutic agent for the treatment of such diseases.

Anaemias form a commonly met with condition where the heart is suffering from anoxemia, as a result of which it undergoes fatty degeneration ; the musculature becomes flaccid and the chambers dilate sometimes

to enormous extents. Such a heart loses its physiological functions to some extent and may work with a disordered rhythm. The heart works faster so as to compensate for the defective oxygenation occurring as a result of lowered haemoglobin percentage. A condition of high output failure results. Many of these patients suffer from a severe degree of dyspnoea and have anginal pains at times. From the description it can be seen that the extent of cardiac damage occuring in anaemic states as ankylostomiasis, so common in our country, is very severe. It is a retrogressive condition As the anaemia improves, cardiac changes are reversed with shrinkage of the size of the heart. In the therapy of this form of heart disease, digitalis is a drug which should never be used as it will worsen the conditlon by cutting down the rate of the heart which is a protective phenomenon. It is deplorable to see many learned people using the drug in large doses to their utter disappointment. The remedy is to administer drugs which will improve the anaemia, *viz.* iron or liver extract.

Hypoproteinemia:—The heart suffers severely in other deficiency states as hypoproteinemia,.....primary or conditioned. Such a manifestation is met with on a large scale in the present days of poverty and starvation where nutritional oedema syndromes fill the wards of the hospitals and are seen both in children and adults. Conditioned hypoproteinemia may be noted in diseases of the alimentary tract and liver where absorption and synthesis of plasma proteins becomes defective. The heart shrinks in size, resembling the senile heart of brown atrophy with deposition of lipocrome pigment on either side of the myocardial fibril. The heart slows down and the blood pressure falls. Sinus bradycardia with hypotension results. Later, as the duration of hypo-proteinemia increases, the heart eventually dilates. Tachycardia with further fall of blood pressure results. In the treatment of such a deficiency state, high protein diet should be administered cautiously as protein hydrolysates, skimmed milk, serum, plasma or whole blood transfusions to improve the hypo-proteinemia. Dieto-therapy if too enthusiastically undertaken may prove dangerous to the individual, hypertension being a very common sequel with myocardial failure. The other non-cardiac sequel is hyperglycemia due to non-functioning of Islet tissue.

Beri-Beri:—The heart suffers severely in beri-beri, a disease, endemic in certain places as a result of consuming polished rice. Aneurine or thiamine deficiency associated with the formation of an intermediary product of carbohydrate metabolism, methyl glyoxal, has a harmful effect on the cardiac musculature. The end-products of carbohydrate metabolism, pyruvic acid and lactic acid, get fixed to the cardiac musculature. Since the nutrition of each cell in the human body is maintained by this vitamin,

the heart suffers as any other organ. Hydropic degeneration has been noted with cardiac dilatation, especially, right-sided. Vagal neuritis aggravates it. The patient develops right-sided failure with oedema, enlarged liver, low diastolic pressure with high pulse pressure. Liver extract may be dangerous. 0.1 c.c of 1 1000 sol. of adrenaline injected into the subject causes further fall of diastolic pressure. Vitamin B_1 is the drug used in the treatment of this condition in large doses. In minor states of vitamin B_1 deficiency, the heart may be showing these changes with no clinical manifestations of disease.

Epidemic Dropsy:—A condition akin to Beri-Beri is Epidemic Dropsy, and when knowledge was scanty about these two conditions, their identification was difficult. Epidemic dropsy was passed off as beri-beri. As the aetiology of epidemic dropsy has been clarified and its distribution known fairly accurately, the condition has been found to have an entirely different pathology. The disease is due to the ingestion of Katakar or odissimari seeds. Argemone seeds containing an alkaloid, sanguinerine, if taken in large amounts cause capillary dilatation, increasing its permeability. A condition of interstitial oedema occurs in the myocardium which decreases its efficiency, causing cardiac dilatation. The same basic pathological process occurs in capillaries all over the body leading to oedema, capillary naevi formation, glaucoma, haemorrhages etc.

Vitamin C has also a minor role to play in the prevention of cardiac damage, especially in a patient who is suffering from a rheumatic infection. Deficiency of this vitamin helps the collagenous degeneration of fibrous tissue which is the essential finding in the Aschoff's node. So administration of ascorbic acid may mitigate to some extent myocardial fibrosis. Its use in other cardiac conditions is not beneficial. In advanced scurvy, myocardial vessels may bleed and haemorrhage into the pericardial sac may occur causing haemo-pericardium. Such a entity is rare. It occurs only in far-advanced cases just before the death of the patient and post-mortem several cases of scurvy in children have shown these changes.

Vitamin E Deficiency has produced in experimental animals myocardial changes as fibrosis and sometimes acute myocardial necrosis; myelo-malacia. In human beings it is used in the treatment of vascular disorders as angina pectoris, coronary sclerosis, etc., on the basis that it prevents endothelial damage or reverses such damage if present. In myocardial fibrosis, a protein-fat complex known as ceriod tends to accumulate, which interferes with its efficiency. So in certain states of chronic heart disease where no cause can be attributed, vitamin E may be used in the hope of improving cardiac efficiency.

Vitamin K Deficiency may not have a direct destructive influence on the cardiac musculature but it may indirectly produce gross changes as a result of sub-intimal haemorrhages. Coronary thrombosis may be precipitated. Vitamin K deficiency is a very rare condition as the vitamin is synthesized in the human gut but the availability of the vitamin to the body may be poor due to the presence of certain anti-vitamins as dicoumerol which is used in the therapy of cardiac disease. A complication, such as a fatal result, may ensue. Excess of vitamin K in experimental animals or hypervitaminosis K produced results similar to hypo-vitaminosis K or hypoprothrombinemia.

The above is a brief description of the various food factors essential and accessory which are necessary to maintain the heart in good status and deficiency may precipitate minor grades of cardiac inefficiency which may not be made out clinically. Moreover there are various forms of heart disease where the aetiology is obscure. Cannot these nutritional factors be blamed? In the treatment of other cardiac conditions it should be emphasized that these various food factors must be supplied in optimal amounts in order to maintain the heart in a state of a good nutrition.

Extensive study of nutrition in heart disease has brought into fashion certain diets in the management of these diseases. These diets bear the names of the individuals who have planned them such as Karrell's diet, Kempner's diet etc. Karrell's diet is very valuable in the treatment of severe cardiac failure with massive oedema. Its calorific value is low and helps the patient to lose weight and water without delay by restricting the intake of fluids. This inanition diet consists of 7 ozs. of milk four times a day and is useful for cardiac patients during the stage of gross failure to diminish the work of the heart and improve the circulation. It should not be continued for long as it may worsen the oedema due to its low protein content. Kempner's diet was planned mainly for the treatment of hypertensive patients especially those of the plethoric type. It is a starvation diet with a low protein, fat and sodium content, having a calorific value of 2000 calories. The main constituents of the diet are rice, fruits and sugar with vitamins in the following proportions:

Rice	....	250-350 gms. daily.
Fruit Juice	....	700-1000 c.c. "
Sugar	....	100-500 gms. "
Salt	....	not allowed.

This diet provides

Calories	....	2000
Fat	....	5 gms.
Protein	....	20 gms.
Chlorides	....	200 mgms.
Sodium	....	150 mgms.

with supplement of vitamins:

Vitamin A	....	5000 units.
Vitamin D	....	1000 units.
Thiamine	....	5 mgms.
Riboflavine	....	5 mgms.
Niacinamide	....	25 mgms.
Ca panthothenate	....	2 mgms.

On such a diet cardiac patients lose considerable weight with a fall of arterial blood pressure mainly due to calorie restriction. The danger of this diet is during rehabilitation of the individuals,—a considerale strain on the cardiovascular status may result.

So in the therapy of congestive heart failure, sodium content of the diet must be restricted to the lower limit,—a moderate amount can be allowed if mercurial diuretics are given at regular intervals? In cases of chronic failure, the myocardium has a poor Potassium and creatine content which are necessary for the efficient functioning of the musculature. This should be supplied in adequate amounts in the form of tissue extracts. Substitution of K salts for Na salts are essential to raise the Potassium content of the myocardium.

Administration of glucose and insulin-lactic acid with vitamin B_1 may be valuable to keep up and maintain the nutrition of the heart. It helps carbohydrate anabolism and glycogen storage and may mitigate to some extent the decreased functional capacity of the failing heart. The use of perandren with a moderate protein diet may be useful to help protein anabolism but this is not so valuable as the former though its use is extensive in the arteriosclerotic forms of heart disease.

Restriction of water to cardiac patients is not an essential part of cardiotherapy as was formerly stressed. Where the kidney function is perfect, administration of large quantities may have a beneficial effect in producing diuresis, with sodium depletion which is responsible for fluid retention in tissues.

So from the above, it is clear that nutrition has an important part to play in helping to keep up the integrity of every living cell in general and the heart may suffer incidentally. Though many nutritional diseases do not produce dramatic manifestations referable to the heart, yet the biochemical changes in the heart may lower its functional ability with serious consequences if neglected. Moreover, very little is known by the cardiac manifestations in malnutrition that adequate attention is not paid to the heart in subclinical states and detection of the condition early is difficult. In common practice, many of the patients complain of symptoms referable to the cardiovascular system not conforming to the ordinary varieties of heart disease. Do these belong to the group of malnutrition?

—★—

QUOTABLE QUOTES

1. Success in love consists not so much in marrying the one person who can make you happy as in escaping the many who could make you miserable.

—*Anonymous.*

2. It was love at first sight. Then I took a second look.

—*Adrienne Ames.*

3. A spinster was asked which she would rather have in a man, appearance or wealth. "Appearance," was her reply, "and the sooner the better."

—*(Can you top this?—MBS.)*

4. By all means marry. If you get a good wife, you will become very happy; if you get a bad one, you will become a philosopher—and that is good for everyman.

—*Socrates.*

5. There is still an element of risk in aviation, that taxi ride from the city to the airport.

—*Fred Allen.*

6. They met in a revolving door and started going around together.

—*Fibber McGee.*

Diagnostic Limitations of Widal Reaction

Dr. V. P. NAIDU, M.B.B.S.

IN 1889 Chervin and Rogers observed the aggregation of bacteria growing in the serum of an immune animal. Gruber and Durham described the agglutination reaction in 1896. It was in 1897 that Widal and Sicord noted that agglutination was of great value for diagnostic purposes in typhoid fever, since the agglutinating antibodies or agglutinins appeared in the serum of the infected patient during the first seven to ten days of the illness and a few drops of blood were sufficient for a test with a culture of bacteria. The reaction was first practised in typhoid fever, but its use was soon extended to other diseases like typhus group of fever, Malta fever and other infective states. Not only blood serum, but serous exudates from pleural, peritoneal and synovial cavities can also be used.

A positive Widal reaction indicates that the patient's blood contains antibodies (*agglutinins*) and not that he is suffering from enteric. It only indicates the possibility of an experience of contact with the infecting agent, present or past.

Two kinds of agglutinins are found in the blood on account of the presence of two types of antigen in the enteric group of organisms. "H" antigen is specific, indicating the presence of enteric infection, and "O" antigen is common to the enteric group. T.A.B. vaccination in a healthy person produces "H" agglutinins in large quantities persisting for several years and reappearing on provocation, but the "O" agglutinins are not formed in such large quantities and never more than in a titre of 1 in 100. In such a person, the appearance of "O" agglutinins in a high and increasing titre is indicative of infection. This "H" agglutination in the uninoculated and "O" agglutination (in dilution 1 in 100 and above) in the inoculated are signs of the infection. In those that are repeatedly inoculated, the "O" agglutinins may be found, but in the course of infection, the "O" titre shows a successive double rise.

In typhoid, the Widal reaction may occur any time after the first week, rarely by the third day, and persist for several years. Inoculated persons may give a positive result for many years. One should also remember that a negative reaction may occur in the early stage of an attack of enteric. If a negative finding is obtained in the face of clinical date pointing to enteric, the test should be repeated. A few cases of enteric, especially paratyphoid - A may fail to develop agglutinins and continue to give a misleading negative Widal reaction throughout and even if positive, the titre is very rarely above 1 in 50. Departmental statistics for the last two years show, that in thirty cases, paratyphoid A has been grown from blood cultures in the laboratory, and in these cases, only five showed para-A agglutinins.

Assuming correct technique, the possible fallacies are that positive reaction may result from :—

(1) An inoculation with T.A.B., the more recent the inoculation, greater the chances and in fairly high titre.

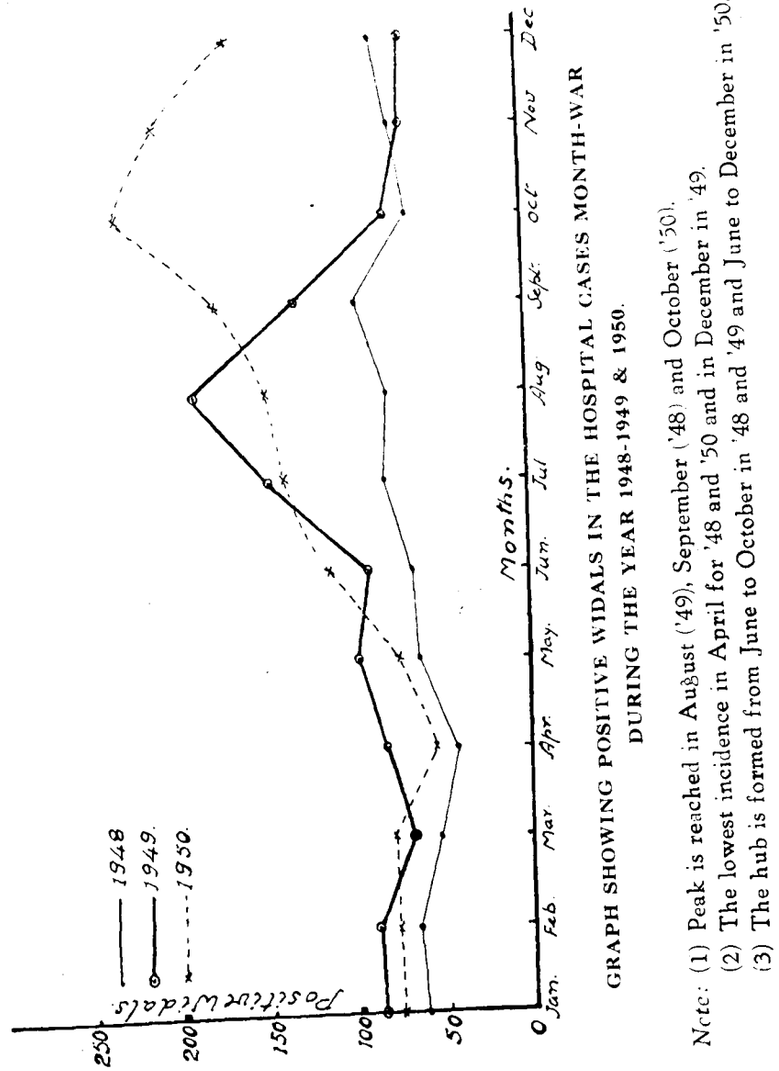
(2) A previous enteric group infection.

(3) A current infection.

(4) Carrier.

1. **An inoculation with T.A.B.** :—In the city, at no time of the year are we completely free from typhoid fever though there are peaks reached towards the latter half of the year. *Vide* graph for the last three years. People are gradually getting typhoid-conscious, and the percentage of inoculated people is on the increase, thus causing more difficulty in the interpretation of the Widal. From our laboratory findings, it has been occasionally observed that in initial titre of 1 in 200 to 400 has been obtained in this group. It is still held that a progressive rise in agglutinin titre to one specific antigen denotes active infection, but it must be stressed that a rise in immune bodies (residual—anamnestic agglutinins) may be stimulated by other pyrogenic infection. But a progressive double or triple rise is diagnostic of active infection.

2. **A previous enteric group infection** :—From the majority of the hospital class of patients, specially from the general wards, it is impossible to elicit enteric history. Here again, one has to remember that in some a titre of 1 in 200 or even more, may persist for one year or longer after the infection. Typhoid agglutination found in convalescents from typhoid



GRAPH SHOWING POSITIVE WIDALS IN THE HOSPITAL CASES MONTH-WAR
DURING THE YEAR 1948-1949 & 1950.

Note: (1) Peak is reached in August ('49), September ('48) and October ('50).
(2) The lowest incidence in April for '48 and '50 and in December in '49.
(3) The hub is formed from June to October in '48 and '49 and June to December in '50.

DIAGRAMATIC REPRESENTATION OF WIDAL'S TEST.

DIAGRAMS SHOWING SERUM SEPARATION & SERUM DILUTION.

Fig 1. 1-2 ccs of blood is collected from the vein of a suspected case and allowed to slope for ½-1 hour. The exuded serum is centrifuged if necessary and used.

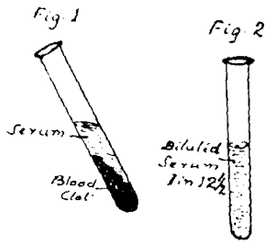


Fig. 2. One volume of the separated serum is transferred to another tube containing 11½ volumes of Normal Saline to give a 1 in 12½ dilution of the serum.

DIAGRAMS SHOWING THE WIDAL'S TEST PROPER.

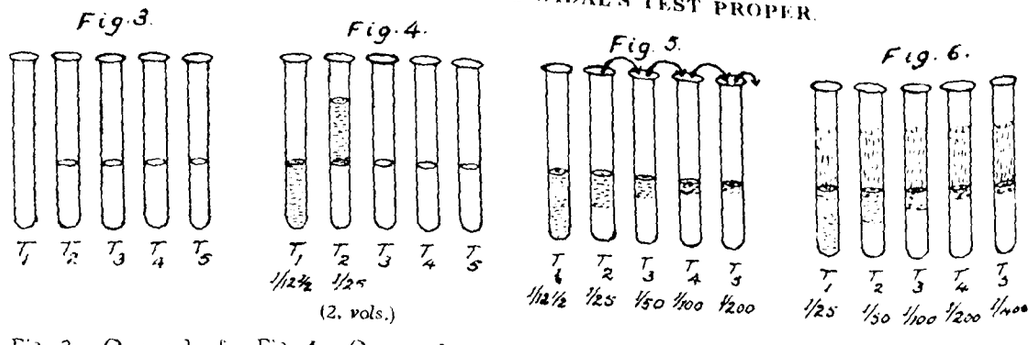


Fig. 3. One vol. of saline is put in all tubes except in T_1.

Fig. 4. One volume of the diluted serum is added to T_1 & T_2 respectively.

Fig. 5. After mixing T_2 thoroughly, one volume is transferred successively from T_2 to T_3, T_3 to T_4, T_4 to T_5 and one vol. from T_5 is discarded.

Fig. 6. One volume of the Bacterial emulsion is added to each tube. The diln. of the serum is increased twofold ($\frac{1}{25}$ to $\frac{1}{400}$)

(Incubation at 37° c over night).

DIAGRAMS SHOWING INTERPRETATION OF THE TEST.

Fig. 7. *Positive* tubes show deposit of the bacterium at the bottom with clear fluid above (T_1 and T_2) *Negative* tubes are uniformly opalescent (T_3 to T_5).

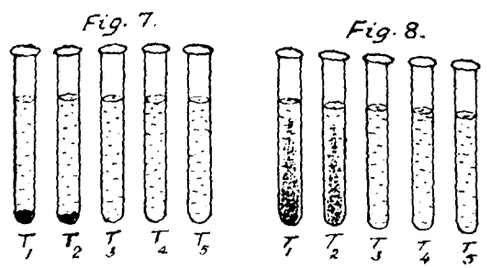


Fig. 8. On rolling the tube gently on the palm and visualised thro' a magnifying lens, the deposit is seen to consist of clumps (T_1 and T_2) If negative, no such deposit or clumps seen and the emulsion is homo-genous and opalescent.

The highest diln. showing the clumping and clearing up of the serum is reported as the highest dilution of the serum in which agglutination is observed and is reported as agglutination positive 1 in.....dilution for the organism.

fever is distinguishable from that of inoculated individuals. First, it is (with very rare exception) of *low titre* in convalascents as contrasted with that of persons recently inoculated, when typhoid aggultination titre remains high. Secondly, it will always show a definite and measurable *diminution of titre* in the course of a week or two in convalascents, while in (antityphoid) inoculated individuals, whose titres has by lapses of time fallen to a similarly low level, no measurable change will be found within the same period.

3. **A Current infection**:—Here the titre begins to rise and be significant only from the beginning of the second week or even later. By the time the widal is positive, the clinician is almost definite about his diagnosis. But occasionally some cases do baffle both the clinician and the bacteriologist.

4. **Carrier**:—In carrier states, such as typhoid chole-cystitis or pyelitis without any intestinal infection, the widal reaction may be positive even in high dilutions, as 1 in 400 may be noticed in some cases. When such people suffer from a continued fever, other than enteric, it causes considerable difficulty in the diagnosis Here also, an agglutination curve is likely to be more helpful than a single agglutination test.

Further difficulties in the interpretation of the widal reaction are the following:—

1. **Prozone Phenomenon**:—It is only infrequently observed that while agglutination is observed at a high dilution, clumping does not occur in the first two or three tubes *i.e.*, those containing the greatest concentration of serum (where more antibodies are present in an unit volume). This is termed Zoning or Prozone phenomenon. The explanation appears to be a physical one, due to excess of one of the reagents, as a similar reaction is often seen during the interaction of the colloidal suspensions. This phenomenon is more common with *old* or *heated sera* and presumably aging and heating bring about some change in the antibody globulin. Zoning is also encountered in other serological tests.

2. **Co-agglutination**:—The frequent co-agglutinations of typhoid bacilli by sera of persons who give a positive Weil-Felix reaction is due to anamnestic increase in agglutinins owing to previous infections.

3 Lastly the discovery of the Vi-antigen in addition to the flagellar (H) and somatic (O) antigens has led the bacteriologists to claim a more accurate interpretation of the Widal, but this is possible only if

separate antigenic emulsions are used for the different antigens. The preparation and maintenance of the Vi-antigenic emulsions is not very easy and there are very few laboratories which do this test as a routine. As a result of this, at least some of the infections with Vi-strains are missed, with "H" and "O" emulsions that are commonly used, though it has been claimed that most if not all infections with Vi-strains give a positive Widal with "H" and "O" emulsions.

Repeated tests are the best means of excluding fallacies.

The technique of Widal test as carried out in our laboratory from its inception is diagramatically represented.

This article is written to show how very limited the value of a positive Widal reaction is in the diagnosis of a suspected case of typhoid group of fevers.

My grateful thanks are due to Prof. S. Govindarajan, M.D., for the encouragement and guidance given during the preparation of this article, and to Dr. K. B. Kuppurajan for the diagramatic representation of the widal as done in our laboratory.

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Personalia

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Our Professor of Hygiene who has been appointed Deputy Director of Public Health.

V. Sundar Rao, IV M.B.

Dr. ISAAC JOSEPH, L.M. & S., D.P.H.

Our new Professor of Hygiene.

Dr. D. V. SUBBA REDDY, M.B.B.S., M.Sc.,

Our new Professor of Physiology.

Dr. V. SITARAMA RAO, M.B.B.S., M.Sc.,

Our new Addl. Professor of Anatomy.

Postures and Problems

T. K. SUBRAMANIAN.

"Man's upright posture has been obtained at a great price."

Arthur Keith—"**The Human Body**"

WE proclaim ourselves 'the noblest work of God' and regard the erect posture as a distinctive mark of our superiority over animals. Perhaps it may depress our vanity to learn that we have only completed what some monkeys attempted before us—and that too, at a great price.

"What is the animal that has at first four, then two and later three legs?". This famous riddle of the Sphinx gives us the clue. Watch the infant learning to walk. He crawls on all fours, with his face bent to the ground. After several attempts he succeeds in standing up and drags himself on two legs, his arms holding on to the wall or table for support. Then the triumphant walk, arms swinging and the head held high. Is the infant enacting in a short space of time and with accelerated tempo the great drama of evolution that took Nature ages to perform?

From among the apes that moved on four legs, there must have evolved one that waddled on its lower limbs, partly flexed, and used its upper limbs for clasping hold of support—an attitude eminently suited for life on the trees. By degrees the legs must have grown straighter and stronger, able to support and to move the body, without the aid of hands. Thus, from trees to land and from apes to men, we must have progressed. Our ancestors, by living on trees and swinging with their arms from branches, paved the way for our erect posture.

Is this chain of events a figment of imagination? Not entirely, for, in our study of apes, we have discovered a few links here and there though there are large, unfilled blanks. The Gibbon can boast of being a pioneer, having developed some kind of upright posture up among the trees. The Anthropoids, especially the Gorilla, specialised in locomotion rather than posture. They had an ugly stoop, hips bent, knees crooked and outturned

and long arms dangling by the sides. Then, Enter Man—with stronger and straighter legs; shorter, freer arms. It only remained to bid goodbye to trees and welcome to land, as all was set now for life on the ground.

This proof is not enough. Like Oliver Twist, the scientist asks for more but happily he gets it, thanks to eccentric Nature which often has a nostalgia for the past. Dissectors of human bodies are puzzled now and then by anomalies and vestiges which would be difficult to explain except as the relics of a past lived on all fours. Some examples are: Muscles-Levator Claviculae (used once for advancing the shoulder); Dorso-epitrochlearis connecting Latissimus Dorsi and Long head of triceps (used in climbing); Third head of Biceps, prominent in Gibbons (for swinging the arm.) Others like Plantaris Longus, Palmaris Longus and Psoas Minor, with diminished use, became vestigial. An azygos lobe is sometimes seen in the right lung reminiscent of its presence between the heart and the diaphragm in early apes. The stages of embryological development of the alimentary canal, and the rare occurrence of a primitive type of gut in some men, all defy an explanation except that of a more horizontal ancestor.

This business of standing erect was therefore slow and gradual. It also meant large, complicated alterations in the body to suit the change in the mode of living. "As the progenitors of man become more and more erect, with their hands and arms more and more modified for prehension and other purposes, with their feet and legs at the same time transformed for firm support and progression....the pelvis would have to be broadened, the spine peculiarly curved, and the head fixed in an altered position, all of which changes have to be attained by man." ('Descent of Man') Darwin's masterly summary, quoted above, is a brief and complete survey of the skeletal changes. The development of the curves of the spine and the arches of the foot are marvels of adaptative engineering. The prominent mastoid processes in man speak of neck muscles growing to balance the head. Gravity has to be fought by muscles, vessels and viscera and the challenge is met well by the development of compensatory mechanisms.

The nose, far removed from the ground, deteriorates in importance and vision *supplants smell*. "While a dog's highest mental joys are smell memories", in men, they are largely visual The external ear degenerates and loses its power of movement.

Of all our gains, the most flattering to our pride is the loss of the tail. It is also an ingenious example of economy on the part of Nature, which is usually extravagant. The tail lost its function as a balancing

organ and so its muscles became useless. The viscera, tending to sag, called for support. A change here, a change there in the tail muscles,—Nature has spread them out and created a strong muscular hummock, the pelvic diaphragm, stretching across the pelvis and supporting the viscera—two birds with one stroke.

The hands were freed by this posture, a great blessing without which man could not have attained such a dominant position. It led to better defence and better means of procuring food, as also to widening of his sphere of influence. Culture and Civilisation could not have evolved on treetops. Secondary to freedom of hands, the canine teeth became small and ceased to be ugly fangs—a cosmetic gain.

So much to be proud of, no doubt, but the price paid is not small. Adaptation is not yet perfect as evidenced in vascular compensation against Gravity. Even robust soldiers have been known to faint after standing for a long time due to vaso-vagal attack. If the fainted man were kept erect, he may even die. The fall saves him by restoring the blood pressure.

Our susceptibility to a host of diseases has been enhanced by the erect posture. The lack of support for viscera leads to a greater tendency to visceroptosis, hernia, prolapse, volvulus etc. The vertebral column is subjected to severe strain so that intervertebral disc lesions like rupture, hernia, and prolapse are commoner. With the veins below the heart always fighting Gravity, it is easy to understand how varicose veins and haemorrhoids are quite frequent. The maintenance of the erect posture over long periods results in lowered blood pressure at the apices of the lungs—a situation greatly relished by the tubercle bacillus for promoting its ravages on humanity. Yet, with all these, we have done well.

Moreover, the erect posture is just one phase of Physical Evolution which, in turn, is only part of the story. Cultural Evolution and a thinking mind have swept us far, far away from the animal world, on to brighter worlds of greater promise.

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Study tour in England and European Countries

Dr. RATNAVELU SUBRAMANIAM,
B.Sc., M.D., M.R.C.P.

MY study tour was primarily a study of diagnostic procedures in heart diseases. It is not possible to condense in a brief article my impressions of a tour that lasted nearly 3½ months. For the first two months, I stayed in London and visited a number of hospitals and institutions attached to the hospitals. I not only saw the diagnostic procedures but also the methods of teaching and attended the two day session on Medicine for Teachers of Medicine. I felt my trip to U. K. worth while for that two day session itself.

The time of my visit coincided with the Festival of Britain and I saw a little bit of the same. This trip enabled me to meet my old Professor of Medicine and my ex-chief, Sir G. R. McRobert. In the early years of my medical career, he played a very important part in my make-up in the sphere of Medicine. He was a very impressive teacher and his methods of teaching are still green in my memory.

While in England, I had the opportunity of attending both the Under-graduate and Post-graduate classes. Largely, it was the post-graduate classes that I attended. At the very outset, I should thank the Dean, National Heart Hospital, Brompton Hospital for diseases of the chest, Prof. McMichael of Hammersmith hospital for post-graduates, and Mr. Brock, Thoracic Surgeon of Guy's hospital for enabling me to attend their hospitals, during my stay in London. In all these hospitals I had a very warm reception and was shown the things that I wanted to see. The National Heart Hospital has a bed strength of about 100 and the average attendance per day is about 20. From Monday to Friday, one of the cardiologists in London attends the hospital. On an average, about six or seven cases are seen by him. He takes about 20 minutes for each case for taking the history in front of the post-graduates. One of the post-graduates is asked to exmine the patient, and then a discussion takes place between the

Physician and the students. By the time the last patient is seen, it is about 4-30 p.m. Then, all the patients seen in the afternoon are screened with barium swallow. Even prior to the physician seeing the case, X-ray chest and an electrocardiograph are taken. Electrocardiography is done generally for the first four standard weeks and three chest weeks. At the end of screening, the Physician writes out the line of treatment. The O.P. starts at 2 p.m. and closes by about 5-30 p.m. or 6-0 p.m. even. Cases which need hospitalisation are put on the waiting list and admitted as early as possible. If it is an emergency case, it is admitted straightaway. Many of the cases that are admitted are problem-cases requiring other accessory methods of diagnosis. Owing to the successful operative treatment that is available for pulmonary stenosis and Patent ductus, the rush of patients with congenital defects is noticed. The result is that several varieties of congenital anomalies are seen, but all are not operable. Most of them could not have been seen, even a few years ago. This hospital, in addition to treating patients, trains post-graduate students in cardiology. All methods of investigations in heart cases are available in this institution. Monthly clinico-pathological conferences are held at which one of the Post-graduates presents the case and the President who is usually one of the physicians, reviews the case and offers a provisional diagnosis. Then the Pathologist sums up the post-mortem findings and the morbid histological findings in the case. The clinico-pathological conferences are of great educative value and worth copying in all teaching hospitals in India. It of course means a routine post-mortem examination or atleast post-mortem examination in cases in which diagnosis has not been arrived at by the attending Physician. Unless a post-mortem is done, knowledge cannot improve and the physician is likely to commit the same mistake again and again. People have got to be enlightened on the value of post-mortem and legislation should be made to allow the hospital authorities to conduct post-mortem whenever necessary. We have got to overcome our bias against post-mortem just as we have overcome the bias against so many other social customs.

At the Hammersmith Hospital, only post-graduates are taken. Here, almost every member of the staff, besides teaching, is also conducting research on some aspect of medicine. The research is under the guidance of one of the senior men. The hospital has a well-equipped library and also has a fully equipped laboratory to carry out biochemical and biological tests. Here every day a post-mortem is conducted and the case is reviewed. Once a week staff clinical meetings take place in the morning at which important and interesting cases are presented. There are also weekly meetings and clinico-pathological conferences. At this clinico-pathological conference, the clinician presents the case, the pathologist presents the post-mortem appearances and morbid histological appearances

of various organs. Epidioscope is used to project on the screen the various organs, so that the whole audience can see the morbid changes, as the Pathologist is describing them. As each morbid organ is shown, the histological section is also shown side by side. Finally the President sums up the case. A few hours attendance at these clinico-pathological conferences will be a valuable contribution to our knowledge. At Guy's hospital I was particularly attending the congenital heart clinic, on Thursday afternoons. This is run by Dr. Morris John Brown and his associates. The cases are reviewed and picked up for detailed examination. The detailed examination consists of Angio-cardiography, cardiographic catheterisation, blood gas analysis of the blood from the right auricle right ventricle and the pulmonary arteries. 5 or 6 specimens are taken, then the case is re-reviewed two or three weeks later in the light of the findings. Then the Chest surgeon and the cardiac surgeon give their views and the anaesthetist also studies the case from his point of view. After all these studies, the case is operated. I witnessed a case of Fallot's Tetralogy in which anastomosis of the left sub-clavian artery was done to the main trunk of the pulmonary artery. This was done by Mr. Brown. It is a pleasure to watch the operation, particularly the way in which the diseases are handled and the almost bloodless surgical skill involved. The operation was done in one hour and 40 minutes. Almost on every operation day, there is an operation in the heart in this hospital. After the operation, periodically the patient is made to come again for further check-up by the physician. The whole procedure is very interesting. X-rays taken right from the commencement of the attendance, which may be in some cases 10 or 15 years ago, to the present day are available. In this connection we have also got to improve our methods of storage of X-ray films. Old X-rays must be made available as and when required. It is a pity that sometimes X-rays are lost even before the patient is discharged.

In this hospital the Pathology museum is very well-equipped. There are wax models to exhibit some of the skin lesions. They have got a system of arranging special exhibits for each week. This again is worth copying.

I attended for a few days a London hospital. Here I watched the teaching of the under-graduates by some of the professors. For clinical demonstrations, the patients are kept ready by the Registrars. The Registrars correspond to the senior housemen here in our hospitals. Students examine the cases and after that the physician takes up the case for discussion. He devotes roughly half an hour for each case, so that in the course of 1½ hrs, three or rarely four cases are discussed. A few cases are presented for first-spot diagnosis. Here also the museum is worth copying.

What impresses the visitors to these hospitals is that the number of doctors is far more, corresponding to the number of patients. Only a few patients are seen but they are seen thoroughly and followed up carefully. The systematic investigation is something remarkable. Here we have to look after a large number of patients and also our patients do not allow us to have a follow-up study.

Incidentally, the Festival of Britain was on during my stay in London. The festival was started in London with events taking place in the various parts of the country. I did not visit the other parts of the country but I saw the festival in London. The festival itself was located in the South Bank over an extensive ground. There were several interesting exhibits, ranging from subjects of every day interest like how the nervous impulse is conducted in the human body to subjects like the solar system. I visited the exhibition on two days and on each occasion spent about seven hours. Even then I was not able to complete seeing all that was entirely exhibited and I think it would take a fortnight to cover the exhibition in detail. Even then it is not possible to have a detailed study of the exhibits. Many of them were highly technical and needed explanation to understand. All aspects of human life from industries like cars, aeroplanes and locomotives to sport items were also exhibited. Besides this main event there were special exhibits like arts, paintings and posters. There was also an exhibition of Sherlock Holmes in Baker Street where, in a room were arranged all the articles, books and narratives of Sherlock Holmes. There was also a science exhibition and a recapitulation of the 1851 exhibition at the Albert Museum. A few days after this South Bank exhibition was started, the Fun Fair at Battersea Park was opened. Here there were all sorts of devices put up for entertainment. I was strongly reminded of our own festival entertainments annually. The attendance at the South Bank on one day was reported to be at the rate of 15,000 per hour. In spite of such a large crowd, owing to maintenance of order, there was no stampede.

For the festival, the British Medical Association arranged a series of lectures. They were symposia on various subjects by leading authorities. Though the admission was by tickets, the tickets were issued free in the order of application to the members of the profession. Most of the lectures were very valuable and were conducted in a very dignified manner. The lectures were held in the buildings of the Royal Society of Medicine.

From London I left for Stockholm, the capital of Sweden. This city was actually made up of 16 islands connected by bridges. The whole

country is fertile, full lakes and rivers. In contrast to London, this town was in a flourishing state, owing to the country remaining neutral. They had improved their general conditions during war time when other countries were being bombed. Life here is a bit costly, about 1½ times the cost of living in London. There is a socialised atmosphere. Most of the people live in rented houses and the flats are owned by the State. The electric tramway, trains and the electricity are state-owned. There are a number of hospitals in this place and they are all well-equipped. I visited two of them, one being Karolinsk's Institute with 4000 beds. This is one of the teaching hospitals. In contrast to London, post-mortem is done here as a matter of routine in every hospital case. At the entrance to the hospital, there is a large reception hall where patients get their tickets and wait to be called in. As they are waiting, they can sit and read in comfortable seats or can have light refreshment at cost price. Nearly all patients are X-rayed and the X-rays are filed. The O. P. ticket is collected when the patient is leaving the hospital. The O. P. ticket is actually a small note-book and not a small chit as we have in our hospitals. These books contain all the information needed about the patient whenever they report sick in the hospital. The Hospital is situated on the side of a mountain and through the windows of the rooms one can have very fine views of lovely gardens. The general wards have four beds in a large room and 4 such rooms constitute one ward. Each patient is provided with a radio and telephone. The radio is of the type that has to be fixed on to the ear so that it does not disturb the neighbouring patients.

The other hospital that I visited is called 'The Southern Hospital' and it has a bed strength of 6000. In both the hospitals there is provision for the entire hospital patients to be taken underground in case of emergencies. The Southern hospital has a cardiology department which is very well-equipped, with several appliances for testing X-ray tolerance, conduction time etc., and other equipments. Each ward is fitted with a radio announcer so that any doctor can be called up if he is needed. In this hospital there is a canteen for the staff where they meet during lunch time. Substantive lunch is provided at nominal cost. What impressed me in this hospital is the most lavish style of construction and the amount of comfort that even a general ward patient enjoys. There are large paintings on the walls of the hospital depicting the ancient culture of the State. It gives the hospital a very pleasant atmosphere. The sick person is so well looked after that sickness is deprived atleast of some of its misery. The lecture halls are provided with epidioscopes, loud-speakers and automatic screens to cut out the light. These lecture theatres are conveniently situated so that patients can be brought in for demonstration purposes.

Next I went to Paris. I could not see much of the hospitals in Paris as the time at my disposal was very limited. I visited the hospital Bucicoh in Paris. Here they do cardiac catheterisation, angio cardiography, etc. There is a separate block for these investigations and a special cardiology department. From Paris I went to Frankfurt in Western Germany where there is a University College hospital. It is called 'Second University Medical Union'. In this place Bolhard was working till last year. They have here an amplifying apparatus by which heart sounds are amplified to such an extent that the students can listen to the heart sounds without having to be asked to examine the heart individually. The murmurs can be taught to the students without inconveniencing the patient. Here I saw the Dermatological department. Most of the cases are rare in India, particularly generalised Bubo-vulgaris. From here I went to Erlangen, where another University hospital is situated. Here the X-ray department is very well-organised and at the time I was there, they were trying to perfect the X-ray dosage for the various types of cancers and also horizontal tomography *i.e.* section of the body at a horizontal plane instead of vertical plane. This gives a good idea about the sizes of the various chambers of the heart and the location of tumours in the lung fields. This is particularly useful when operation in the chest is contemplated.

From Western Germany I went to Switzerland and saw at Berne one of the medical colleges. The college was closed down for the vacation. The hospital was divided into different sections and each cubicle contained cases suffering from the same type of disease *i.e.* chest cases in one ward, heart cases in another ward and so on. Even infectious diseases were treated in the same hospital in one wing separated from others. Tuberculosis was also being treated like an infectious disease. At Brizle, in another part of Switzerland, I visited the University College hospital which was constructed in a modern style. Here they had a system of calling the nurses by 'Nighties' and 'Optics' *i.e.* a red light flashes intermittently. In Germany post-mortem is done as a routine but the hospital has suffered much due to war. Most of their equipments are not upto date but their follow-up is very good. The maintenance of records is also very well done.

By the time I came to Switzerland, Summer vacation had started in most of the medical colleges with the result that I could not see the colleges working. From Switzerland I travelled by train to Italy. In Italy, I spent a day in Venice and two days in Rome. Venice is a city built surrounded by water. The houses are connected by water. The city is about 4 miles long and 2 miles broad. The streets are all formed by water with the result that one has to go by a gondola or steam launch. They

have built the foundation and the basement in granite and from above the water level in brick and mortar. It gives a very fine appearance by night. It is a novelty to see water in the place of streets. There are no motor cars or other means of conveyance. In Rome there are 450 beautiful churches, outstanding among them being St. Peter's, St. John Lateral, St. Paul's and St. Mary's. The largest of them is St. Peter's which has got a dome with a diameter of about 250 ft. with wings on each side, main wing being 600 ft. and the side wings 300 ft. long. The ceiling is moulded with gold with a number of beautiful decorations in marble on the sides. There are also Mosaic pictures depicting scenes from the Bible. It is a very grand sight and evokes the admiration of the visitors. Within Rome, one sees the amount of sacrifice the early Christians have made for the sake of their religion. From Rome I went to Cairo by air and saw the pyramids of Egypt and the deserts. After having been in the cool countries of Europe, it was scorching in Cairo and in the desert it was worse. It is really wonderful to think how the ancients could have built these pyramids in the midst of the desert with so little mechanical transport. It will be a difficult thing to construct them with modern equipments at the present day.

I feel it may not be out of place to give a word of advice to the medical students who read this article. It is not worth while going to London to study for a higher examination, as conditions there are not at all suited for such a thing. It is much better to take the higher examination locally and then go abroad and work under some specialist of your choice without thinking of an examination; for an examination in England means spending unnecessarily time and money. Most of the coachers charge one guinea per hour *i.e.* about Rs. 16/- per hour. Some years ago Col. Sir G. R. McRobert wrote an article under the heading 'Indian degree for Indian Students'. He has stressed this in that article very well. In most of the continental clinics, after graduation, for periods varying between 5 to 10 years, the doctor works under a senior man and a specialist in a branch of medicine, before he is considered a specialist. That will be the proper thing to do and not to waste time by appearing for examinations in London or Edinburgh. Of course there are certain defects in our Universities and they have got to be corrected, the most important of them being the lack of post-graduate classes. There is much to see and much more to learn in those modern countries of the West and my immediate problem on landing is how my country and my students can benefit by my experiences abroad.

Dr. RATNAVELU SUBRAMANIAM, B.Sc., M.D., M.R.C.P.

Our new Professor of Therapeutics and Physician,
Govt. General Hospital, Madras.

Lt. Col. C. K. PRASADA RAO, M.D.,

Addl. Professor of Medicine and Physician, Govt. General Hospital, Madras, who has retired from service after a distinguished career in the College and the Hospital.

Lt-Col. C. K. Prasada Rao: Profile.

"It is not the pride, pomp and circumstance of an institution which brings honour, not its wealth, nor the number of its schools, not the students who throng its halls, but the *Men* who have trodden in its service the thorny road through toil, to the serene abode of Fame, climbing 'like stars to their appointed height'. They bring glory, and it should thrill the heart of every alumnus of this school, of every teacher in its faculty, as it does mine this day..."

—*SIR WILLIAM OSLER.*

YOU enter the ward as a raw third year student, shy, nervous, diffident. The senior medicoes are busy inspecting or percussing or auscultating and you feel out of tune and out of place when suddenly a whisper goes round: "The boss has come". A strong well-built, bespectacled gentleman, with a winning smile on his round face, clad in snowy white pants and bush-shirt, with a stethoscope in his hand and a knee-hammer peeping out of his pocket, briskly enters the ward and addresses those assembled: "Where are the Juniors? Come, Come". Brimming as he is with fatherly affection and with none of the cold, intellectual, Olympian aloofness about him, he makes you feel at home with him and you realize that he is not only your teacher, but your guide, philosopher and friend as well. That is Dr. Prasada Rao, one of the most loved and respected physicians that ever walked into the wards or the lecture-hall.

Prasada Rao was born in Tekkli, North Vizag Dt. in 1896. He went to the London Mission High School at Vizagapatam and studied his Intermediate both in the A. V. N. College, Vizag, and the P. R. College, Cocanada. Even as a young boy, he was of a deeply religious temperament and he read the Puranas and Upanisads in Telugu with great avidity. The Bagavad Gita even now remains his favourite book to which he returns again and again. He got interested in Buddhism round about this period and it has exerted a powerful influence throughout his life. He came under the personal spell of Sri Aurobindo in the early twenties. All this does not mean he remained a religious recluse in his boyhood and student days. His tender heart bled at the social inequalities and injustices perpetrated around him. He was one of the band of young men who were responsible for the running of three Harijan elementary schools and a poor feeding organisation. His mother, who is still happily alive to-day, greatly encouraged and appreciated his religious and social activities, but, shrewd lady as she is, when she detected in him a secret longing for a life

of renunciation, she quietly got him married in 1919 and he is now the happy father of one son and three daughters.

Prasada Rao took his degree in 1924; was house-surgeon, General Hospital, 1925; Junior Demonstrator in Andhra Medical College, 1925-'28; Senior Demonstrator and Assistant Professor in Physiology, Madras Medical College, 1928-'31; Assistant in Medicine, 1932; Assistant to Professor of Physiology, Andhra Medical College upto 1940; took his M.D. in 1937; Medical Registrar, 1940; joined Defence Forces as a Medical Specialist in 1942; was Lt.-Col and latter officiated as full colonel in charge of an I. G. H.; appointed Additional Professor of Medicine in 1945; retired 1951.

When your editor went to his house on the eve of his retirement to wish him a long, happy and prosperous life of usefulness, he was kind enough to grant him an interview during the course of which he made the following points:

Medical Course : Can be shortened from 5 to 4½ years, the shortening being made in the first 2 years.

Vernacularization of Medical Studies : Not impossible—but must be gradual; will be easier if we are ourselves the original workers.

House-Surgeoncy : Must be made compulsory and all house-surgeons must be provided with free lodging and boarding.

Nationalization of Medical Services : I am in favour of it.

Rural Medical Service : Young doctors can be sent to serve in rural areas provided there are first-class hospitals in the taluq centres for frequent refresher studies and clinical investigation. Otherwise it will prove suicidal.

On Looking Back : No regrets. I have lived my life pretty much to my own satisfaction. I will like to record my indebtedness to Mr. Lazarus, the headmaster of the Mission High School, Vizag and Sir R. Venkataratnam Naidu, Principal, P. R. College. I owe a lot in my general conduct and character to their influence.

Future Plans : I still desire to be in touch with students, teaching them medicine and if opportunities are offered will like to serve on an honorary basis in any medical institution, in the Madras State.

Dr. Prasada Rao is a great lover of Art and Literature and his brother Mr. Chitra is an artist of some fame, now on U. N. O. service in Ceylon. Prasada Rao is very fond of children in whose innocent and happy company he feels he comes in touch with occasional flashes of divinity. His high sense of duty, his hard work, his disciplined life and his charming nature, full of the milk of human kindness are all worthy of emulation by the younger generation. We wish him many happy returns and we thank him for the following farewell message to the students:

" Young Friends,

Wish you good-bye. May I bring home to you that this college to which you have the proud privilege to belong as I did in the past is one with hoary traditions? Its past alumni, by their proficiency, sense of duty, hard work and disciplined life kept the prestige of the college flying high over others. Will you not, the custodians of its future, pledge to keep that banner fly high in the skies of this profession? Under the inspiration of its past, work hard so that you will not only be second to none but first amongst all in studies, in sports and in public life."

★

MAN AND THE WORLD:

"I decline to accept the end of man...I believe that man will not merely endure: he will prevail. He is immortal, not because he alone among creatures has an inexhaustible voice, but because he has a soul, a spirit capable of compassion and sacrifice and endurance".

—*William Foulkner.*

* * *

"The world has always been in a mess except for a few brief halcyon periods, before 1914. I expect the world to go on being in its usual mess most of the time, with one or two halcyon periods now and then".

—*Somerset Maugham.*

Dr. Edward Green Balfour

Surgeon-General, Scholar, Scientist and founder of Madras Museum.

Dr. D. V. SUBBA REDDY,
M.B.B.S., M.Sc.

OF all the talented and able men that adorned the Madras Medical Establishment in the middle of XIXth century, Edward Green Balfour was indisputably the most outstanding or illustrious follower of Aesculapius. His interests were wide and varied, ranging from oriental literature to every branch of science. His achievements, literary, scientific and administrative were many and of a high order, winning the admiration and gratitude of South Indians and Britishers. He was one of the pioneers and builders, not of the British Empire alone but of the greater Commonwealth of the Fellowship of Science. It is unbelievable that a man who filled so many and diverse posts, in succession, should have found time and facilities to plan, collect large amount of information and write monumental works, the wonder and despair of the modern generation.

In the course of my search for old and rare medical works in the Madras Medical College Library, I had come across, as early as 1946-'47, the famous name of Balfour and identified, with a thrill of pleasure, some of his miscellaneous writings. My interest in his life and work suddenly received a new impetus, when, in the course of a search in 1948 in the Literary Society, Madras, I traced the existence of another book by him. It was a hard job to find out the book, from among the old tattered volumes, in the topmost rack of the shelves, reached by a rickety ladder. The binding was old and the pages were browned and brittle. I suggested that such of these old medical books, of no current interest to the members, may be handed over to the Madras Medical Library or to the Connemara Public Library, for better preservation and utilisation for medico-historical research. Sometime later, my good friend, Dr. Aiyappan, Superintendent of Government Museum, mentioned that he was arranging for the centenary celebrations of the Government Museum and whispered that the founder of the Museum was a medical man, Dr. Balfour. A series of fortuitious circumstances thus cast before me links of a golden chain and

I cannot think of any better way of utilising these materials than to write on Dr. Balfour during the centenary celebrations of one of the most popular and useful institutions in the city for the amusement as well as the education of the people of the province, the Central Government Museum, Madras, founded by Dr. Balfour.

Edward was born on September 6, 1813, in Montrose, Scotland. After early education in Montrose Academy, he was sent to Edinburgh University. It was a centre of great intellectual ferment at that time and must have exerted considerable influence on his inquisitive mind and created a thirst for knowledge and enthusiasm for investigation. He took a medical qualification, Licentiate of the Royal College of Surgeons, Edinburgh in 1833. It is said that he sailed to India to 1834. In the middle of 1836, he secured a commission as Assistant Surgeon in the medical establishment of South India. For the next six years, he served in different parts of Indian Peninsula as Officer-in-charge of European and native artillery, or native cavalry and infantry in different military stations in Bombay and Madras. In 1843, he went on sick leave to England and visited many of the military and civil hospitals of Europe, England, Scotland, Belgium, Holland, Prussia, Austria and minor kingdoms, to inquire into the internal economy, and make himself acquainted with the medical practice pursued. It was then that he acquired the information which was of great use in the conduct of duties allotted to him as medical officer in the army and in civil medical practice from 1844 onwards. He attained the rank of a full Surgeon in 1852.

Balfour appears to have been very earnest and industrious, observing and noting down everything that came his way, making searching enquiries and collecting enormous amount of useful data geological, botanical, meterological and epidemiological. He utilised the knowledge and experience gained by him, in his capacity as medical officer in the Indian army to publish, in 1845, two brief and highly interesting, original essays on important and neglected aspects of military medicine, *i.e.* Health of the troops in tropical climates. The first essay, printed and published in Madras, was entitled "Statistical data for forming troops and maintaining them in health in different climates and localities", and the one published from London had the title "Observation on the means of preserving health of troops by selecting healthy localities for their contonements." Both these contributions, based on field studies and facts, at a time when the welfare of the troops in India was a vital matter for the British, attracted considerable attention in the military circles as well as medical circles in Britain and brought him into prominence as an authority on military hygiene. He continued his studies on these lines and prepared another report, published in Madras in 1849, "On the

influence exercised by trees on the climate of a country", for which he received the thanks of the Madras Government. Next year (1850) he issued another report embodying his experiences in the army, in a pamphlet, "Remarks on the causes for which native troops of Madras army were discharged from service between 1842 and 1847."

His close investigation into the health of the troops led him into another problem of great importance at that time, namely, the causation and prevention of Cholera, then raging in an epidemic form in India. His first contribution of the subject appeared in 1849—1850 under the title, "Statistics of Cholera". From the elaborate reviews on it in Lancet and the Dublin Quarterly review, and also from the large extracts quoted from it and commented on in the Registrar-General's reports for 1852 on Cholera, it is clear that this book also attracted considerable attention in Britain. I have not been able to see a copy of this publication but a second edition of the work, published in 1870, from Secunderabad, "to bring the information upto the present," is available in the Connemara Public Library and deserves close study by all students of Epidemic Diseases. The publication of "Statistics of Cholera," led to some correspondence and in 1852, Balfour published "Letters" on the subject, amplifying some of his views and observations. His last contribution on the subject of cholera was a report issued in 1856, "Localities in India exempt from Cholera". The Madras Journal of Medical Sciences in its review wrote: "It is the only method of proceeding calculated to throw light on the true nature of cholera poison." A second edition of this report was also necessitated.

Then there was a sudden change in Balfour's career. His wandering life as an army medical officer had came to a close. He was medical officer of Governor's Body Guard and holding additional charge as Assay Master at Madras Mint. Later, he was appointed Government Agent at Chepauk, Madras and Paymaster of Carnatic Stipends. From 1858 to 1861, he was Commissioner for investigating the debts of the Nawab of Carnatic. He was still young and full of dynamic energy and irrepressible enthusiasm for every type of intellectual endeavour. Freedom from frequent movement from station to station, relief from the routine or emergent medical work, gave him leisure and facilities for reading and consulting references in the newly organised libraries in Madras. He had accumulated first-hand knowledge of various branches of natural sciences, examined and preserved geological and botanical specimens, collected in his tours. In 1850, Balfour made an offer to the Government to form a museum in Madras. The Central Museum, now known as Government Museum, Egmore, was entirely the result of his dynamic energy and versatile interests. In 1856, he commenced the collection of animals which formed

the nucles of Madras Zoological Gardens. He was also responsible for the commencement of the organisation, in 1866, of Mysore Museum and Public Library. He established the Museum in Madras, agreed to be its Superintendent without any remuneration and, for nearly a decade till 1859, devoted all his time and energy for the development of the collection and publication of catalogues and reports of the acquisitions and additions to the Museum. He built a new type of temple . . . a Temple of Learning and a Tower of Light for South India.

Madras was then a centre of Persian and Hindusthani culture, patronised by the Nawabs of the Carnatic. Balfour studied and began to love Oriental literature. He founded a Muhammadan Public Library in Madras. He translated Dr. Conquest's "Outlines of Midwifery" into Urdu. It won encomiums from all quarters....."Most valuable to the Hindusthani students of the Medical Colleges." ..... "A work highly creditable to him as a Medical Officer and a Hindusthani scholar". He also arranged for the translation of the book into South Indian languages, Tamil, Telugu and Canarese. Another publication in Hindusthani, "Selections from Persian and Hindusthani poets" (Madras, 1851), reflected great credit on Balfour's taste as an Oriental Scholar. The work was ornamented with a variety of designs.

Then, in 1853, appeared his "Barometrical sections of India"; printed in Madras, as a Folio, and described, in the proceedings of the Bombay Geographical Society, as "a very valuable contribution to the physical geography, for which, meterologist and geologist must feel most grateful". This was followed by "Catalogue of descriptive geology" in three parts, brought out between 1855 and 1857.

Finally, in 1857—58, he presented to the world his "Magnum Opus", "The Encyclopaedia of India and of Eastern and Southern Asia" in seven volumes. The first edition, printed in India, was hailed as "a wonderful monument to the talent, learning and industry of Balfour". Some material collected for the Encyclopaedia seems to have been compiled into another book "Timber trees, Timber and fancy woods and Forests of India, Eastern and Southern Asia." The date of its first edition is not available but the second edition was printed in 1862 and a third edition, in 1870. A second edition of his great work appeared in India, in five volumes, between 1871 and 1873 under the title "Cyclopaedia of India etc." The third edition was revised for publication between 1877 and 1884 by Balfour, then in retirement in No. 2, Oxford Square, Hyde Park, London. His outlay on it was lavish and ungrudging. This edition, in three volumes, is considered in many respects much superior

to the earlier editions and contained 35,000 articles. It was published in London and the preface is dated 24—5—1885. B.M.J. wrote : " It is a book indispensable to all who are in any practical way interested in India."

In 1862, he joined the administrative grade or branch of the Madras Medical Department and during the next eight years, (1862-70), he was, in succession, Deputy Inspector-General of Hospitals, Deputy Surgeon-General in Burma, Strait Settlements, Andamans, Ceded Districts, Mysore and Hyderabad. In 1871, he was promoted as surgeon-General with the Government of Madras. In 1873, he sailed home on sick certificate and visited 24 of the most important hospitals in England, Scotland, Paris, Brussels and Hague and, on his return, recommended to the Government that great benefit would result to this country if any officer of the Indian Medical Department were deputed to see and report on hospitals of England and America. During his tenure of office as Surgeon-General, about 1874-75, he wrote two pamphlets under the general title, " Medical hints to the people of India ". Each of them had a sub-title. In " The Vydian and the Hakeem—What do they know of Medicine ?", he dealt with the medical history and bibliography of India. It must have been very popular and ran quickly through many editions, the third edition being published in 1876, when Balfour was about to retire from the office of the Surgeon-General. The other booklet, in this series, was entitled " Eminent Medical Men of Asia, Africa, Europe and America who have Advanced Medical Science ". It was intended for the use of Medical students and Vydians and Hakeems of India. This book also went through a second edition and a third edition in 1876. As Madras Mail wrote of it in 1875, " Every line is bristling with facts and information ". The book is worth reprinting today. He filled the high office of S. G. with great distinction for more than 5 years, attempted many reforms and improvements in medical administration, medical education and medical aid to the people, etc., as indicated in his parting gift, his testament and will, " My five year's tour as Surgeon General of Madras Medical Department and the questions that were under discussion " (see Fig.), printed privately in Madras in 1876, when he was laying down the reigns of office.

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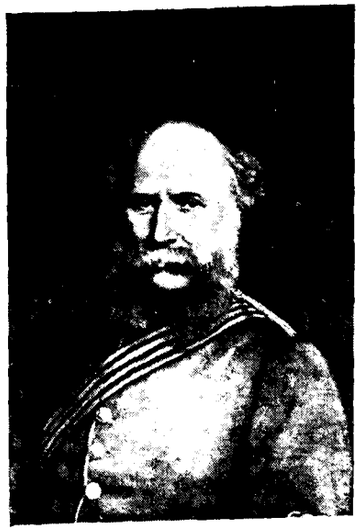
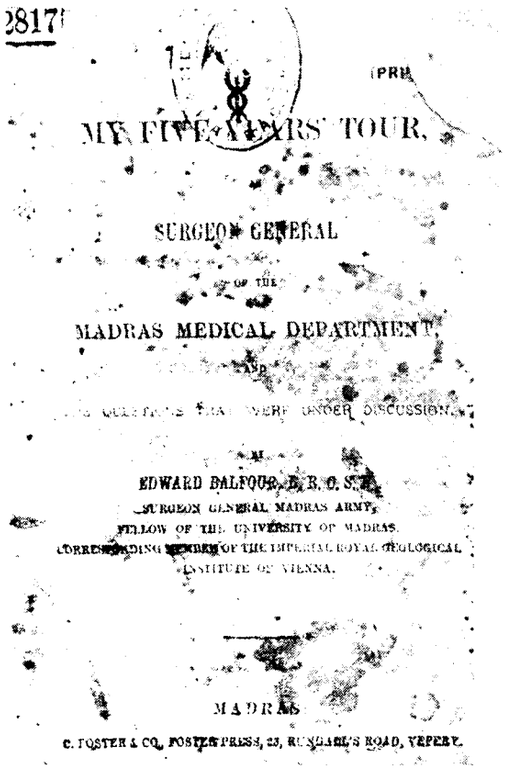
Like all of his books, it contains an illuminating preface dated 12th September 1876, Madras. It supplies an explanation for writing the book : " In the Government of British India, since the year 1867, the Medical department of the three presidencies has been under the administrative care of Surgeons-General of British Services and of Surgeons-General of Indian Services. In Madras presidency, the military



—*Kindly supplied by Dr. Aiyappan, Superintendent, Govt. Museum.*

Dr. EDWARD GREEN BALFOUR,
(1813—1889)



Title-page of the book
" My five years' Tour as Surgeon-General "
BY
Dr. BALFOUR.

IN MEMORIAM

Dr. DEVARAJ

hospitals of the British service are 40 in number. The military and Civil hospitals of the Madras Indian Department are 284 and its medical assistants, 821.....Incessant changes, however, occur in India, among the chief members of Government; for instance, during my 5½ years' tenure of office, there have been five Governors, six general officers commanding the Army, four civil members of the council have succeeded each other and the succession of officers in Government Secretariat etc., has been frequent . . . The six Deputy Surgeons-General in the Madras Medical Department, have thrice seen alterations, and of their numbers, three have died, and five have retired from service at the close of their five years tour of duty . . . With such continuously changing condition in the Indian Medical Department, the knowledge of the transactions of a period is liable to be buried amongst office records and having been longer at the head of the Medical Department than any of my five predecessors in office, I thought it desirable to notice the more important subjects which have been disposed of or been under discussion during my incumbency . . . It has been my aim to consolidate and introduce order; to extend medical knowledge and medical literature throughout the country, to increase the number of educated practitioners and hospitals; to improve the sanitary conditions of the towns and army hygiene; to improve hospitals; to reduce unnecessary expenditure and increase the revenue of institutions requiring it; to provide trained nurses for the community and add to the number of midwives; to induce the Madras University to take an interest in Medical Education; to educate women to be doctors; to promote the efficiency of civil medical officers by linguistic attainments; and to extend vaccination. How these points were attempted to be attended to will be found noticed in this record of my five years' tour ".

The contents of the book are given next and include: Measures for providing medical men for the country; Lady doctors, Vydians and Hakeems; books and libraries; civil dispensaries as schools of medicine; University degrees; private practitioners; Hospitals of India, Health Department, Sick nursing, Vaccination etc. Detailed notes on two topics only are given below:

(*i*) **Providing more medical men for the country**:—" The education of medical men in sufficient numbers to provide for the requirements of the public service and for the wants of the people of South India, has been a subject constantly before me throughout all my five years' tour; so persistently indeed, as to have excited surprise in some minds....A brother officer too asked me why I had made the Madras Medical College a subject of my attention.....But, as I told him, I cared for nothing for the College, or University, except as institutions which could supply medical men for the country; that the country was craving for men...."

There are many interesting controversies and reports on medical curriculum, which Balfour reviews. The subject of medical education "of a kind and degree suitable for the country" had been continuously before the Government from 1864. The Government were trying to obtain additional men, urgently required for services, by a lower type of professional training. But the Principal of the Medical College insisted on having "higher standard of education and smaller numbers," and the Madras University "was demanding for its degrees more study than the British Colleges". As Balfour points out, "Thus the discussions early branched out into the best plan of providing for the country, a large number of medical men, educated according to the learning of the present schools of Europe, for there are upwards of 8000 medical men of kinds in Madras Presidency, being about 1 to 4000 inhabitants, which is perhaps as large a rate of supply as the country can now support.....But those now practising are now ill and very erroneously educated, even if such a term as education can be applied to them, and the need for suitable trained practitioners is very urgent. The classes of people from which students should be drawn, their subsequent relations to the numbers and the number of schools to be opened in the provinces also became the subjects of discussion." A committee was appointed and they recommended "Schools in the provinces for the ultimate production of 4000 village dressers." As soon as Balfour took charge, he found that medical men were urgently needed and sent up new proposals. His view was that "Madras Medical College is able to educate the required medical men better and cheaper and in greater numbers than the proposed Provincial Medical Schools could do and in whatever numbers the country may require" The Principal of the Medical College and the Director of Public Instruction opposed the plan and Balfour bitterly complained that this action "was unusual in Public life and had done the country great injury."

Civil Dispensary Schools:--Lord Napier had advised in 1869 the opening of several schools of Medicine in the provinces for the education of Village Medical Practitioners to replace the 8000 ignorant Vydians and Hakeems. As Balfour's scheme of 1871 to increase the number of medical students in Madras Medical College has been dropped in 1873, he urged the immediate establishment of Medical Schools at Vizagapatam, Bellary, Trichinopoly and Cannanore, for Telugu, Canarese, Tamil and Malayalam nationalities, but even this letter was not even considered till 1875. Meanwhile, in 1876, Dr. Chester M.D., of American Medical Mission at Dindigul offered to teach Medical Students. A school was started with students going through a 3 years' curriculum on a monthly stipend of 5, 6, 7 in successive years. An assistant was sanctioned. But Balfour was critical of the results and wrote "The defect in that institution, must

fall on the clinical instruction. The sick are too few to suffice for the due education of the pupils. I am of opinion that Madura should have been selected, as it has a large hospital".

In 1875, Balfour having once more failed attempted to increase the admissions to the Madras Medical College, suggested to several officers to open schools and provide their towns with sufficient medical men. A number of surgeons in the districts started schools and ran these successfully. Dr. Balfour then recommended that a teaching allowance or the aid of an assistant must be given to the Medical officers, conducting the Schools. Balfour also pointed out that such schools were springing up at Bellary, Guntur, Madura, Masulipatam, Tanjore, Tellichery, Dindigal, Ranipet, Conjeevaram, Coimbatore, Nellore and Calicut. He also suggested that Native Infirmary at Madras, (now Stanley Hospital) should become a Medical School.

(*ii*) **"Lady Doctors Needed for the Women of India"**:—The credit for the admission of women students into the Madras Medical College must go to Dr. Balfour. It is generally stated that Madras was the first centre in India to make provision for the instruction of women in Medicine. Dr. Balfour himself, however, writes, "In India the credit of the first effort to teach women to be doctors is due to Surgeon Major Corbyn of the Bengal Army, who aided by a benevolent gentleman, Baboo Gunga Persad, opened a school for them at Bareilly, in the year 1867, and so early as 1871, had turned out several good useful native women as midwives and as general practitioners".

The Romance of Women in Medicine has been told many times but not in Balfour's own words. He writes, "I was fortunate in making other suggestions and one of them was for Lady Doctors. In the year 1871, I suggested to Lord Napier that the Madras Medical College should be made available for the instruction of women in Medicine; in 1872, I renewed that suggestion, and it received the sanction of Government on the 26th of October 1874. To secure Medical education for women took more than two years. The opposition offered by the Principal of the Madras Medical College and by the Director of Public Instruction was such that I could not reprint their letters in full; and yet everything has gone on quietly. Since the early part of 1874, four ladies have been under pre-collegiate instruction in the Hospitals of Madras and they entered the college at the beginning of the winter session of 1875-76."

"The curriculum of study laid down for the Lady Medical Students of Madras, is a year of pre-collegiate study in hospitals, and while also attending hospitals, two years of college, the subjects taught in college

being Anatomy, Materia Medica, Physiology, Surgery, Minor Surgery, Practical Pharmacy, Medicine, Diseases of women and Children and at the Lying-in Hospital, Midwifery".

Balfour compares the conditions in India with those in England and Russia. "I made the suggestion on the ground that one-half of the 200,000,000 of the inhabitants of British India are women, the great bulk of whom do not appear before other than their nearest relatives and in all ailments and injuries to which, in common with all womenkind, they are liable, they cannot get any skilled medical aid. Doubtless, 80 millions of the women of British India are in this position, and it seemed only just that they should be supplied with Medical Practitioners of their own sex. The question of women doctors which has been so largely discussed in Europe, has had reference to the rights of women to enter on, for a livelihood, a field already occupied by Medical men, and has no relation to the position taken up in India where women doctors are needed for attendance on women who have never had any skilled medical care. It is in Russia, seemingly, where the women are most largely studying medicine. The Semaine of St. Petersburg states that during the year 1874-75, 171 pupils had attended the courses of the Female medical school; of these 102 are noble, 17 are daughters of merchants, 12 are daughters of clergymen and the remaining 24 of other classes. The professors are highly pleased with the attention shown by the students many of whom remained till an advanced hour of the evening in the laboratory and dissecting room."

* * *

Balfour retired in 1876, after a service of 42 years in India. After his retirement, his main pre-occupation was the preparation of his "Cyclopaedia" for the third edition. He also published in 1878, a book "Influence of Trees on Climate and Productiveness of Indian Peninsula" based on an earlier report of 1840—48. The last work printed during his lifetime is a small but very useful octavo of 120 pages "Agricultural pests of India, and of Eastern and Southern Asia—Animal and Vegetable" published in London in 1887. Balfour died in London on 8—12—1889, at the age of 78. He is described in Dictionary of National Biography as "Surgeon-General and writer on India" while 'Dictionary of Indian Biography' by Buckland writes of Balfour as "Doctor and Author". He was personally known to and was in correspondence with, many eminent scientists all over Europe. He was secretary to the Madras Central Committee for the great exhibition of 1851 in London, for the Paris Exhibition of 1855 and 1868, for the International Exhibition, London, in 1862 and the Vienna Exhibition of 1873. He was the recipient of many honours from different learned societies of Europe. There is no statue in

Madras to commemorate his memory. There is not even a painting or portrait of this great man in the Medical College or in Surgeon General's Office. But the Museum and the Connemara Library founded by him stand out as the best memorials in this city to this distinguished medical man who was a rare combination of scholar, scientist and administrator. And in far-off lands wherever English is the medium of expression and wherever science and learning are valued and honoured, his cyclopaedia "will long remain a monument of his large experience, his indomitable industry and his vast reading".

★

LET US LAUGH:

Two specialists were on a holiday. "These girls in Miami certainly have beautiful legs, don't they?" said the orthopaedist, after an appreciative look round the beach.

"I hadn't noticed" said the other doctor. "I am a chest man myself."

* * *

A surgeon was taking a walk with his wife when a young and vivid blonde greeted him effusively. The doctor's wife eyed him narrowly. "Where," she asked, "did you meet that person, my dear?"

"Just a young woman I met professionally," he explained.

"I see," murmured the wife, "Yours or hers?".

* * *

Winston Churchill tells this one: A man went to see his doctor with a complaint that the sleeping tablets he had prescribed did not cure his insomnia. "Can't I have some of that twilight sleep they talk about?" he asked.

The doctor snorted: "Twilight sleep! Why, that's only for labour."

His patient came back in a disgusted tone with: "Is n't there anything for us Tories?"

* * *

Andrei Gromyko, not a very funny man, but who often does what he can to be agreeable, tells this one:

Obstetrician:—Mrs. Jones, I have very good news for you.

Patient:—I am not Mrs. Jones, but Miss Jones.

Obstetrician:—Miss Jones, then I have very bad news for you.

In the Mortuary

Under the tranquil roof without a care
There lay one, all cold and bare;
His frame was stiff, his eyes were closed
And in untold silence, his soul reposed.
Where once Life swelled and passions stirred,
Where rose Emotions, great and weird,
There now remains, no sign or trace,
For vanished now is that Mortal phase,
And Death, here, without a noise
Has drowned forever, his thought and voice!
Of that which yet remains,
The curious mind without a mercy deigns
To cut and probe, to decide and say
Of what unfathomed ailment he passed away.
So, he is ripped and rummaged from top to toe,
His brain, his heart, his viscera bow
Before the surgeon's scalpel and aye,—
From the silent soul there comes no cry!
Now, the mind from this melancholy sight,
Withdraws to think of this unhappy plight;
Need Man suffer as much as this
That even after Death, his peace he miss?
A sadness creeps in heart and yet a thought
Passes within and by reason brought.
Herein lies one, like a martyr true
In whose deceased frame, some facts new
Are found, recorded and passed on
From Youth to Age, long after he is gone!
And with this knowledge, the hand that heals
A blow to Death, forever deals.

—*ASGHAR ALI.*

**An analysis of Imagination and its variations.*

On Imagination

A. VARADARAJA SUNDARAM.

HUMAN mind, full of love and hatred, hope and despair, joy and sorrow, is at every moment active, consciously or sub-consciously. One of the conscious mental activities is our Imagination. "The whole human race is governed by imagination", says Napoleon. In the words of Einstein, "Imagination is more important than knowledge".

The word imagination comes from the Latin "Imaginatio" which means an image of a thing formed in the mind. Many inventive activities, for example, a wonderful work of art, engineering designs, organisation of governments and a host of other human enterprises are all only results of imagination.

This power of imagination is a gift to man and it starts from our very infancy. Just give a toy to a baby. The baby picks it up, turns it about, examines it from all angles, plays with it and is pleased when it makes noise. How happy the baby feels when it bangs the toy on the floor! This is really a result of imagination. The child is father of the man. Curiosity whets imagination. It is precisely this imagination that, according to psychologists, leads to inventiveness. One can see how children take extreme delight in telling stories. They identify themselves completely with the characters of their story and one can read in their faces the ups and downs of their hero's career. After the Cricket Test Match, the urchins become Mushtak Alis and Hazares in their own sweet imagination. These children relax greatly in their imagination. They feel they have achieved great things which they cannot accomplish in sober reality. So their tendencies which are blocked by limitations of environment, or by their own weaknesses or lack of knowledge and skill, find an outlet in their imagination.

Imagination is a mental reaction by which one brings many images to his mind. It may be free or controlled. Controlled imagination is directed towards the achievement of some desired result while free imagination wanders this way and that without any fixed aim. But it may be said, for any sort of imagination, there is always a stimulus. But then what sort of stimuli make men respond to inventive, creative or productive imagination? They are yet to be understood.

Of the various aspects of imagination, Empathy is one. Sympathy is "feeling with." Empathy is "feeling into." For example, we see a lark flying high up in the sky and feel a strange sensation in us. What is it due to? We project our mind into that object and get some satisfaction by identifying ourselves with the object. Would it not be grand to be that lark that "soaring singeth"? On earth we stand as slaves to the force of gravity. But the lark soars aloft in apparent defiance to all laws and limitations, and identification with it gives us a sense of power and freedom.

Day-dreaming is another aspect of imagination. This is just letting the mind loose, passing from one recalled fact to another. Usually a day-dream has some motive behind and it is always centred round a hero, the hero very often being the dreamer himself. The hero may be of the conquering or the suffering types. Most readers know the story of the milkmaid who indulged in day-dreaming while walking with a pail of milk on her head. She imagined herself growing richer and richer till the time when handsome young men would come and dance with her and seek her hand. But she would spurn them all with a toss of her head. The dream at this point was so absorbing as to get hold of the motor system and bring about the actual toss of her head. Sometimes the hero may not be the dreamer himself but one in whom the dreamer is very much interested,—the mother makes her son the hero and the wife, her husband.

The suffering hero type is the other extreme. He may picture himself as having a bad time or being misunderstood and ill-treated by his family and friends or becoming unsuccessful in his pet schemes. Often he believes himself to be worse off than he really is. Sometimes we see people, especially women, magnifying their own ailments. Here too there is some motive in the mind of the day-dreamer. Usually he pictures himself in the right and animated by the noblest intentions, though misunderstood. Sometimes he imagines that he is the most wicked fellow on earth. Probably his self-esteem is wounded and he resorts to imagining himself a big sinner. Active self-assertion in this case is replaced by a substitute reaction, namely, day dreaming.

The most important aspect of imagination is Art. Art is the highest form of expression. Art cultivates and kindles Imagination. The great masterpieces of sculpture and painting and the magnificent frescoes of the Ajanta and Ellora caves are nothing but lasting monuments of creative imagination. Art creates, combines and reveals. It is the highest manifestation of imagination, of passion, of love and of intuition. Art civilizes, for it enlightens and ennobles. Art is the child of the heart. The greatest gallery of art is found in Shakespeare's works. The dramatist lives in a world of imagination, all his own. He compresses whole lives into hours, delves into the depths of human nature and shows us the springs of action—how Desire bribes Judgement and corrupts the Will, how weak Reason is when Passion pleads and how grand it is to stand for Right against the whole world. In every drama of Shakespeare, the reader identifies himself with the character, begins to imagine and takes pleasure in indulging in his imagination. This appeal of art is partly emotional. The same is true with regard to a piece of good music. The whole audience is worked up to a high, feverish pitch of ecstasy, horror or thanksgiving or moved to tears as a result of the emotions aroused. On analysis, it is said that the pathetic appeal is due to the impulse of grief, the humour appeal due to the impulse of laughter, the tragic appeal to the impulse of fear and so on Sex motive is utilized liberally in painting, sculpture and literature as well. All these emotions stir up in imagination associated memories which are largely responsible for the appreciation of the works of art.

So through imagination we express our desires, our longings, our ecstasies. Through imagination we write and we carve, we live and we love. We portray in colours the purity of dawn, the intensity of noon, the splendour and mystery of night. Thus we enrich the common things of the earth with a rare beauty, thanks to our Imagination.

———★———

Our divorce rate is increasing at such speed that already millions are married to some one else's former wife or husband. Hundreds of thousands of children suffer the heartbreak of divided love. While the church remains unalterably opposed to divorce, it is powerless to halt the increase; and the legal profession generally is striving for more liberal divorce laws in the practical interests of preserving some respect for the legal formality of marriage. Meanwhile, medical research is fast moving towards the objective of making sexual promiscuity free of all physical dangers by perfecting drugs which will make possible unlimited contacts without contracting disease or bearing children. Venereal disease, alcoholism, illegitimacy abortion, divorce, crime and juvenile delinquency are increasing at an unprecedented rate. A gigantic moral crisis is taking monstrous shape before us.

—*Dyson Carter.*

On Men and Molecules

K. RAVI SHANKAR.

DEAR Readers, do not be surprised at the title. It is none of those publicity stunts by which certain authors and editors try to attract the public eye on what is really the last thing for the public to spend their time worthily upon. None of those clap-trap devices for me. The word " Molecules " has been used here in a wider sense, referring not only to molecules but to all that go up to make the molecules,—atoms, electrons, etc.,—and only incidentally has alliteration's artful aid been called upon.

The subject has been chosen not with any idea of introducing new theories about the subatomics and their relationship to humanity in a sincerely scientific sense, but just to make some nonsense of it. I beg the pardon of all those who are such staunch and austere scientists as to be strictly intolerant of such liberties. I am neither a Wells to play successfully with imagination nor a Wodehouse to toy humorously with facts and I hope the readers would do well not to expect much out of me.

Man is a curious thing. Till now we have been hearing that man is only a curious animal but he is a curious thing as well. I have taken the life out of him for no other particular reason but that it is all the same for our arguments whether he has a life or not. Man, I mean, the average man, is as inanimate for all purposes as the molecule itself and what is more curious, the molecule is as much alive as man.

Take for instance a crowd or a mob. There are as many men as the molecules of air in the tiniest box that we can make. One man strikes against the other with no regularity of motion, at the same time all contribute to the general atmosphere of the crowd a unique resemblance to a pack of molecules. Yes, the molecules behave in a similar irresponsible

manner with no exact equality to one another but get each as near to the average property of whole and each contributing at the same time to the general property of the whole.

Looking from another angle, you find these molecules obeying certain well-defined laws to an unimaginable degree of accuracy. Orderly and disciplined, law-abiding humanity is no unknown thing. Just heat a pack of molecules. They will rise up as a result and get agitated like a heated mob. Cool and the molecules would calm down like men who are served with vanilla ice-cream on a hot summer afternoon. Cool them further and further,—they almost freeze and become as insensible as men exposed to frost. Compel them to live in a smaller space,—they would resist and escape at the earliest opportunity. Give them the open country, —they would wander about freely and calmly. There is no difference between men and molecules.

The molecules have their own prejudices and partialities. Introduce them to their proper kind,—they would join hands immediately. If it is another type, they would go along their own way as if they were perfect strangers.

Look at the atoms. How much do they resemble the family-units of men! How easily do they form their own local clans and groups and how tactfully do they solemnise their unions with the other families to the good of all! On what lavish scale do they sometimes celebrate their unions,—with fireworks, lights and colours! And yet, at the same time, how much do they resemble humanity, when on finding their relationships under strain, they immediately separate.

Let us look at the fundamental basis of these units. All come under the two heads,—the positive and the negative. How truly do they again represent humanity in their natural affection for the opposite and the consequent formation of a bond between them!

We call them lifeless. Yet how full of life are they! We attribute no power of discrimination to them as we do for man. But look at the discretion they use in forming new units. The richer atom transfers to its poorer friend its surplus electrons or they share alike what they have between themselves. So donating or accepting or sharing, they seek to make their bonds of friendship stronger. In what other way can the sense of sacrifice and the sense of partnership be better exemplified?

———★———

Crow-Catching — A Fine Art

(Musings and confessions of a professional crower)

" M A K "

"CROWING IS AN ART AND THE MASTERY OF AN ART HAS NO END..."

MOST medicoes, I hope, are in the habit of glancing through the pages of the "Reader's Digest". But have you ever stopped to read the article "The most unforgettable character I have ever met"? And have you ever bothered to ask who the most unforgettable may be in your own case? Perhaps when you give out the answers, they will be as varied, as interesting and as delightful as the wide open world itself in which you have come across them.

Only recently I read one of those delightful articles. Many were the persons who loomed large in my mental horizon-the chronic additional who sits complacently in a corner of the canteen, smoking cheap cigarettes, who, when I came as a fresher to this college, gave me a comprehensive "Who's Who in the G. H. and the M.M.C.", my girl-friend whose moods change like the colours of the chameleon.....But to my great surprise, I found, believe it or not, that I am myself the most unforgettable character I have ever met.

Pardon me for having proceeded so long without an introduction, and as not even your editor is prepared to do it, I insist on a self-introduction. Theoretically, I am only one among you ; but for all practical purposes, I feel, I occupy a more enviable position than most of you, for I have been trained by the force of circumstances to become a "Crower", nay, the acclaimed authority on the subject. Crowing is an art and the mastery of an art has no end. Members of my clan you will meet in plenty in this college because the medium is so favourable to our growth and multiplication.

I joined this college some years back. The first day, I came in a dhotie, the next in a seventeenth century suit with the deathloop, the tie, hanging from my neck, embarassing in a very effective manner even phonation and deglutition, imparting to my august personality a peculiar gravity I can never mimic now, try as I may. I felt within me an admiration for the seniors who looked so cosy and comfortable in

their suits and who talked so caressingly to their girl-friends and so cunningly and courteously to their professor-examiners. Little did I realize then that I was very soon to join their ranks, not as a cadet but as a commander. I had come. It only remained for me to see and to conquer.

Those were the days of trials and tribulations, toil, sweat and tears. But when I look back now, I have absolutely no regrets and will do the same things, if I were ever asked to live my life all over again. When that is the case, I feel it is my duty to give the freshers some guiding points in learning this major art. I think they have got a lot to study from the experience of those who have shown the way and trailed an aura of glory behind them.

With all the clinical acumen I have accumulated, I cannot say definitely about the evolution of the term "crow-catching". Probably our great grand-fathers must have felt this art more difficult to practise than catching a crow. I feel like laughing at them outright to-day when the art to which I am dedicated is at its zenith and when there are so many simplified books available on the subject like my own : "Crowing made easy". But as in medicine, so in life, names established are difficult to change ; hence we have to accept this term for what meaning it conveys.

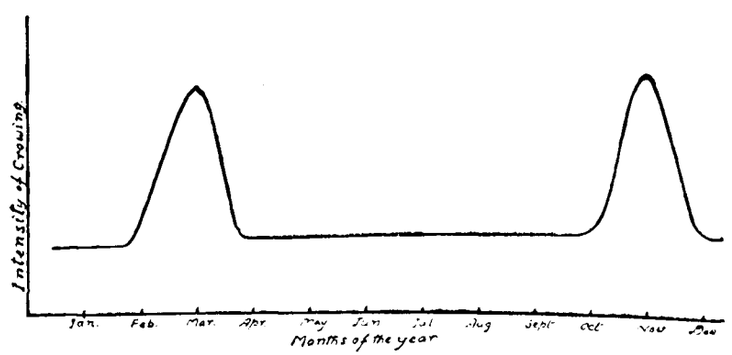
Don't be for a moment under the impression that crowing is a monopoly of the medico. Take it from me, it is the only art which will be useful to you in all the walks of life. But you must realise that it is an evolving art and the methods of putting the same into practice change from day to day, from place to place and from person to person. Firstly, let me postulate with all the seriousness and solemnity at my command that *Everyone can crow and Everyone can be crowed.* I have seen unhappy youngsters at the outermost fringes of the gala crowd, pulling their hats over their eyebrows, looking morose, out of tune, out of place, and feeling as uncomfortable as one who has unwittingly gulped down a gallon of castor oil when we crowers, crowd round our victim and carry the day. Take heart, young, unhappy-friends who do not know how to get on in this world, but who are at the same time most vociferous in your complaints against our thriving tribe, and let me assure you, *Crowing is in everyman's and every woman's blood.* Throw all your compunctions to the winds and join our ranks and you will never rue the day when you made the most momentous decision in your life.

Permit me to give you a resume of the most conventional methods of crowing. Many are the classifications of the types of crowing mentioned in literature, but personally I feel, (and I politely remind you that I am an authority on the subject), that they should be divided into two main classes—curricular and extra-curricular.

When the academic year starts, you must also make a start. See your professors as many times as you can and ask their " valued " opinion about books which you never intend purchasing. Speak kind words to the attenders, for kind words cost nothing but have lots of coins in your pocket, ready to slip them into their itching palms. Ask them about their family, rationing and above all about the professor. They would be able to supply you with a fund of information about the last mentioned individual which will, in days to come, prove to be the most powerful weapon in your armoury. Right off you must start major crowing during practicals which include staying in the hall long after many of your classmates have left. Ladies especially will find it an extremely powerful weapon and, of course, they are making use of it too. As the examinations near, begin to frequent the museum and occupy vantage points at advantageous, hours when you know your victims will be flitting in and out of their rooms and give them their due in the form of a good morning or just standing up with a goatish smile, if you have already done the former times without number during the course of the day. Pre-examination and post-examination discussions with professors concerned will certainly increase their good-will towards you and will help you to face the ordeal with confidence and courage which matter a lot these days. Perhaps if you are fortunate, you may even get an inkling of the very questions that you will have to answer.

Among extracurricular methods, my preference is for garlanding, arranging parties, picnics, excursions and raising the professor-examiners to the skies in welcome address or vote of thanks. You must crowd towards your victims on these occassions. A camera, no matter loaded or not, is a priceless boon, whose value you will realise only when you have one with you. Extracurricular methods include visits to houses, getting up and giving place in the buses and the crowded canteen.

A very shrewd research into the seasonal incidence of the conventional methods of crowing in this college has given the following results, which I represent graphically below :



From the graph, you will note: (1) two peaks in the intensity of crowing during March and November and then two steep falls, you know why. (2) the curve never touches the baseline indicating that a certain amount of minimal crowing is the order of the day.

Now I will give you certain refinements in the classical methods which I have adopted and found highly paying.

Abusive Type : —Time : the end of the class.

I (innocent) : Sir, can you please spare your notes? I couldn't take down a single word in the class.

Prof. (surprised) : Why, have I been so fast ?

I (Protesting) : No, no, no, Sir ; but people behind me were making such a hell of a noise. They don't know what they are missing. (Hi, Hi, Hi !)

Readers, here lies the road to success. See the things I have achieved by this method: (1) Setting myself off as one who is very much interested in the lecture. (2) Ruthless trampling over fellow-students and labelling them as nuisance makers. (3) Raising the teachers to heights of ecstasy.

Self-Abusive type :—To follow this method, you will have to be a bit of a philosopher yourself and believe in the saying: " Blessed are the meek for they shall inherit the earth "! In fact, the lower you stoop, the greater is your conquest. You parade yourselves as empty-headed ignoramuses, seeking light and guidance, boosting up at the same time your brother-crowers, accomplices in the act, as far above you in intelligence and industry. The result is a big lift for both.

Face-Presentation :—is eminently suited to ladies who, by instinct, take to this method as duck to water. But even better is the art of those great men who, with admirable ease, fight their way through the crowd to the front line during ward clinics.

Copy-Writing :—Yet another method, universally prevalent among the fair sex and the most paying of them all, is the art of hearing the lecture, taking down word by word and still hoping to grasp its meaning. What else, may I ask, is the big idea behind this great art of calligraphy, if it is not a keen desire to please and to flatter?

When all is said and done, let me take you into my confidence and divulge to you my great ambition in life—starting an Academy which will train youngsters in the fine art of Crow-catching and award diplomas and degrees. I am perfectly sure, seeing the present trends in college and country, that my dreams will come true ere long and I will find myself as the Founder-President of the great academy.

★

PERSONAL GLIMPSES:

The India House superior (Lamb was working in the India House) re-proached Lamb for coming late.

"You always come late to the office."

"Yes, but see how early I leave."

* * *

When a Labourite made a personal attack on Mr. Churchill in the House of Commons, the former Prime Minister was impatient to reply. "Don't answer him, Winston," a colleague advised. "Just stand on your own dignity." Churchill rose to speak, pausing only long enough to whisper to the colleague, "I know of no instance where a man added to his dignity by standing on it."

* * *

The Australian journalist Saphir met an enemy in a narrow passage, and on the enemy remarking, "I will not make way to let a fool pass," pressed himself against the wall and said, "But I will."

* * *

Mr. Coolidge, the ex-President of the United States, never wasted a word. One Sunday morning, when he came back from Church, someone asked him, "What was the sermon about, Mr. President?" "Sin," said Mr. Coolidge. "And what line did the preacher take, sir." "Against," said the President.

* * *

Asked one day whether she understood her husband's theory of Relativity, Mrs. Einstein hesitated a moment, then replied with a slow smile, "No, I don't understand it. But what's more important to me, I understand Mr. Einstein."

* * *

A beautiful lady wrote to Shaw from Zurich pointing out that he had the finest brain in the world, and she had the finest body, and proposed for the sake of posterity that they should unite to produce a wonder-child inheriting her beauty and his brains. Shaw replied in a post card: "Ah, but suppose it were to inherit my beauty and your brains?"

Additional's Oration.

(WITH DUE APOLOGIES TO SHAKESPEARE)

Friends, ladies and gentlemen, lend me your ears;
I Come to praise the Red Fort, not to condemn it.
The failures that men face here,
Are but the stepping stones to success;
So let them be with the brave additionals.
The noble examiners have told us, we were bad;
That we had made some grievous faults,
And grievously we bear the repercussions.
Here under leave of editors and the rest—
For additionals are intelligent men,
So are they all, who passed in their maiden attempts—
Come I, to speak, a few words of consolation
For all those sad additionals, who plod their way
Back to this 'awe-inspiring' "Red Fort";
For in comforting them, I can find a way out.
For all my inherent grief's not on becoming an additional,
But to think of those helpless nights to come,
To burn the midnight oil in vain,
To consume those thousand pages and more
With reluctance—for is it not a subsequent attempt?
And with all these severe ordeals we leave,
The rest to lie snug and warm, in God,
For it is He, who helps those who help themselves!

—*S. GANARAJAN.*

We leave it to you to decide.....

Lover, Lunatic or Poet ?

R. RAMAMURTHY.

THANK God, I had caught it..... The third bell had gone, the guard had waved the green flag and whistled and the big black engine with a tremendous sound and fury had started steaming out of the platform. I had run along like one chased by a pack of bloodhounds and had at last succeeded in shoving myself safely into the compartment.....

I studied my surroundings behind the camouflage of the newspaper. The third class compartment was as usual hot, stuffy and packed with human beings to capacity. A police constable was sitting opposite to me, short, strong and solidly built but inclined towards adiposity. Next to him, near the window, sat a young, slim, tall gentleman, laden with a strange dignity, grace and wistfulness that even the most phlegmatic observer would have liked to strike a life-long friendship with him. He wore expensive tweeds, well-tailored but ill-worn. He must have had his hair dressed by the most fashionable hairdresser in the city but it was not particularly well-combed and was falling all over his broad forehead like that of a tragic actor on the stage. He was, of course, clean shaven. A peculiar poetic gleam was in his eyes. I have never before come across such magnetism in any single pair of human eyes, boy's or girl's. Certainly I said within myself, he must be a famous poet or an ace actor, the heart-throb and idol of millions of film-fans all over the country. I didn't want to be impressed by him but I knew I was already impressed. I wanted to forget all about him and look into the daily news but I had already decided that he was the most unforgettable character I had ever met. I could not think of him as one who travelled in the third class as most of us do, just because there was not a fourth. He did not at all fit in with the drab surroundings, with the petty proletariat, with the stench of their perspiration and the offensiveness of their breath. Perhaps I consoled myself, he must have condescended to travel with the mob to study life first hand for his forthcoming poem or film.

I was dying to talk to him but I knew not how to open the attack. The usual conversational stand-by, the weather, looked too trite a subject and that was all I could think of then. So I merely coughed and cleared my throat which didn't need any clearing just then but he was looking out through the window, thoroughly oblivious of his neighbours, as though they had never existed, as though he were in the mob and yet out of it.

Suddenly he leaned forwards and gave me a stiff but courtly little bow. I flushed. I was taken aback. I was startled. I must have been staring at him for several minutes as though he were a strange animal in a zoo and he must have thought me extremely rude. I nodded with a good deal of embarrassment but the next minute he was straining my neck through the window and shouting wildly : "Look at those beautiful mountains, their peaks shining in the sun! Don't they remind you of something ?". He understood my perplexion and predicament. "What, my dear man", he cried exultingly, releasing my neck and patting me on my back, "Don't they remind you of a woman's breasts? Look". I looked again at the mountains glistening in the distance. They were like huge molehills, rounded, firm, smooth and they rose abruptly from the plain. I was struck at the extreme resemblance between a healthy, well-built woman's breasts and the mountains. I looked at him with a new reverence. I was trying to take in the mysterious working of a poetic mind to which I had just now been initiated. At the same time I congratulated myself that I had not been wrong in placing him.

I had barely overcome my surging feelings of deep thankfulness to Providence which had thrown us together when I felt his excited hands upon my shoulder for a second time. "Look", he was pointing through the window at a cow grazing lazily in the meadow, "Doesn't its long graceful tail remind you....?" My mind was a complete blank and I was eager to hear him. "Surely it must", he protested. "It reminds me of a girl's long, lovely plaits of hair, swinging gracefully when she walks". Poetic frenzy was in his eyes and he slowly recited :

Snaky plaits in their sinuous dance
Sweep my soul to eternal trance.....

The train stopped at a wayside station. A peasant girl brushed past us, selling mangoes. The poet called her and picked out the best fruit of the lot and was soon lost in a trance He gazed at it with an intense longing, petted it and patted it ever so gently. Suddenly he stroked her cheeks with both his hands so passionately that nobody was prepared for that sort of spontaneous, unpremeditated public demonstration of affection.

To tell the truth, we were scandalised, all except the policeman. A blockhead, I thought, fit only for that profession. But it was to him that she appealed against the offensive behaviour of the poet only to be asked rudely to go her ways. I couldn't understand. She broke out into a violent, vituperative, obscene language which I can't of course put down on paper. After she had gone and her strident voice had died down in the distance, I made bold to ask the poet why he should have behaved like that. Pat came the reply; "Didn't the healthy roseate hue of the mango suggest to you that of the buxom wench's chubby cheeks?"

It was getting dark. I couldn't see his face clearly in the gathering darkness. I left him to his meditations. Suddenly the lights were on, far and near, in the compartment and in the streets. His eyes were filled with unshed tears. Poetic rapture, rare ecstacy, I mused within myself. Suddenly, he grabbed me and he was pointing to two lights, glimmering in the distance. "They are like a pair of maiden's eyes beckoning me for ever and for ever to come into the mysterious darkness beyond. Oh Love, I am coming, I am coming...." he muttered and before I could realise what had happened, he had rushed to throw himself through the window and the policeman had caught him by his ankles and hauled him in.

Handcuffs descended upon the poet's wrists. I watched the proceedings with a curious dazed feeling of having been knocked down on the head and I could't make head or tail out of them. "What is the matter?" I mangaged to ask the constable, when I recovered sufficiently from the shock of recent events. "The gentleman is a lunatic, Sir," he whispered in my ear. "Unrequited love. Always pondering and prattling of the girl who deceived him. This, his third attempt at suicide, Sir. My foolishness not to have handcuffed him earlier. But he tipped me heavily and begged to be left free at least in the train. We are transferring him from the Government lunatic asylum to a private countryhouse. There he would be under the personal supervision of eternally vigilant attendants, expert doctors and a sweet nurse who has agreed to act as the girl he had loved, during the period of treatment. Very kind of her indeed, Sir."

The train sped fast. They—the policeman and the poet, lover or lunatic, call him by whatever name you will,—got down at the next station. The latter thanked me for the nice evening and bade good-bye and I wished him Godspeed. When I collapsed in my seat wondering on love, lunacy and poetry, I found myself recollecting involuntarily Shakespeare's immortal lines in *A Midsummer Night's Dream:*

"The lunatic, the lover and the poet,
Are of imagination all compact...."

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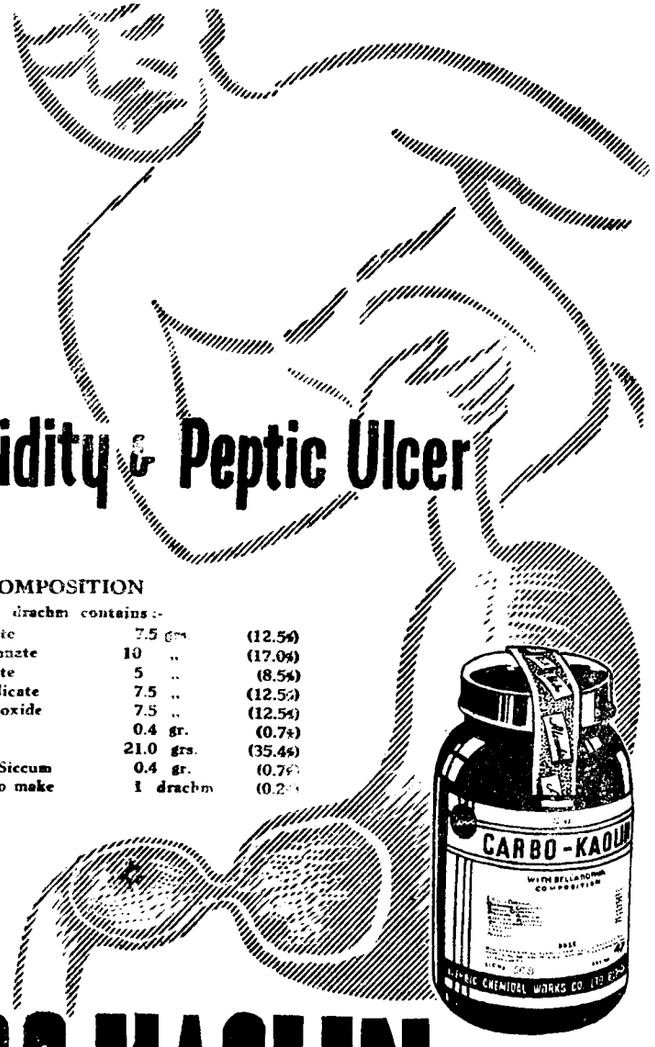

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Dr. Dinkar Rao — An Appreciation

Lt. Col. C. R. KRISHNASWAMI, M.S.

FORTY years ago, an accidental meeting of Dinkar in a cricket field ripened into a warm friendship in the course of years when fate threw us together in our collegiate and early professional career. Tall in stature with a long reach, his early promise of excellence in the game of cricket was not fulfilled. Yet it must be admitted that his conduct in life was cricket excelsis.

Quite unlike a set of students who run away with all the prizes in schools and colleges and appear to have come to the end of their tether when entering life, the late Dr. Dinkar Rao, though he did not show early promise of academic greatness, applied himself intensely to his studies at the Medical College. After his first year in College, he gave up cricket as being a time-consuming pastime.

As prosector in Anatomy, he was stimulated to put forth his very best in dissections. That was no wonder for he was after all the son of his father, Dr. G. Rama Rao, the first Indian Professor of Anatomy in the Medical College. He was a steady plodder from the beginning of the year to the end. There was nothing brilliant about him.

The outstanding traits in his character were his transparent sincerity and honesty, his intense loyalties and an irreproachable code of ethics he laid down for himself both in his professional and personal conduct.

At the time we were at college together, we could not but be influenced by two high-souled teachers we had at that time,—Elwes and Ingram. Elwes had a wide practice but it can never be said of him that at any time he turned his position in the Hospital to any personal advantage. In spite of his extensive practice he was punctual to the

minute in his attendance at the Hospital where his clinical lectures were eagerly awaited for by the students. Dinkar inherited two traditions from Elwes, *viz.* his irreproachable professional morality and his lucidity of clinical lectures, invaluable to the students appearing for an examination.

I hold that it is a wrong move to see the clinical lectures conform to type-design and that it is good for a student to come in contact with a teacher who will lead him forth in intellectual adventures, before his mind becomes rigid, as of necessity it must in many cases when once he leaves the academic atmosphere of the college and engages himself in the hard battle of life. Ingram did this and he scorned practice which, he was afraid, was a very hard task-master and robbed one of the pleasures of intellectual meditation and speculation. Dinkar Rao inherited from him a devotion to the subject and an indifference to power and pelf.

His reverence to his father who doted on him and his anxiety to be by his side in his last days were in part responsible for his refusal of a Commission in the Indian Medical Service.

Some persons change beyond recognition as years roll on. It was a great surprise to many who knew him intimately in his early days to notice the cheerful, boisterous, happy-go-lucky-lad-type of Dinkar turning into a sedate and religious-minded individual.

By ordinary accepted Indian standards, Dinkar Rao must be deemed a happy man since he led a life of supreme contentment and while being fondly attached to those very near him, yet a life of philosophic detachment.

I have no doubt that Dr. Atmaram Rao, his nephew to whom our condolences go, will carry on the traditions of the " Acharya paramparai."

The ideal way in which the students of the College can revere his memory is to emulate his noble example of high professional rectitude.

—★—

IN MEMORIAM

(Block kindly lent by S.M.C. Magazine Committee)

Dr. G. R. DINKAR RAO, M.D.,

Professor of Medicine, Madras Medical College,
Principal and Professor of Medicine, Stanley Medical College.

IN MEMORIAM

Dr. G. W. ROBERTS, B.A., M.B.B.S., M.Sc.

Born: 1st October 1902.

Took his degree from Madras Christian College; Graduated in Medicine and Surgery from the Madras Medical College; House Surgeon, 1932; Demonstrator in Physiology, '36; Asst Professor of Physiology, '39; Got his M.Sc. in '45; Addl. Professor of Physiology, '48; Professor of Physiology, 1950.

Died: 10th September, 1951.

In his untimely death, we have lost a great teacher and a kind friend. He leaves behind his wife, a daughter, three sons and a large circle of students, friends and relatives to bemoan his irreparable loss.

"MAY HIS SOUL REST IN PEACE".

Dr. Roberts — A Kind Friend

N. INDUMATHI.

"From Heaven he gained 't was all he wished—a friend;
And to Heaven he gave 'twas all he had—a tear".

IT is with infinite regret that I take up my pen to write a few words in memory of one who was the kindest friend I ever knew. The late Dr. Roberts was such a large heartedman that it was impossible to dislike him. It can be said of him that he was the best friend a student ever had. Outwardly, in his domain, he was a terror and students would quake in their shoes when they heard his imperious voice ringing out, "Madam, you are the professor of physiology; come on, tell me what this means." and the like. The saying that the cloak hides the man inside was a hundred times true in his case. Inwardly he was an ocean of kindness, of affection and of goodwill. To him the student was no automaton whom you spoon-fed till he felt sick. He realised fully the plight of the students and knew too that it was real learning which they stood in need of. If your answer showed that you had understood the subject, it would give him obvious pleasure.

I remember one bleak November day during the first year of my life in this college. I sat at my table so dispirited that I scarcely looked into the microscope, thinking what a wilderness was this place where you could not get one good friend to cheer you up. At that moment suddenly I heard him say to me, "Madam, What ails you? You seem to have no joy left in life. Come, Come, this won't do". I cannot tell you now what a lift those words gave me then but I can say how happy I was to have found one kind friend atleast.

Another time I was ever so excited about something I had managed to isolate by teasing (What an unpleasant task it is!) I felt like crying out "Eureka!" when he came up majestically as usual and said, "What have you got there which pleases you so much?" He stopped to examine what was to me a most wonderful discovery. He understood my enthusiasm

and was as much pleased as I was. I can remember to my dying day how pleased he used to be whenever anybody turned out anything good. He had faith in us which made us feel that we should work and succeed for his sake atleast, as our successes were his too. But good things do not last long and it was so with him and us. It is a treasure that the students have lost for he understood them all and, what was most important, he had implicit faith in them all. May his soul rest in peace.

—★—

FAMOUS LAST WORDS

1. *Beethoven (deaf)* : "I shall hear in heaven."
2. *Goethe* : "Light, more light."
3. *Mozart* : "You spoke of refreshments, Emilie; take my last notes and let me hear once more my solace and delight."
4. *Nelson* : "I thank God. I have done my duty. Kiss me, Hardy."
5. *Palmerston* : "Die! My dear doctor, that's the *last* thing I shall do."
6. *Anne Boleyn* : "The executioner, I believe, is very expert and my neck is very slender."

CURRICULAR:

List of successful candidates who have passed the Final M.B.B.S. Examination held in December 1950.

1. Abdul Muqaddam Muazzam.
2. Abdur Razaq, K.
3. Abubecker, P. U.
4. Appaji, K. K.
5. Azeezur Rahman, J.
6. Bajaj, U. K.
7. Balsalam, N.
8. Chakrapani, K. P.
9. Delip, K.
10. Fritschi, E. P.
11. Gangadhara Rao, M.
12. George Mathew, R.
13. Gopalachari, K.
14. Gowrisankar, R.
15. Haq, S. M.
16. Ibrahim, T. M.
17. Janardanan Nedungadi, V.
18. Joseph Muthiah, R.
19. P. S. Kameswara Rao.
20. Kashmiri Lal.
21. Krishnamurti, K. A.
22. Krishnan, P. S.
23. Krishnan, R.
24. Lakshmipathy, C.
25. Man Mohanlal Kapur.
26. Manuel, P. R.
27. Mathen, K. K.
28. Mohd. Ali Khan, A.
29. Mohd. Sultan Mohideen.
30. Nand Lal.
31. Narasimha Rao, K.
32. Om Prakash.
33. Palaniswamy, S. S.
34. Palaniyappan, N. S.
35. Pradhan, G. B.
36. Radha Sham Narang.
37. Ramaswami, N.
38. C. Rodricks.
39. Syed Basheer Ahamed.
40. Sankaran, P. S.
41. Sankararam, R.
42. Sivalingam, M.
43. Srinivasachary, P.
44. Subbayya, B.
45. Subrahmanyan, K. S.
46. Thomas, C. J.
47. Umapathi, A.
48. Varendra Mohan.
49. Alamelu, C.
50. Kunjan Lalitha.
51. Leela, N.
52. Padma, K.
53. Radha, C.
54. Sarojini, C.
55. Saraswathi, A. M.
56. C. Suseela.
57. Vani, C. P.

—★—

List of successful candidates who have passed the Final M.B. & B.S. Examination held in April 1951.

1. Ahuja, M. T.
2. Ayyaswami, K.
3. Chandrasekharan, S. R.
4. Chandrasekharan, C. J.
5. Chandrasekharan, K.
6. Desmond, J. W.
7. Ganeshkrishna Pai, C.
8. George, K. P.
9. Ghulam Muhammad Yahya
10. Gnanamurti, G. K.
11. Gopala Rao, H.
12. Goulding, M. D.
13. Hari Prasada Rao, G.
14. Jamal, R. P.
15. Jayaramachandran, K.
16. Kameswara Rao, V. V. S.
17. Krishnan, S.
18. Kusalappa, C. K.
19. Lopez, J. F.
20. Mallikarjuna Rao Naidu, C.
21. Muhammad, U.
22. Murtivelu, K. V.
23. Muthu Aloysius Kasturiraj
24. Nanjappa, A.
25. Palaniswamy, V. R.
26. Rajagopalan, K.
27. Ramachandra Reddi, A. B.
28. Ramaswami, T.
29. Rameshwar Nath
30. Rangan, V. L.
31. Ranganathan, K. V.
32. Saldanha, M. J.
33. Sankaralingam, C.
34. Sath Pall, D.
35. Shanmugasundaram, S.
36. Sivaramakrishna Rao, P.
37. Sridharan Nayar, K. G.
38. Srinivasan, N.
39. Subbaratnam, G. G.
40. Subbarayudu, C
41. Subramanyan, K. N.
42. Surendra Nath Bagga
43. Suryanarayana, A.
44. Thomas, V. K.
45. Thomas Mathew, K.
46. Thomas Varughese, K.
47. Thiruchitrambalam, K.
48. Vali Mohiddin
49. Varadarajulu, N.
50. Viswanatha Menon, V.
51. Viswanathan, V. K.
52. Visvanathan, P.
53. Yogindar Singh Varma
54. Ammu
55. Bhavani, K.
56. Bimla Anand
57. Chinnadurai, Sophie, L.
58. Faiz Jehan
59. Francis, Thangam
60. Kamalamma, V.
61. Lakshmi, M. V.
62. Lalitha, P.
63. Lalitha Bai, M.
64. Padmakumaran
65. Pinto Irene
66. Rajamma, K.
67. Rambai Mudaliyar
68. Samamtakam, M.
69. Suguna, V. V. G.
70. Vedamanickam, E. E. Sarojini
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4. The Sibthrobe Second Prize	*Virendra Mohan*
5. The Frice Memorial Prize	*P. S. Sankaran*
6. The Chandrasekhar's Comrade Prize	*K. A. Krishnamoorthy*
7. The Allan Evan Grant Prize	*K. A. Krishnamoorthy*
8. The Bradfield Prize	*K. A. Krishnamoorthy*
9. The Dr. Thambiah's Prize	*U. Mohammad*
10. The George Smith Prize	*Man Mohan Singh*
11. The McMally Memorial Prize	*Man Mohan Singh*
12. The Dr. K. V. Bhat Memorial Prize	*Mrs. Susila Rajagopalan*
13. The Bannerman Prize	*R. D. Stevens*
14. The Dr. G. V. James First Prize	*B. Vasudeva Rao*
15. The Dr. G. V. James Second Prize	*N. Yathindranath Rai*
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4. The Savalai Sethuram Gold Medal For proficiency *In Diseases of Children*	**Virendra Mohan.**
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6. The Seetha Bai Gold Medal *For the Best Outgoing Countees of Dufferen Fund Scholar*	**Miss Faiz Jehan.**
7. The Lady Grant Duff Gold Medal *For the Best Outgoing Woman Student*	**Miss C. Radha.**

Sports Review

R. J. RAJASEKHAR,

Sports Secretary.

TIME was when a review of the sports activities of the M.M.C. could be compared to some shining page in history, victories on every field, defeats unheard of. One could almost see visions of our gallant boys and girls in black carrying all before them.

But, alas, the Hygiene block, growing up like a malignant tumour, has knocked two Tennis courts out of existence. Not satisfied with that, it has encroached into our Foot-ball field also—so much so that we can now boast of a crooked Foot-ball field the like of which, I am sure, can be seen nowhere in Madras. Our ancient demand for a pavilion and a dressing room continues to fall on deaf ears. But, worse than all these, is the woeful lack of enthusiasm seen everywhere, on every field of sport The dull uncomprehending look of apathy whenever anything remotely concerned with sports is mentioned seen on some of the newer faces is heart-rending to most of the old timers.

One remembers how, in the years gone by, every fresh Pre-ref batch used to be studded with stars in different games. Even of late, they have been trickling in ones and twos. This year, in spite of the selectors declaring that sportsmen have been given a very high priority on the selection list, there is not a single outstanding one admitted into our college and what with most of the good sportsmen passing out with monotonous regularity, standards keep falling and they have reached an all time low-level this year.

FOOT - BALL

We of the M.M.C. are the possessors of a proud Foot ball heritage, but when about seven of the College eleven leave in the course of one single year, naturally, we should be prepared for reverses. One misses

smiling Visvan who scored goals as easily as he stole hearts ; Valiant Reddy and stalwart Matthew who formed a virtually impenetrable last line of defence, Diminitive Dilip and speedious Shanmugasundaram, who were a nightmare to all the other teams in the City and half-back Subramaniam, whose skilful heading has saved us many a time from defeats. Around a nucleus of a few players left, skipper Velusamy has laid the foundations of a team which, although it has not done too well so far, ought to find its feet soon and come out with flying colours. Madavan, as a dashing State centre-forward, has rocketed our prestige sky-high. We hope that we can boast of a Medico centre-forward for the forthcoming Olympiad. Chandra, representing the 'varsity for the last two years, is our outstanding forward. On the home front, Kailasam and captain Velusamy are keeping the opposing forwards at bay. Subramaniam, our new custodian, shows promise of becoming really good. All credit to them for the fact that only 5 goals have been scored against us so far. We have our martyrs in Jayakumar, K. Ramakrishnan and C. Palanisamy who have all fractured at least one bone in the interest of our College Football. Our sympathies to Palanisamy who had to sacrifice his examination due to a fractured Scaphoid.

BASKET BALL

Strolling into the Hostel any evening, one sees quite a few people hard at this game. This enthusiastic band constitutes one of the teams which has brought in most laurels for the College. This team has been doing consistently well for the past so many years. Last year for the first time in our history this team romped home with the Bertram Memorial trophy, the blue riband of the game. This year, however, we went down fighting in the finals. We should admit that we lost to a better team though we were a bit unlucky. It was in this tournament that we felt the loss of our wizard Gurupatham whose superb artistry was a bug-bear to the best of defences and the sterling defence of our brainy back Palaniapppan, at whose uncanny anticipation, many a trained eye wondered. They have passed out but all of us have a vivid recollection of Gurupatham cutting circles round the opposing defence and Palani possessing the ball just when the opponent thought it was in the basket. We have quite often felt the need for Dhanda when a few heavy fellows got a bit tough. As for this year the team has won all the matches in the zone. Incidentally we may mention that we beat our old rivals, The Law College in their own den.

It is extremely difficult to pick and choose from amidst such a galaxy of talent. We must however commend the indomitable spirit and immense resourcefulness of our grand old man, Ganesh who is a source of

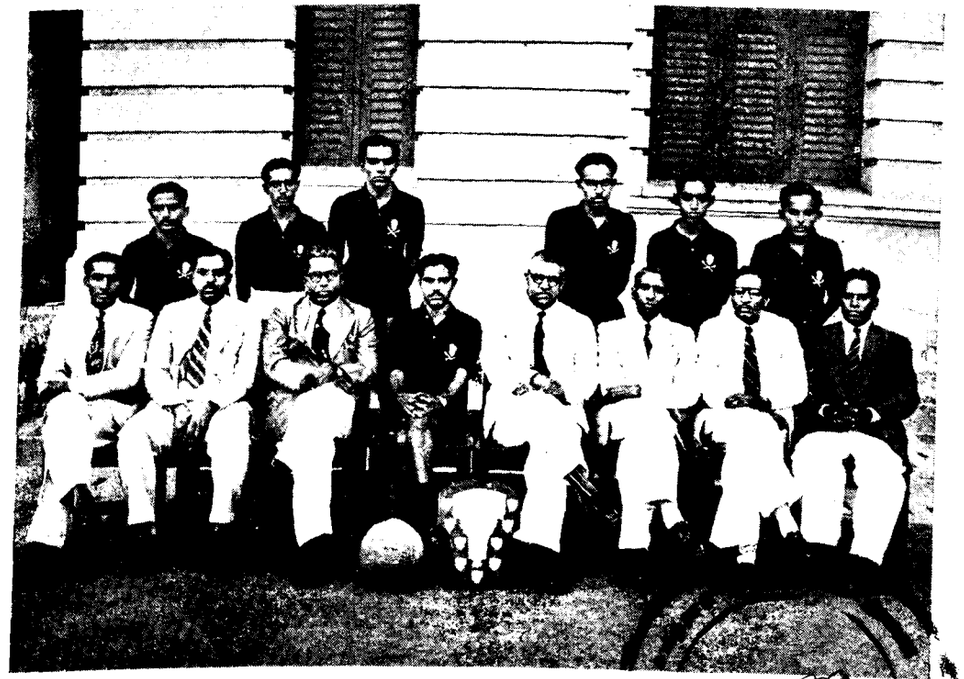
inspiration to all. The sharp shooting of Koshy, Khan's thrust and Kingsley's shock tactics have many a time carried the team through. Skipper Jayakumar is our best all-rounder who can at a moments notice ably pierce through the toughest defence and foil the attempts of a team of fast forwards. Thyagarajan, our old skipper still remains our tactical adviser. Mohanraj and Ramaswamy still need a bit of experience after which they will be pretty dangerous. Rajasekhar's return to shooting form is quite an asset to the team.

CRICKET

Our cricket team had a very successful season last year though we lost to the formidable Presidency team in the finals. We continue to do well this year and are in the running for the trophy. Jagesia won the cup for the best batsman last year and Ashgar Ali, the cup for the best bowler. Our left hander, Wilson, with his polished game, has many times saved the team from disaster. Our skipper Vaidyanathan can be deadly with both the ball and the bat, and these two practically carry the team entirely on their shoulders now that Gopinatha Rao and Krishna Rao are unable to play. Rajagopal's hard work, keen enthusiasm and willingness to learn should be an object lesson to the slackers. Mani's breezy knock and hectic sixers have many a time pulled us out of a tight corner. We have a few promising youngsters in Nayak and Kondal Rao. Korah has been quite consistent as an opening bat. Vaidyanathan's scintillating century must have caught the selector's eye to secure him a place in the university team. The high-light of the last season was the Ceylon tour Though our players were not successful on the field, they did a lot to establish good relations and enhance our prestige on the isle. The team deserves some luck this season and let us all wish them the best.

TENNIS

Gandhi has been our best player since the days of Sampath and Poornan and we are really sorry that his services are not available this year. His powerful backhand often proved to be a nuisance to some of our state players. Our moderate successes in the last season were mainly due to the efforts of Gandhi, ably assisted by the brilliant doubles play of Veeraraghavan. K. T. Matthew could be a tough opponent if he got into form. This year, with the exit of Gandhi and Matthew, we have not fared well in spite of the keen enthusiasm of our Captain, Engineer cum 'Doctor' Rao. Lack of practice and of facilities are contributory causes for our failure. The only available court is overcrowded and humming with activity from 2 to 7 p.m. The net-ball court in the neighbourhood seems to be partly responsible for this burst of enthusiasm.

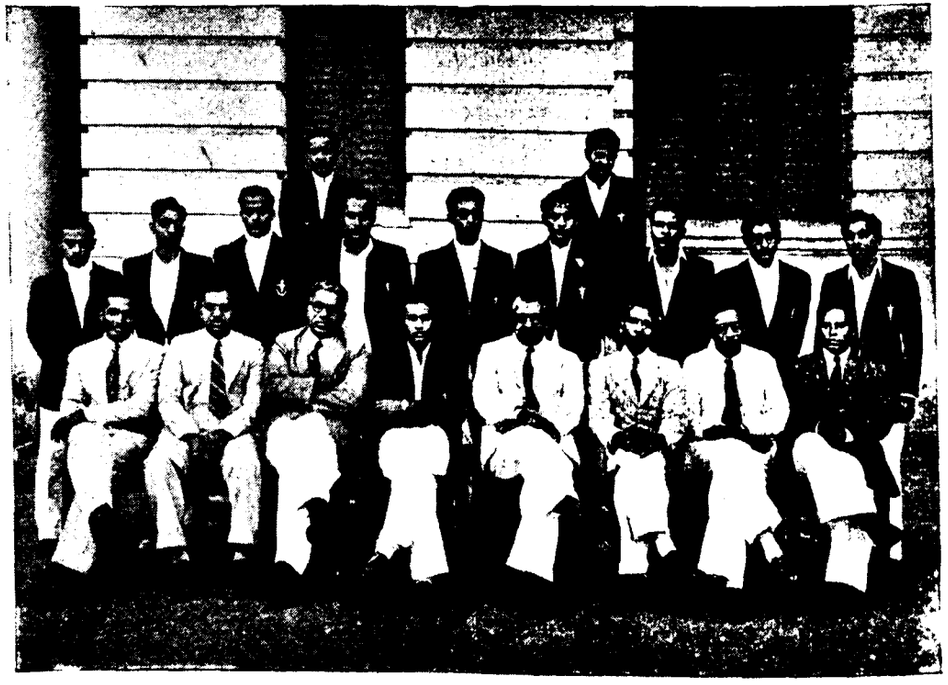


BASKET-BALL

Winners of the Bertram Memorial Tournament.

FOOT-BALL

League Champions for the third year in succession.



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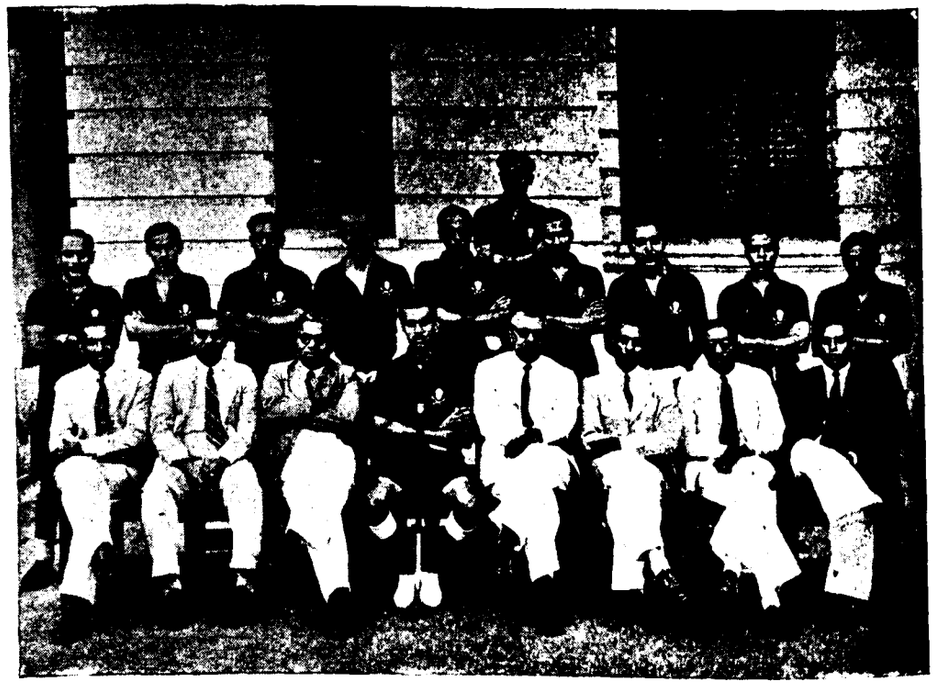
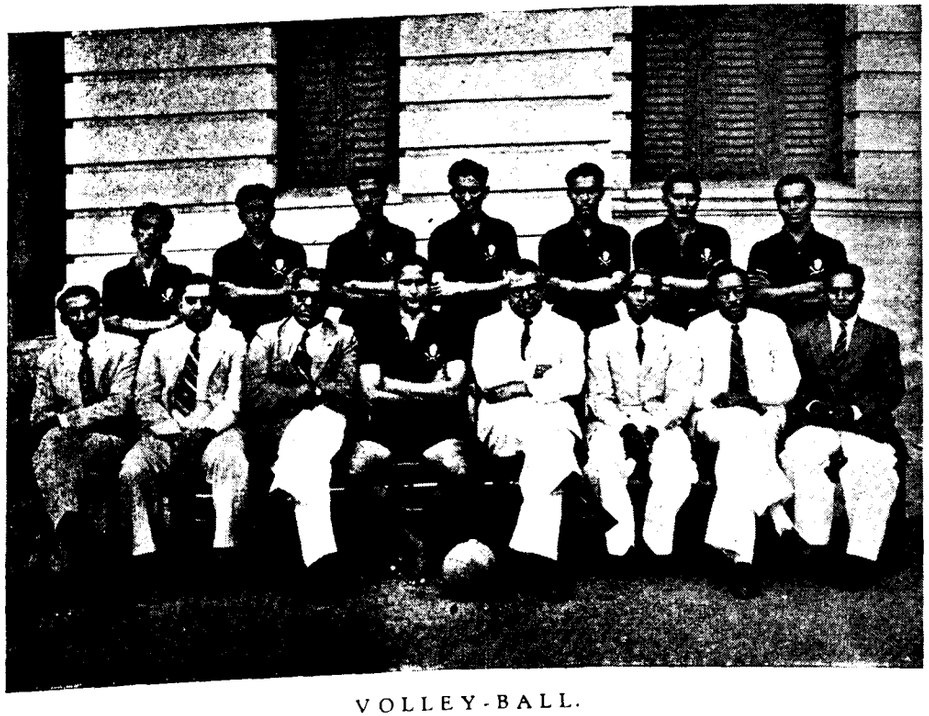
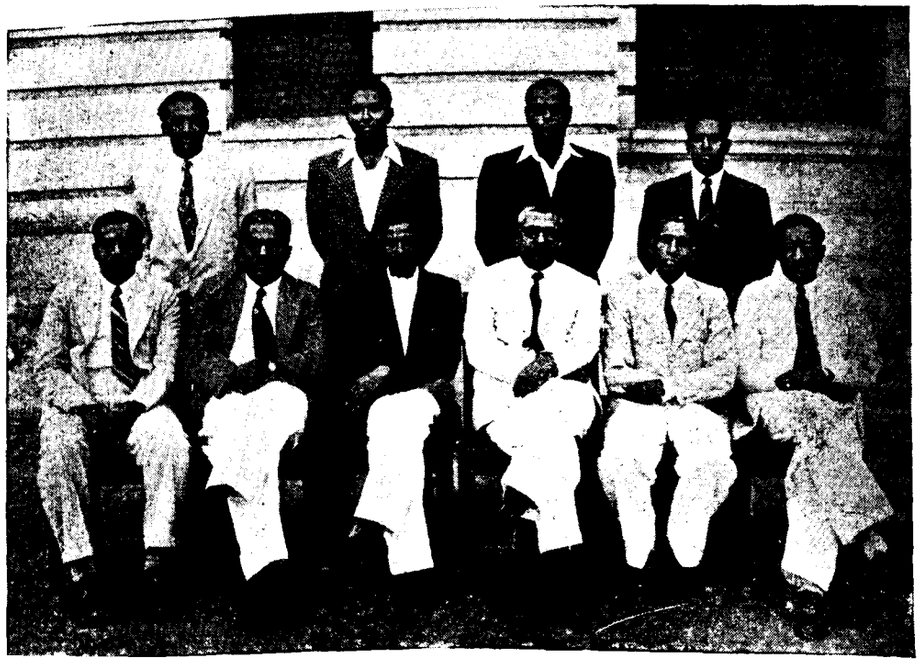


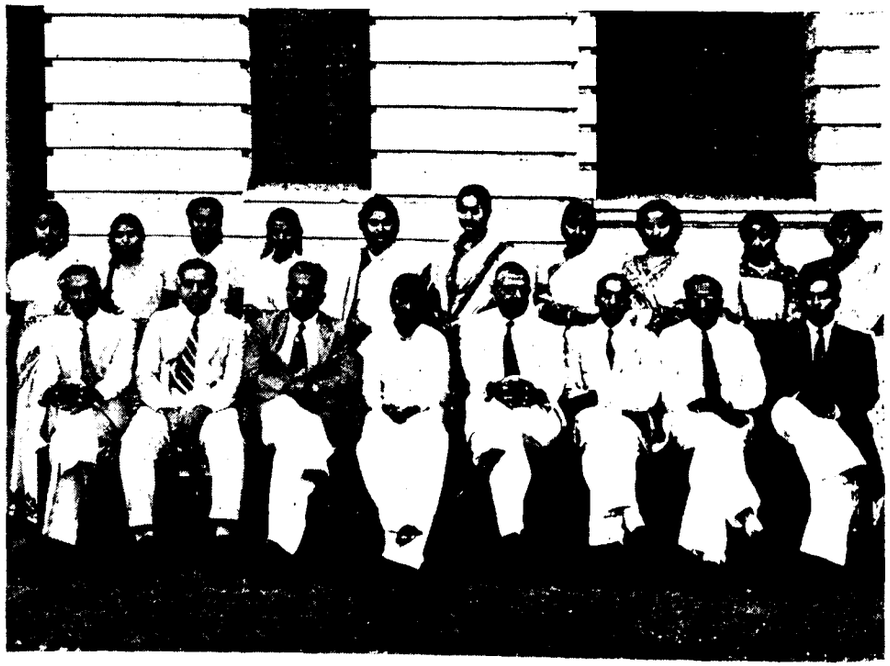
HOCKEY.



VOLLEY-BALL.



TENNIS.



LADIES' TENNICOIT AND THROWBALL.

HOCKEY

The Hockey team has been hard-hit by the passing out of such stalwarts as Goulding, Desmond, Rodrigues etc. but nevertheless, it carries on the great traditions set by Cullen and others. Sunderrajan's mastery with the stick at the centre-forward and Chandrasekhar's artistry at centre-half have been mostly responsible for our victories. Belliappa in the first line of defence and skipper Asirdas in the last line of defence have been working hard for the team This team has the largest number of promising youngsters,—Kalappa, Prakash, and Rajkumar Das among them. The custodian Kuruvilla is as impenetrable as ever. The team has lost only one match this season and still has a fighting chance of winning the League Championship.

VOLLEY—BALL

Lack of enthusiasm was a feature with regard to this game and it was responsible for whatever reverses we might have suffered in the past. We ought to have carried all before us with Krupa Rao and K. C. Mohammed, our representative in the University Team, leading the attack with the able assistance of Skipper Subramanyam and freshers, Subbian and Kadirvelu. But it was not to be and we went down fighting in the League Finals. Our players this year are very keen and the credit is entirely due to the new skipper, Viswanathan's enthusiasm. We are in the run for the League Championship. Velayudhan Pillai and Shivji are sure to shape well with a little more experience.

THROW—BALL AND TENNICOIT

Conscious of their role in a free and independent India, our girls have been very enthusiastic of late. The throw ball team has been considerably weakened by the loss of Satyaseela and Savitri who have taken to studies more seriously. Sogra Bi, last year's skipper is the outstanding player in the team. Saroja Uthaya and Gowri did well in Ring Tennis. These two teams have not been faring very well this year but are surely not discouraged by their reverses. They are venturing out to new lands to play new games. A new net-ball court has been specially created for the occasion and the ladies are receiving intense coaching prior to their overseas trip.

TABLE—TENNIS

Dhanda and V. V. V. Menon have left quite a void to be filled up but Veeraraghavan still remains as good as ever. A number of our players entered the Loyola College tournaments and Veeraraghavan was unlucky to go down in the quarter-finals.

ATHLETICS

No other branch of sport is perhaps so neglected as this. Old timers like Krupa Rao and Rajasekhar have almost retired from the game. Good old Wilson's sincere training is still an example to one and all. The passing out of Desmond and Shanmugasundaram has made the field look vacant. It is in this field that one and all have the best chance of making a mark and, I am sure, Rajkumardas, Jayakumar, Subbian, K. C. Mohammed and a host of others will emulate the oldtimers and keep our banners flying.

Before closing the review, I earnestly request one and all to show keener interest in sport. Take to some game or, if you cannot, at least encourage others to do so by turning up in large numbers when any match is on.

*

ADVERTISEMENT FUN

Babies' Feeding Bottle :—"When baby is done drinking, it must be unscrewed and laid in a cool place under a tap; if baby does not thrive on fresh milk, it should be boiled".

* * *

Wanted:—By an unintelligent, somewhat lazy young man, an employer who will take a chance.

* * *

Wanted:—A grand piano for a lady with beautiful carved legs.

* * *

Porcelain Baths:—"A lucky thing for Moses that pharaoh's daughter didn't have a porcelain-lined bath, for with that acme of perfection she would never have gone outside to wash herself; Moses would have lingered in the bulrushes, the Israelites might still have been in Egypt, and the whole history of the world would have been altered".

* * *

For Sale:—a pair of hyena cubs; will quickly become attached to their new owner.

6th Madras Medical Coy. N.C.C.

Cdt. R. RAMAMURTHI.

OURS is a composite company of sixty strong, thirty from M.M.C. and thirty from S.M.C., the only organization where members of both the colleges live and work together, their healthy rivalries in the fields of Studies and Sport notwithstanding.

During the year, 1950-'51, there were 106 periods of which the seniors had 50 on military and 56 on medical subjects; and the juniors 85 and 21 respectively. The parades were attended fairly regularly by the cadets but still a lot can be improved in the matter of regularity and punctuality. Being a purely voluntary organization, once the cadets make up their minds and join, they should also make it a point to be regular, punctual and disciplined.

45 cadets attended the Annual Camp held from 19th December '50 to 2nd January, '51 at Arkonam along with the 1st Madras Batallion N.C.C. The camp site was very spacious and the accommodation more than adequate, each cadet having at his sweet disposal not one but actually three cots to sleep on. The messing facilities were good. But one really wished that a little more attention has been bestowed on the lavatories and the water-taps.

The early rise followed by the physical training, the parades in the mornings, the lectures in the afternoons, the outdoor and indoor games in the evenings, the chit-chat in the nights before going to bed for another strenuous day of work and play, were all really very enjoyable and instructive, building up our muscles as well as our minds. We went on a Range and a Route March, all faring well and there being no casualities. When we returned from the Route March (10 miles), we were light of heart, though heavy of legs.

Towards the end of the camp, the Senior Cadets appeared for the 'B' Certificate examination. The examination board consisted of Major. L. K. Ananthanarayan, AMC., D.A.D.M.S., Madras Area, Capt. M. Munuswamy, N.C.C., and Jem. John Peter, Madras Regiment, 1st Madras Inf. Bn. N.C.C. It resounds to the credit of the examinees as well as the examiners that all the 13 cadets who appeared for the examination passed, with two of the M.M.C. obtaining distinction.

During the Camp, most of the Ministers of the Madras Cabinet visited our camp so much so that ceremonial parades became a matter of every other day with us. The Surgeon-General with the Government of Madras, The Dean, Govt. General Hospital and Madras Medical College, the Principal of the Stanley Medical College, the Vice-Principals of both the Colleges, and Dr. C. Raghavachary, Professor of Surgery, Stanley Medical College, came to see us while we work and while we play. These distinguished visits were a source of boundless inspiration and encouragement to us. It is with great pleasure that we note that one of the criteria for admission to professional colleges this year was whether you were in the N.C.C. or not. But, like Oliver Twist, if we ask for more, it is because we feel justified and fit for greater recognitions which are bound to come.

The Annual Day of the Company was held on 5th March, '51, when Col. Phlajani, A.D.M.S., Madras Area presided and Mrs. Phlajani distributed the prizes and the certificates.

This year we could not have the services of Capt. R. Anantha-narayan, NCC, as he had to go overseas on study leave. Instead, we are having with us Capt. M. Munuswamy, B.A., M.B., M.S. as our Second-in-Command who is the very moving spirit of the Company and whose energy and enthusiasm are infectious. He is one of those who firmly believe in Napoleon's dictum that an army marches on its stomach. If to-day we are getting a sumptuous tiffin and a steaming, hot cup of coffee in between our parades, we certainly owe it to his uncanny knack for finding out what exactly we lack and providing it for us. Our Officer-Commanding, Capt. V. D Paliwal, continues to be the same, sweet, smiling self who prefers commanding by his extreme suavity of manners to an empty show of authority. Jem. Rajaram, our chief instructor, deserves a bouquet for his painstaking instruction, demonstrations times without number and for his happy spirit of comraderie combined with a rare firmness and tact. Our grateful thanks are due to them and to the Dean, Madras Medical College, the Principal, Stanley Medical College and the Vice-Principals of both the Colleges for having evinced a keen and kind interest in us, which, I am sure, will continue.

M. M. C. Cadets

Prize-Winners (1950—1951)

Distinguish

March Past on Independence Da

Themselves

AMP AT ARKONAM (Dec. '50)

Applying Thomas' Splint.

Aims and Ambitions.

Crawl and Carriage of Wounded.

The following cadets appeared for the 'B' certificate examination, all of whom passed :

1.	Cdt./CSM. P. M. Manisundaram*	....	(M. M. C.)
2.	Cdt./CQMS. M. A. Saleem	...	(,,)
3.	Cdt./L. Cpl. Sujat Ali	....	(,,)
4.	Cdt./L. Cpl. Madanlal*	...	(,,)
5.	Cdt. Manmohan Singh	....	(,,)
6.	Cdt./Cpl. T. Srinivasan	...	(,,)
7.	Cdt./Sgt. N. Padmanaban	...	(S. M. C.)
8.	Cdt./Sgt. N. Swaminathan	...	(,,)
9.	Cdt./L. Cpl. G. G. K. Ghori	....	(,,)
10.	Cdt./Cpl. Shivaji Nayak	....	(,,)
11.	Cdt./L.Cpl. R. J. S. Ganapathi	....	(,,)
12.	Cdt./Cpl. P. G. Mohan	....	(,,)
13.	Cdt./D. Cpl. K. C. Chadda	...	(,,)

*Passed with distinction

The following were the prize-winners :

BEST ATTENDANCE (Cent per cent)

Cdt./CSM. P. M. Manisundaram	....	(M. M. C.)
Cdt./R. Ramamurthi	....	(M. M. C.)

BEST CADET :

1949-'50—Cpl. J. W. Williams	...	(S. M. C.)
1950-'51—Cdt. Balakrishna Hegde	....	(M. M. C.)

WEAPON TRAINING :

Long Range :	Cdt. Venkateswara Sarma—First	(M. M. C.)
	Cdt/L. Cpl. R. J. S. Ganapathy-Second	(S. M. C.)
Short Range :	Cdt/L. Cpl. R. J. S. Ganapathy—First	(S. M. C.)
	Cdt/L. Cpl. Sujat Ali—Second	(M. M. C.)

BEST SQUAD :

Drill and turn-out : No. 3 Squad commanded by Cdt/Sgt. N. Swaminathan.

Interior Economy : No. 2 Squad commanded by Cdt/Sgt. N. Padmanabhan.

—★—

Our Cry for a New Hostel

FIRST, let the facts speak for themselves :

1835 .... The College was started but without a hostel.
1935 .... Centenary celebrations—Still no hostel.
1951 .... No sign of a hostel yet !

A Hundred and sixteen years—Two world wars, Our Independence. Whole cities born out of total ruins ; And yet, no place to call our own Are we to be ashamed or amused at this plight of ours ?

Not a single year has gone by without our knocking at the doors of authority for a hostel of our own, as close to the college as a hostel should be. It is in no way an unreasonable demand. We receive always sympathies, sometimes promises but never the hostel that we want. We continue to live as uncomfortably as ever,—far from the Hospital, far from the College, its library and playgrounds, with all the inconveniences of overcrowding, which are increasing every year.

"No Funds"—This has been the Waterloo of our hopes year after year. We sigh to think of the thousands of rupees paid as rent every year, when a new building would not cost us even half of all the money that has been paid away till now. Ministers have come and Ministers have gone, but our cause has remained the Cinderella among causes.

Now and then, we stare, green-eyed, at new hostels that spring up from younger institutions, but we are still hopeful and dreaming. We think, with pride and gratitude, of the many who seek to help us and are battling for our cause—our Director of Medical Services, Our Dean and many other well-wishers. But the neglect of a century cannot be remedied overnight and we write this article to lay emphasis, lest they forget.

VERGHESE CHACKKO.
General Secretary,
M. M. C. HOSTEL, MEN'S SECTION.

Proceedings of Madras General Hospital Clinical Society

Orthopaedic Dept:

A CASE OF COLD ABSCESS—LEFT HIP.

Mrs. aged 43 years, was admitted for a huge swelling, the size of a big pumpkin on the upper part of thigh extending from the groin to the middle of the thigh. The swelling was completely obliterating the greater trochanter. This swelling was warm and firm in consistency. The skin was stretched, the superficial veins were dilated and no fluctuation was elicited. Skiagram showed a pathological fracture of the neck of the femur with absorption of the neck. A clinical diagnosis of malignancy was made and deep x-ray therapy was advised. The patient got discharged against medical advice. She returned after about 3 months ; the swelling had increased in size. No secondaries were detected in x-ray chest. A biopsy was suggested. As a preliminary an aspiration needle was put in and creamy pus was aspirated. Immediately an incision was made on the lateral aspect and nearly 100 oz. of pus was let out. The pus culture was sterile No organisms were seen on smear. The wound did not heal and there was persistent discharge. The granulation tissue sent for biopsy was reported to be tuberculous granulation tissue. Streptomycin injection 0.5 gm. B. D. was suggested and a total dosage of 45 gms. was administered. The wound healed well and now only a small sinus is left behind, which does not discharge any pus.

This case stresses the difficulties of differential diagnosis of sarcoma and cold abscess.

This is not an uncommon doubt.—*(Ed.)*

TWO CASES OF POSTERIOR DISLOCATION OF HIP.

One traumatic & one inflammatory.

Case 1:—Nagiah, aged 30 years, was admitted with a history of a fall from a height of about 20 feet, 2 months ago. He had some massage with oil done, and was lying in bed, not being able to walk. After about 2 months, he was able to get up and walk with a marked limp.

On admission, there was a shortening of $2\frac{1}{2}$" of the limb. The hip was in flexion, adduction and internal rotation in typical posterior dislocation posture.

Skiagram showed post-dislocation of the hip.

Skeletal traction by Steminan's pin through tibial tubercle was instituted in order to get the head of femur to the level of acetabulum with a view to manipulative reduction later. The weight was increased gradually to 50 lbs. and maintained for 10 days. Skiagram taken at the end of that period showed the head of the femur at level of the acetabulum and he was taken to the theatre for manipulative reduction. On removing the pin and during the act of putting him on the table, it was noticed that the hip had got spontaneously reduced. This was later confirmed by check skiagram. Immobilisation in plaster of Paris spica was for 4 weeks and later rehabilitation methods were instituted. The present condition shows end result which is quite good.

Case 2:—Patient Adinarayanan, aged 5 years, was admitted on 4th October 1949 with painful swellings of the right and left elbow joints and the left hip joint. The left hip was flexed, and was maintained in an adducted and internally rotated position. The right elbow joint had a sinus discharging pus. The patient came with a high temperature. A clinical diagnosis of suppurative arthritis with a posterior dislocation of the hip was made. With routine Penicillin treatment for a period of two days, manipulative correction was done. The limb was immobilised in Thomas' splint, with skin traction, for nearly a month. There is now restoration of movements in both the elbow joints, and the patient is able to move his leg easily and painlessly.

Orthopaedic Department:

FRACTURE OF THE ODONTOID PROCESS WITH GRADUAL SUBLUXAUTION OF THE ATLAS WITH COMPRESSION OF THE CERVICAL CORD.

Susai aged 20 years was admitted on 10th December 1948. The history was that about 2½ months ago he fell from a palmyra tree from about a height of 30 feet. During the fall, he struck against a branch of a neighbouring neem tree. He did not notice any disability except slight weakness. There was no paresis of the extremities nor any retention of urine.

After about 15 days, he noticed gradually increasing weakness of his lower and upper extremities. He was admitted about two months after the fall.

On admission it was found that the patient had spastic paresis of both the upper and lower limbs. The plantar reflex was extensor and all the tendon reflexes were exaggerated There was no sensory disturbance. There was retention of urine for three days after admission which was relieved by intermittent catheterisation The function was restored after three days.

X-rays of the neck region showed a fracture of the odontoid process with subluxation of the atlas.

The pressure on the cord was sought to be relieved and the dislocation reduced by putting the patient to bed and applying traction to the head by means of a Glissons sling. Countertraction was provided for by elevation of the foot of the bed. After three months of traction, the patient recovered the use of both the upper and lower extremities. Then the head and neck were fixed with plaster of Paris and ambulatory treatment was advised. This cast was retained for four months and removed.

Comment. Gradual dislocation of the atlas with compression of the cervical cord, is not uncommon even after what may be an apparently simple injury to the neck region. In cases where the history of slight trauma is not remembered the differential diagnosis from tumours may be difficult unless a routine examination of the cervical vertebrae is made. Some surgeons believe in fusing the axis, atlas and the occiput by means of grafts. This is a formidable procedure.—*(Ed.)*

A CASE OF GUN SHOT INJURY—LEFT ELBOW.

A patient was presented with an injected gunshot wound of the lower end of the left arm. This had marked the lower end of humerus but all the other important structures had been spared. The union was treated conservatively with Penicillin and a planter slab.

Dr. M. N. Prabhu's Unit:

A CASE OF DIPHTHERITIC ULCER NOSE.

Patient Kameshwara Rao, male, aged 20 years, was admitted for nasal discomfort and blocking, of two months' duration.

On examination, there was a pale ulcer with undermined margins on the left side of the anterior end of the septum ½" in diameter, covered with crusts.

Blood W. R. and Kahn were negative and there was no evidence of tubercle in the lungs on the throat.

It was diagnosed provisionally as Idiopathic Ulcer.

A swab from the ulcer was taken and a portion of the margin was punched out for biopsy.

Biopsy:—Corynebacterium Diphtheria organisms. Biopsy showed granulation tissue with epithelial cells.

Treatment and progress:—Patient had Penicillin and local application of Anti-Diphtheretic Serum.

Discussion was mainly on the treatment of the case. There was difference of opinion as to the frequency with which a diphtheretic ulcer of the nose gives rise to neural manifestation. Dr. Prabhu quoted St. Clair Thomson and said that such manifestations are rare unless the ulcer extends to other regions. Dr. R. Subramaniam differed and said that neural manifestations are reported.

Dr. C. P. V. Menon's Unit:

A CASE OF RETROSTERNAL GOITRE.

Madhavi Amma, 49 years, was admitted in the Government General Hospital on 24th October 1949 with symptoms of mild dysphagia and dyspnoea especially on lying down, for the last 3 months. Patient reported to a local hospital for dyspepsia of 12 years duration and at the time of examination, the present complaint was spotted.

The general condition of the patient was good and there were prominent veins on the upper chest wall and neck more marked on the right side. The thyroid gland was present in its normal place and clinically its downward extension could not be made out. The trachea was slightly deflected to the left side Plain x-ray showed a tumour of the anterior mediastinum. Screening revealed an anterior mediastinal shadow bigger on the right side with a few opaque spots. The typical lower convex border and movement during deglutition were not seen.

On 23rd November 1949, thyroid gland was exposed by the usual collar incision and exploration of the superior mediastinum with the finger revealed a retrosternal goitre. There were two downgrowths, one on either side arising from the lower pole of the corresponding thyroid lobe. The right sided goitre was larger than the left and the fundus of each was adherent to the mediastinal connective tissue. The restrosternal goitres were carefully delivered out through the upper thoracic aperture and removed.

There was another adenoma on the left side which was also removed. Microscopically the goitres appeared like bunches of grapes with an anterior groove corresponding to site of pressure by the sternum and clavicle. The wound was closed in layers after haemostasis. Post-operative penicillin was given for one week. The convalescence was uneventful.

This case is being presented for the following reasons:

(1) Large retrosternal goitres are rare and rarer still are bilateral ones.

(2) When present, they could be diagnosed correctly by signs, symptoms, x-ray and screening. In this case the typical lower convex border and movement during deglutition were not seen on screening.

(3) Retrosternal goitres should and could be removed in most of the cases by a collar incision. If absolutely necessary, the sternum can be split to get more space. Removal by thoracotomy is difficult even to the experienced surgeon.

Department of Pathology:

AUTOPSY FINDINGS

Sub-Tentorial Tumour.

Last year this time we presented to you the departmental statistics of the incidence and analysis of brain tumours. The total number of tumours reported at that time were 38 and 3 of them were meningiomas which gives it sixth in the order of frequency as against third of Cushing's series. Since then, the Professor has reported 5 cases of brain tumours-tuberculoma, glioma (temporal lobe), arachnoid cyst; and two meningiomata (one biopsy and the other to be presented now). Out of 56 postmortems of this year, we have 3 brain tumours and this apparent rise in percentage as against 2% of other countries is probably answered by the clinician's interest in these cases for autopsy.

Total number of tumours involving the cerebellum and the near by structures are 11.

Tuberculoma	..	3
Medulloblastoma	...	4
Meningioma	...	2
Cyst	...	1
Haemangio-endothelioma	...	1

Sub-tentorial meningiomas are said to be rare.

Case report:—A lady aged 20 was admitted under Lt. Col. C. K. P. Menon with the complaint of headache, gradual loss of vision and vomiting of 8 months' duration. On examination, the patient had papilloedema both eyes with no alteration in the sensory, motor and the reflex systems. X-ray of the sella turcica showed an enlarged sella turcica with silver beaten appearance.

A clinical diagnosis of suprasellar tumour was made and the pituitary fossa explored and a biopsy of the gland taken.

Main autopsy findings:—The calvarum was markedly thinned. The inner surface of calvarum was uneven and so was base of the skull. The sella turcica was widened and pituitary appeared enlarged (Hyperplasia of B Chromophobe cells). Both the ventricles were dilated. Gel foam and blood clots filled the base of brain upto mid-brain. While taking sections over the right half of cerebellum, adjoining the medulla was a sessile globoid whitish, hard, small potato-like growth which was dislocated with great care, leaving a smooth surface behind. Cut surface was granular.

Microscopically:—Fibroblasts are seen not formed in whorls. The nuclei are well chromatised—meningioma.

Inferences:—(1) History of vomiting etc. assisted by the ophthalmoscopic finding of papilloedema reminds us that these are invariably associated with cerebellar tumours and has great localising value (Kinnier Wilson).

(2) The absence of either symptoms or signs pointing to cerebellar impairment is consistent with the superficial lateral lobe situation of meningioma as against cortical vermis or nuclear lesions of cerebellum which attract the physician by characteristic symptoms and signs.

(3) Being hard, circumscribed, easily removable type of meningioma (not vascular type), results of operation would have been most gratifying to the patient.

Abscess Lung

In December last year, the increased clinical recognition of lung abscess and the departmental statistics on the subject was presented to you. For the last 8 months, 43 autopsies showed suppurative lesions of lungs.

A lady aged 20 was admitted from the Mental Hospital on 19th August 1948 with a complaint of cough with expectoration of foul smelling copious sputum of two months' duration. She was running a hectic temperature and percussion revealed dullness over the entire left half of the chest. A clinical diagnosis of abscess lung with empyema was made.

Main autopsy findings:—An adult female of moderate built. Tendency to clubbing of fingers. Left tonsil was enlarged and beads of pus could be expressed with ease. Both lungs were adherent to parietes by extensive adhesions. Obliteration of interlobar fissures. Each lung weighed 24 oz. and were enlarged Foul smelling purulent material (fluid and sloughs) was revealed on sectioning left lung, revealing a large abscess with smooth lining, extending almost the entire lung. Right lung: Appearances were those of pulmonary congestion and oedema. Right auricle and ventricle were dilated. Uterus, ovaries, fallopian tubes showed no lesion. The sinuses of skull and middle ear showed no septic foci.

Conclusions:—(1) Septic primary focus is probably suppurative tonsils.

(2) Karsner (1948) classifies lung abscesses into: (*a*) Anaerobic and fetid .... surgical. In these spirochaetes etc. are causal and abscess is extensive, and (*b*) Aerobic and non-fetid .... medical. The causal organisms are pathogenic cocci which are lethal to antibiotic and chemotherapeutic agents.

Cerebral Abscess Secondary to Pulmonary Suppuration

An analysis of 1,014 postmortem reports of the department for the last 10 years (1939 to 1949) reveals 25 cases of death due to either abscess or gangrene of the lungs. Autopsy incidence works upto 2.4%. Multiple abscesses of lung, often one of the metastatic manifestations of pyaemia are not included in this analysis. In a majority, an offending primary focus of infection could not be located, while, in few tonsillar, maxillary and sphenoidal sinuses suppuration were found. Abscesses often developed from bronchopneumonic consolidation. Although abscess is said to be more common in the right lung, we find no disparity in incidence between the two lungs. Abscesses were seen in both lungs only in one case. One case each was associated with aneurysm of aorta and cysticercosis cellulosa of lungs. This analysis also indicates that there is a marked rise in the incidence of lung abscess (7 in 1948 and 5 in 1949 and one or two for each year before 1948) during the last two years as against a marked reduction in the mortality rate due to lobar or broncho-pneumonia.

Two cases of cerebral abscess (one to be presented now) and one case of cerebellar abscess were seen associated with pulmonary abscess. There were two partial postmortems and one without autopsy report which were excluded in working out the percentage incidence of abscess brain associated with pulmonary abscess. This works out to 13.6% as against 5 to 10% noted by other observers (Maxwell).

The deceased (while alive) came under the care of Lt.-Col. C. K P. Menon on 30th August 1949 for a discharging operated abdominal wound. He was operated 20 days prior to admission here at Bezwada for pain in the abdomen. Patient was afebrile. X-ray chest showed pericardial effusion. Sputum: No A. F B. seen. Total W. B. C. count 5,200 per c mm The patient developed pain over the chest and was restless. He was referred to Dr. Ratnaswamy with a diagnosis of 'Pleuropneumonia'. The patient died on 26th September 1949.

Main autopsy findings:—(1) Markedly emaciated (2) Tendency to clubbing of fingers seen. Marked palor. (3) Tonsils, sinuses of skull, middle ear and prostate showed no suppurative foci. (4) Pleural cavities contained fluid. The left lower lobe of lung was adherent to the parietes by fibrinous exudate. This lobe was adherent to the pericardium and diaphragm. The cut surface of it revealed the main bronchus being plugged with inflammatory exudate and spreading out from it in a fan-shaped manner was abscess cavity—not circumscribed—filled with sloughs. Microscopically broncho-pneumonic consolidation associated with destruction of lung tissue seen. The details of inflammatory cells was lost.

The pericardial cavity was distended with fibrous exudate. The heart valves and coronaries showed no gross lesion. Microscopically: Fibrinous organism of pericarditis seen. There was marked perisplenitis and perihepatis with early fibrosis of biliary tracts. The liver and stomach were adherent to the undersurface of diaphragm. The stomach, the gall bladder and the appendix showed no gross lesion. Ankylostomes were seen. Kidney and urinary bladder showed no lesion.

The brain was oedematous and weighed 1470 gms Distributed over the left frontal lobe, right parietal lobe, candate nucleus and right infor horn of lateral ventricle were circumscribed brownish red areas of softening.

Microscopically:—Abscess, not circumscribed, no limiting zone of gliosis. Some of the vessels are crammed with inflammatory cells and there are large spots of haemorrhages, capillaries.

Conclusions:—(1) This case impresses very much the fact how inflammatory lesions of pleura (diaphragmatic) stimulates symptoms of acute abdomen, thus compelling the surgeon at Bezwada to carry out an exploratory laparotomy.

(2) Brain abscess associated with pulmonary suppuration are reported to be more common in the left frontal lobe and almost solitary. This localisation has been justified by the observation that in many of these cases the septic focus was in the frontal or ethmoidal sinuses, responsible for concurrent infection of both lungs and frontal lobe of the brain. The one just presented to you and the one reported last year showed multiple abscesses of brain. In both of them a septic focus in the sinuses of skull could not be located This could only be answered by the fact that multiplicity of lesions are of embolic nature supported by the presence of inflammatory cells in the vessels.

The Venereal Department: *Dr. P. N. Rengiah's Unit:*

SYPHILITIC SKIN LESIONS.

The following two cases are presented to demonstrate the difficulties that might occur in the diagnosis of *syphilitic skin lesions.*

I. This cases stresses the differential diagnosis between syphilitic rash and psoriasis.

Muniamma aged 42 years was admitted suffering from skin lesions. She was referred to us by the skin department.

Twenty days after the development of a swelling in the left axilla and the left elbow region, the patient had fever with rigor. This was followed by sore eyes and a *Rash.* This appeared first on the face, then on the upper limbs and the lower limbs and later on the trunk. She was sent to the Isolation and Leprosy Hospitals, but was discharged from there as it was not any of Poxes or Leprosy.

The skin lesions were found in abundance over the face and the extensor aspects of the upper and lower limbs. The palms and soles showed slight pigmentation. A few were found on the scalp. There were no lesions on the mucous membranes. The lesions were discrete and coalescent, papular in type, of various sizes and covered with silvery scales. Some were reddish and elavated. They were all dry and slightly itchy. She had bilateral iridocyclitis.

There was a painless adenitis of the groin and the epitrochlear glands. Other systems were normal. The Blood W. R. and Khan were strongly positive.

The possibilities thought of were (*a*) syphilis and (*b*) psoriasis. The affection of the iris, the iridocyclitis and the profusion of the rash about the face pointed to syphilis whereas the silvery scales with a positive scratch test, the distribution of the lesions over the extensor aspect of the limb and the response of the skin condition to salicylic acid ointment and autohaemo-therapy point to psoriasis. Some cases of psoriasis yield positive serology and syphilis and psoriasis may coexist.

II. Kanakavalli aged 45 years was admitted for a complaint of a swelling on the left side of neck of 18 months duration and a recurring skin rash.

The patient had swelling of the axillary glands about 15 years ago, and she had indigenous treatment. The present swelling in the neck were lymph glands slightly matted and tender with infiltration of the skin overlying the glands. There was painless lymphadenitis in other regions of the body with the glands discreted.

The rash has been recurring for the last 9 years with periodic exacerbations during the winter months and the new moon time. It is papular and is confined to the dorsum of both hands, feet, back and the extensor aspect of the limbs. It is itchy. Other systems were normal. Blood W. R. and Khan were positive. Cervical gland biopsy showed chronic inflammation, and no evidence of tuberculosis.

Because of the generalised lymphadenopathy, the positive serology and the papular rash, the condition was treated as syphilitic with penicillin and the rash almost completely faded.

The points against syphilis in this case were the distribution of the rash over the extensor aspects, the itchy feeling, the periodic exacerbation of the rash, and matting of one particular group of glands which is not common in syphilis.

HEPATO RECURRENCE IN SYPHILIS.

Two cases of *syphilitic affection* of the liver are presented one a diffuse affection causing jaundice, which is rare and the other one, the commener gumma of the liver.

I. K aged 19 years was admitted with a complaint of jaundice of 5 days duration and ulceration about thigh and anus of 20 days duration.

He gave a history of a sore on his external genitals six months ago for which he received only two injections as treatment. He was a victim of sodomy. Examination showed a scar on the dorsal aspect of the penis. There were moist pappular syphilides on the inner aspect of the thighs and condylomata round the anus. There was an icteric tinge on the conjuctiva. The liver and spleen were not enlarged and there were no other abnormalities in the other systems.

Investigations :—The blood W. R. was positive and the other findings were normal. The urine showed the presence of bile pigments. Dark ground illumination test of the genital lesions showed spirochaetes. Liver area skiagram was normal.

The patient was treated with one injection of Monocillin intramuscularly and the icterus and bile pigments disappeared within a week.

Points of Interest—(1) This is a case of *hepato-recurrence* in syphilis.

(2) The rapidity with which one Monocillin injection produced improvement is striking.

(3) When infections syphilis coexists with jaundice, metal chemotherapy has to be withheld or administered with great caution because of the liver condition. With penicillin this difficulty is overcome.

II. Annia aged 25 years was admitted for a swelling in the front of the chest of two months duration.

He gave a history of sore on the penis a year ago followed by a rash all over the body and also a bubo. He was given indigenous therapy.

There was a localised soft swelling in the region of the epigastrium, not adherent to the skin. This moves with respiration and appears to be connected with the liver. The liver and spleen are not enlarged. There were no abnormalities in the other systems. The blood Khan and W. R. were positive strong. The skiagram of the chest did not reveal any lesion in the sternum or the ribs.

In view of the history of a genital sore followed by a rash, the positive serology, the negative evidence of other possible etiology, and response to antisyphilitic treatment, the condition is diagnosed as *a gumma liver* with *a subcutaneous gumma*.

Subcutaneous gummata resolve with antysyphilitic remedies alone and there is no special need for administering iodides. (2) Surgical interference is not necessary. (3) The time interval between the primary and the tertiary phases of syphilis, though, usually put down as between two to five years, is only a year in this case. (4) Biochemical tests performed confirm a large hepatic reserve.

RELAPSE OF EXTRAGENITAL GRANULOMA TREATED WITH STREPTOMYCIN.

G. aged 27 years was seen ten months ago with a growth on the tongue with limitation of movements. There was granulomatous ulceration on the inner aspect of the right cheek, extending to the lower and upper lips, gums and palate. There was no enlargement of the regional lymph glands. The patient gave a history of sore on the genitals two years ago for which he had indigenous therapy.

Donovan bodies were seen in the smears from the oral lesion. The sputum was negative for any acid fast bacillus but was positive for Donovan bodies. The blood Khan and Wasserman were both positive strong. Serum proteins—Albumin 3.9 gms. % Globulin 2.5 gms. %

The patient was treated with 20,000 units of intramuscular penicillin 3rd hourly till a total of 600,000 units was reached and with .2 gms. of intramuscular streptomycin every four hours till 10 gms. were given.

Within six days the lesions in the mouth healed completely.

Now, ten months after the above treatment the patient has reported again with a granulamatous lesion about the middle of the soft palate, which shows grown up D. B. forms in the smear. He is on the 2nd course streptomycin therapy and one can look forward to a quick cure again.

Lt.-Col. D. S. Iyer's Unit:

A CASE OF ANGIOMA OF THE LIVER EXCISED

Muniammal, female, aged 30, was admitted on 9th December 1949 for a complaint of abdominal discomfort and distension of a duration of 4 years.

She noticed at first a hard lump in the left hypochondriac region. Sometime later another swelling appeared in the right hypochondrium. The latter gradually increased in size. Since the last one year, she had discomfort and vague abdominal pain in the upper abdomen. This pain had no relation to food, is not localised and does not radiate. There was also loss of appetite.

She did not give a history of any injury to the abdomen or dysentery or a history suggestive of echinococcal infection.

On admission she was found to be poorly nourished. There was no evidence suggestive of syphilitic or tubercular infection. She was anaemic but neither jaundiced nor cyanosed.

Local examination:—There was a diffuse bulge of the upper abdomen. The abdomen moved freely with respiration and there were no prominent veins on the anterior abdominal wall. The umbilicus was not everted and was in the normal position.

Palpation revealed a firm mass occupying the epigastrium and the right hypochondrium extending upto the umbilicus. It was nodular at certain places. The lower border was sharp and presented a convex outline. This mass seemed to be continuous with the liver and freely moved with respiration. No mobility could be detected and the mass was not tender to pressure. No other masses were felt in the abdomen.

The mass was dull on percussion and there was no free fluid in the peritoneal cavity. There was no upward enlargement of the liver.

Auscultation revealed nothing. Other systems: normal. R. F. and P. V.—Normal.

Investigations:—Blood pressure: 100/70. Urine: nil abnormal. W. B. C. 7,400 Differential count: P72 L25 M2 E1. Motion: No EH, no ova, no cysts. Barium meal: Stomach displaced downwards and to the left. Extragastric pressure.

Under local anaesthesia, the abdomen was opened by Lt. Col. D. S. Iyer through a left paramedian incision. The tumour was of an enormous size. It was presenting from the liver region. There were many dilated veins coursing on the surface. The tumour was like a sponge full of blood and was arising from the undersurface of the liver and the lower border of the liver was merged in its substance. Its upper pole was however narrow and could be excised. The excised area was bleeding and it was controlled by gelfoam. The whole tumour was separated from the liver and its surroundings and removed.

She received blood (300 c. c.) during the operation. Post-operative period was stormy, but eventually she made rapid progress.

Pathological report:—Angioma of the liver.

Discussion:—Dr. D. Govinda Reddy recalled a case of Dr. N. Mangesh Rao where excision was not practical as the angioma was involving the whole liver, uniformly diffused.

Lt. Col. D. S. Iyer pointed out that excision was feasible in this case because of the anatomical peculiarities of the tumour. Answering the query as to the need for excision, he said that as trauma may produce severe bleeding in these cases, they are better excised if possible.

Lt. Col. V. R. Thayumanaswami pointed out that in this case, the specimen showed areas of calcification. Evidence of this in the x-ray is a great help in diagnosis pre-operatively.

Dr. C. P. V. Menon's Unit:

A CASE OF SARCOMA ARISING FROM THE GREATER OMENTUM

Munuswamy, aged 35 years, a ryot by profession, was admitted for a lump over his left upper abdomen, of two years' duration. There was slow progressive increase in the size of this tumour, with occasional bouts of pain, sudden enlargement and fever.

He was anaemic, though well nourished and general examination of his different systems showed no abnormality. There was an intra-abdominal tumour occupying the anterior abdomen rather than the flanks. Two tender, slightly movable lumps were diffusely palpable inside his abdomen—one large over his left lower abdomen and one small over the right upper abdomen.

A provisional diagnosis of some malignant intra-abdominal tumour was made and he was operated upon, on 28th October 1949 by Dr. C. P. V. Menon under general anaesthesia. The abdomen was opened by a right paramedian incision. The peritoneal cavity was filled with a large cystic tumour with a definite capsule. About 8 pints of haemorrhagic fluid was aspirated from the cyst and the tumour was found to arise from the gastrocolic omentum, just to the right side of the duodeno-jejunal flexure. The tumour was shelled out after separating the thick adhesions between it and the surrounding structures. After complete haemostatis, the abdomen was closed in layers.

Pathologist report:—The solid part of the tumour was about 10" in diameter with a few tongue-like processes projecting from the main mass. The capsule was firmly adherent to the tumour. There was a large cyst which contained 196 oz. of haemorrhagic fluid. The tumour was soft, glistening, rubbery to feel, gellatinous, friable and interspaced with coarse trabacule. The whole tumour with the cyst had the appearance of the placenta with the membranes.

Histology:—Myxosarcoma or sarcoma undergoing myxomatous degeneration.

Lt.-Col. D. S. Iyer's Unit :

A CASE OF CARCINOMA OF THE LEFT SUPRARENAL.

Patient Abdul Samad, aged 45 and shopkeeper by profession, was admitted on 19th September 1949 for pain and swelling in the abdomen since two years.

His history was that since the last two years he has noted a lump in the left upper quadrant of his abdomen ; this lump has been progressively increasing in size. Along with this, he has also been experiencing pain over the region of the mass. This pain has become much worse now ; it does not radiate. He had no other complaints or disturbances referable either to his gastro-intestinal or genito-urinary systems. The patient also said that since the last two years he has become much weaker.

On examining the abdomen, there was a big mass palpable in the left hypochondrium and left lumbar region. This mass extended from the costal margin to two fingers' breadth above the iliac crest. Posteriorly it extended to the loin and was palpable from behind. Anteriorly it extended almost to the midline. About its middle, there was a vertical groove so deep as to suggest that there were two masses. The mass moved with respiration. It was smooth in some areas and irregular in other areas. Consistency was firm and ballotment was present. The mass was tender. Anteriorly there was a horizontal band of resonance, elsewhere it was dull. There was no fluid in the peritoneal cavity.

The patient also had a varicocele on the left side.

Examination of the cardiovascular and respiratory systems did not reveal anything relevant.

Investigations :—Urine : Nil particular. Culture sterile. Blood urea—44 mgms. %. Blood pressure—135/80 mm. Plain x-ray chest : No evidence of secondaries. Plain x-ray abdomen : Soft tissue tumour left half Intravenous Pyelography : Left kidney low placed ; upper calyx not clear ; deformity of left calyces suggestive of renal tumour.

So a diagnosis of parenchymal carcinoma of the kidney was made and a laparotomy decided upon.

Operation Notes :—On 5th October 1949, the abdomen was opened by Lt. Col. D. S. Iyer by an oblique incision. The peritoneum was incised outside the colon and separated to expose the tumour. The lower pole of the kidney was enveloped by the tumour. The kidney was lying in the left iliac fossa. The tumour was of enormous size adherent to the spleen and the pancreas. Veins coursing over the tumour were tortuous and dilated. The tumour with the kidney was removed after ligating the renal pedicle. The patient received 600 c.c. of blood.

The patient's condition was rather anxious for the first two days after operation. His blood pressure was 95/60. He was given Penicillin and Percorton in addition to the intravenous glucose saline.

The pathology report reads : Carcinoma of the suprarenal.

Comment :—We are presenting this case because (1) Carcinoma of the suprarenal is uncommon here. (2) In this case there were no endocrine changes. Many cases have been recorded elsewhere wherein malignant neoplasms of the suprarenals were unassociated with endocrinal symptoms ; in some cases these may occur.

Lt.-Col. C. K. P. Menon's Unit :

A CASE OF SYNOVIO-ENDOTHELIO-SARCOMA.

Pachiayya Pillai, 22 years, was admitted for a swelling on the right leg.

The patient noticed a small swelling on the upper part of the medial side of the right leg some three years ago. It remained the same size till 3 months ago when he received an injury over the swelling. From that time that it had grown in size, become painful and interfered with his normal movements.

A nodular swelling 4" × 4" × 3" was seen occupying the upper one-third of the medial surface of the tibia. It was firm in consistency with soft fluctuant areas here and there. A few dilated veins were seen coursing over the tumour. Skin was not attached to the tumour, and the tumour could be easily moved over the tibia. It could be moved from side to side but became fixed when flexors of knee were made to contract. The tumour was warm and slightly tender. The regional glands were not enlarged.

Investigation :—X-ray of the leg—No bony change.
X-ray of the lungs—No secondaries.

A pre-operative diagnosis of synovioma or a fibrosarcoma was made and the tumour was excised. During the operation it was seen to cover the anterior and the posterior surface of the sartorius and lying over the gracilis and semitendinosis tendons arising from the sub-sartorial bursa. It was encapsulated and not infiltrating the muscles and not connected to the knee joint.

Pathological report :—Synovio-endothelio-sarcoma.

It is proposed to give post-operative deep therapy.

This case is presented because it is a typical case of malignant synovioma in view of the fact (1) that it has occurred during the third decade of life and (2) in the region of the knee joint from the bursa and (3) the recent trauma has converted this probably benign synovioma into a malignant one and (4) of the typical microscopical features.

Lt.-Col. Sangham Lal's Unit :

HYDATID DISEASE OF THE BREAST AND THE PAROTID GLAND.

A lady aged 30 was admitted under Lt.-Col. Sangham Lal for (i) a lump in the upper medial quadrant of the left breast, (ii) a lump over the angle of the mandible on the right side and the parotid gland of three years' duration.

Lump in the breast :—Cystic, freely mobile and was not fixed to the chest. Transillumination—opaque. No dilated veins were seen on the surface. The axillary, supraclavicular and the mediastinal lymph nodes were not enlarged.

Lump over the angle of the mandible :—Smooth, tense and cystic. 'Hydatid' thrill was elicited. The lump was adherent to the deeper structures. A slight facial paresis was noticed on the right side.

Skiagram of the skull and mandible :—The mandibulo-mastoid recess was widened and the posterior margin of the ramus of the mandible was concave.

Other bones showed no radiological evidence of cysts.

Treatment :—The cyst in the breast was dissected by reflecting the skin through a semicircular incision on the medial aspect of the lump. As the cyst was being separated, it ruptured and clear fluid with a number of daughter cysts escaped. The ecchinococcal origin of the cyst was recognised on the table.

A second operation was undertaken to remove the hydatid cyst with the parotid gland. Under general anaesthesia, the skin over the lump was easily reflected and the cyst was dissected out. The cyst was found to extend deep into the recess between the mastoid process and the angle of the mandible, reaching the base of the skull. The transverse process of the first cervical vertebra was identified and the pulsating internal carotid artery and the internal jugular vein were visualised. The cyst was seen extending deep to the base of the skull and was adherent to the base, the vertebral process and the neighbouring structures. During dissection the cyst wall ruptured. The cyst wall was entirely removed and the area was touched with carbolic acid and alcohol.

Pathological study of the specimens: Breast :—The ectocyst was formed by fibrous tissue and mammary gland and the endocyst contained a large number of daughter cysts.

Parotid gland—The parenchyma of the salivary gland and a thin fibrous layer formed the ectocyst. The endocyst was pearly white and contained a number of daughter cysts.

The cysts were multilocular cyst and in the case of the parotid gland, the cyst was adherent to the bony structures.

Hydatid disease of the breast and the salivary gland is rare. Geschickter in his monograph on 'Diseases of the Breast' refers to the incidence of hydatid cyst of the breast as occurring 'most rarely'. Kaufmann mentioning about the rarity of the condition, has recorded a hydatid cyst of the size of a hen's egg. Craig and Faust compiled statistics from several workers and they did not give percentage of incidence in breast or salivary gland separately. Perhaps they have included it under 'Other organs 2.8—4.2%'.

The Department of Pathology, Madras Medical College, has previously reported echinococcal cysts from rare sites such as mesentery, mediastinum and thyroid gland.

Lt.-Col. C. R. Krishnaswami's Unit:

A CASE OF FOREIGN BODY ABDOMEN HELD IN A JEJUNAL POUCH.

Ramiah, aged 23 years, who was convicted for theft of a cycle, swallowed eleven four anna coins five months ago on an attempt to commit suicide.

Unusually it produced no symptoms of complete or partial obstruction nor were such small coins passed spontaneously in the motions. He was admitted a few times and discharged without any presenting complaint. He was advised operation all through this time, for which he was not willing.

X-ray taken showed all the coins grouped together in the left lumbar region (? in sigmoid colon) and thinking it would come out, we waited for long, but failed to see them come down. Then he was again admitted on 23rd August 1949 without any complaint. X-ray showed the same picture. Screening showed that the mass moved slightly with respiration. With the idea that it was in some region of gastro-intestinal tract which is directly or indirectly attached to the diaphragm and because of its stationary position, we opened the abdomen.

On opening the abdomen, we searched the sigmoid, the descending colon and the transverse colon and the caecum. We could not find the coins. We searched the lower part of small intestines with no result. Lastly, we began the search from duodeno-jejunal flexure and we found them about one foot distal to this site. All of them were found together in a pseudo-cul-de-sac of the jejunum. Convalascence was good.

Comment:—It is unusual to find such small coins in the gastro-intestinal tract, more so in the jejunum and much more so to find them all clumped together.

Lt.-Col. Sangham Lal's Unit:

A CASE OF RECURRENT VOLVULUS OF THE CAECUM AND ASCENDING COLON DUE TO NON-ROTATION OF THE GUT.

B. S., male, aged 32 years, was admitted on 12th June 1949 for a complaint of pain in the right iliac fossa of 15 days duration. The pain was unrelated to food. Occasionally he got attacks of severe pain with vomiting. He gave a history of dysentry ten years ago, but no history of jaundice. Patient has lost weight since the onset of pain.

On examination there was a swelling in the middle line. The lump was intra-abdominal, extending from about $1\frac{1}{2}$" from the costal margin to a little above the umbilicus, and was mobile. It was seen to move freely on respiration. The lump occasionally disappeared spontaneously. There was no clinical evidence of a renal tumour. Liver and spleen were not palpable. Testis was normal. Examination of the other systems did not reveal anything abnormal. X-ray of the chest—nil abnormal. Blood pressure: 125/85. No leucocytosis Motion—No amoeba or ova. On 2nd July 1949, the Condition was suggestive of recurrent volvulus of the pelvic colon.

Investigations:—F. T. M. within normal limits. Barium meal, Moderately sized, and hyposthenic stomach. Contours normal. Emptying normal. D. C. fills normally. Lateral fornices sharp and tender. Duodenum appears to be reversed Proximal jejunum persistently on the right side. I. V. Pyelogram—Nil Abnormal.

Barium enema:—Descending colon fills normally. The caecum was on the left side in between descending colon and transverse colon. Transverse colon looped. Splenic flexure normal. Emetine 10 gr. given.

Operations notes:—Under spinal anaesthesia, operation was done by Lt. Col. Sangham Lal with a left paramedian incision. On opening the peritoneal cavity, examination revealed the descending colon and pelvic colon being normal. The transverse colon was kinked on itself and congested and was enveloped by the omentum. Further exploration revealed that the caecum ascending colon and hepatic flexure were not in their normal position, but were lying free in the peritoneal cavity in the left side of the abdomen. The caecum and the ascending colon were in a hypertrophied state. There were a few bands of adhesions as a result of old attacks of volvulus. The duodeno-jejunal flexure was on the right side with the proximal jejunum, the whole condition being one of reverse rotation of the gut with recurrent volvulus involving the caecum, ascending colon and frontal part of the transverse colon. In view of the state of affairs, on the history of recurrent attacks hemicolectomy involving the caecum, the ascending colon, and the transverse colon beyond the kinked part was done and the end of the terminal ileum was anastomosed to the descending colon.

Dr. C. P. V. Menon's Unit:

A CASE OF PANCREATICO-DUODENAL ANASTOMOSIS.

Sankaran Nair, aged 25 years, was admitted in the Government General Hospital, Madras, on 24th October 1949 for symptoms of duodenal ulcer. Investigations proved the correctness of the clinical diagnosis and a gastro-duodenectomy with antecolic polya anastomosis was done on 31st October 1949. When the duodenum was being mobilised, the common bile duct and the pancreatic duct were accidentally cut through. So after reopening the already closed duodenal stump, the head of the pancreas with the common bile and pancreatic ducts, was invaginated inside the duodenum with a double layer of continuous sutures. The field of operation was covered by the omentum and drained through a separate stab incision on the flank Local sulphanilamide was applied and the abdomen was closed in layers Post-operative chemotherapy and penicillin were given for one week. The main operative wound healed by first intention. On the 10th post-operative day, there was some pain and swelling over the duodenal area and slight serous discharge through the stab wound. So a rubber catheter was passed through the stab wound and a large quantity of bile-stained fluid escaped. A duodenal fistula had occurred. So the catheter was removed. At present both the wounds have healed well and the patient is completely alright.

This is an example of accidental trauma to the bile-duct and the pancreatic duct, treated by implantation of the pancreas into the duodenal stump, resulting in a biliary fistula which was successfully treated by continuous aspiration of the fistula

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Lt.-Col. C. R. Krishnaswami's Unit:

A CASE OF CONGENITAL MEGACOLON.

R, aged 24, was admitted for progressive constipation from childhood and extreme distension of the abdomen. As a child he used to pass motion only once in three days; and at present his bowels more only once a week.

The colon was standing out prominently with marked visible peristalsis in the abdomen which was enormously distended.

The case was admitted as intestinal obstruction from the out-patient department in view of the constipation, the extreme distension and the colon standing out as an inverted U and a plain x-ray showing colon full of gas. But as the case was observed, that possibility was dropped and a congenital megacolon thought of. Barium enema was taken which showed extreme distension of the colon and the enema lost as it were, in the colon. There was a constriction at the pelvi-rectal junction. Sigmoidoscopy was done which confirmed the findings of the Barium enema A total colectomy was thought of and the case was prepared, by giving repeated bowel washes given by passing two flatus tubes through sigmoidoscope. Patient was also put on a course of pre-operative sulfaguanidine (50 gm.)

Treatment:—Under high spinal supplemented by gas and oxygen, the abdomen was opened by a left paramedian incision. The sigmoid colon was found distended from the pelvirectal junction upto the splenic flexure. Though the Barium enema showed dilatation of the ascending colon, as the patient was under the effect of spinal anaesthesia, it was thought that the pathology had not advanced far in the ascending colon which was prabably capable of contracting, and that the ascending colon and proximal half of Trans. Colon could be left in; Hence a left hemicolectomy was done and the abdomen was closed. Patient passed the first motion four days later and then had diarrohoea for four days.

The Treatment of Hirschsprung's Disease.

The treatment of this condition has undergone a complex evolution in the last few years.

The various kinds of treatment could be classified into (*a*) those directed at the narrow segment, (*b*) those directed at the dilated segment, (*c*) those directed at the autonomic nerve supply of the gut. The fact that there are many kinds of treatment need occasion no surprise when it is considered that very aetiology of the condition is not definitely known Such being the state of affairs, naturally one of the very early methods employed was a partial colectomy. But this method soon fell into disrepute owing to the forbiddingly high mortality.

Arguing that the cause was due to an upset in the normal balance existing between the sympathetic and the parasympathetic, presacral neurectomy (Learmonth[1]), resection of the lumbar 'splanchnics' (Telford[2]), lumbar ganglionectomy (Adson) and spinal anaesthesia (Hawksley[3] et al) were all tried. Though earlier workers reported good results the consensus of opinion is that the results of these operations are neither uniformly good in all cases nor even permanently curative in individual cases.

So the pendulum again swung towards resection. Many prefer and do a staged resection of the whole colon. The ileum in these cases takes on the function of the colon ('colonisation of the ileum'). But Grimson and others[4] have reported cases in which one stage resection of the colon and an ileosigmoidostomy has been successfully done. The tendency is to do a one stage resection of the dilated part and to re-establish the continuity by anastomosis by suture of the cut ends. Swenson and others[5] have reported a staged rectosigmoidectomy using a pull-through technique.

REFERENCES:

1. Learmonth and Rankin (1930) Ann. Surg., 92, 710.
2. Telford and Stopford (1934), Brit. Med. J., 1, 582.
3. Hawksley (1944), Brit. J., Surg., 31, 245.
4. Fraser (1946) Med. Annual, 163.
5. Swenson (1950) Ann. Roy. COL. Surg., 4, 257.

Lt.-Col. D. S. Iyer's Unit :

A CASE OF CARCINOMA OF THE LEFT SUPRARENAL.

Patient Abdul Samad, aged 45 and shopkeeper by profession, was admitted on 19th September 1949 for pain and swelling in the abdomen since two years.

His history was that since the last two years he has noted a lump in the left upper quadrant of his abdomen ; this lump has been progressively increasing in size. Along with this, he has also been experiencing pain over the region of the mass. This pain has become much worse now ; it does not radiate. He had no other complaints or disturbances referable either to his gastro-intestinal or genito-urinary systems. The patient also said that since the last two years he has become much weaker.

On examining the abdomen, there was a big mass palpable in the left hypochondrium and left lumbar region. This mass extended from the costal margin to two fingers' breadth above the iliac crest. Posteriorly it extended to the loin and was palpable from behind. Anteriorly it extended almost to the midline. About its middle, there was a vertical groove so deep as to suggest that there were two masses. The mass moved with respiration. It was smooth in some areas and irregular in other areas. Consistency was firm and ballotment was present. The mass was tender. Anteriorly there was a horizontal band of resonance, elsewhere it was dull. There was no fluid in the peritoneal cavity.

The patient also had a varicocele on the left side.

Examination of the cardiovascular and respiratory systems did not reveal anything relevant.

Investigations :—Urine : Nil particular. Culture sterile. Blood urea — 44 mgms. %. Blood pressure—135/80 mm. Plain x-ray chest : No evidence of secondaries. Plain x-ray abdomen : Soft tissue tumour left half Intravenous Pyelography : Left kidney low placed ; upper calyx not clear ; deformity of left calyces suggestive of renal tumour.

So a diagnosis of parenchymal carcinoma of the kidney was made and a laparotomy decided upon.

Operation Notes :—On 5th October 1949, the abdomen was opened by Lt. Col. D. S. Iyer by an oblique incision. The peritoneum was incised outside the colon and separated to expose the tumour. The lower pole of the kidney was enveloped by the tumour. The kidney was lying in the left iliac fossa. The tumour was of enormous size adherent to the spleen and the pancreas. Veins coursing over the tumour were tortuous and dilated. The tumour with the kidney was removed after ligating the renal pedicle. The patient received 600 c.c. of blood.

The patient's condition was rather anxious for the first two days after operation. His blood pressure was 95/60. He was given Penicillin and Percorton in addition to the intravenous glucose saline.

The pathology report reads : Carcinoma of the suprarenal.

Comment :—We are presenting this case because (1) Carcinoma of the suprarenal is uncommon here. (2) In this case there were no endocrine changes. Many cases have been recorded elsewhere wherein malignant neoplasms of the suprarenals were unassociated with endocrinal symptoms ; in some cases these may occur.

Lt.-Col. C. K. P. Menon's Unit :

A CASE OF SYNOVIO-ENDOTHELIO-SARCOMA.

Pachiayya Pillai, 22 years, was admitted for a swelling on the right leg.

The patient noticed a small swelling on the upper part of the medial side of the right leg some three years ago. It remained the same size till 3 months ago when he received an injury over the swelling. From that time that it had grown in size, become painful and interfered with his normal movements.

A nodular swelling 4" × 4" × 3" was seen occupying the upper one-third of the medial surface of the tibia. It was firm in consistency with soft fluctuant areas here and there. A few dilated veins were seen coursing over the tumour. Skin was not attached to the tumour, and the tumour could be easily moved over the tibia. It could be moved from side to side but became fixed when flexors of knee were made to contract. The tumour was warm and slightly tender. The regional glands were not enlarged.

Investigation :—X-ray of the leg—No bony change.
X-ray of the lungs—No secondaries.

A pre-operative diagnosis of synovioma or a fibrosarcoma was made and the tumour was excised. During the operation it was seen to cover the anterior and the posterior surface of the sartorius and lying over the gracilis and semitendinosis tendons arising from the sub-sartorial bursa. It was encapsulated and not infiltrating the muscles and not connected to the knee joint.

Pathological report :—Synovio-endothelio-sarcoma.

It is proposed to give post-operative deep therapy.

This case is presented because it is a typical case of malignant synovioma in view of the fact (1) that it has occurred during the third decade of life and (2) in the region of the knee joint from the bursa and (3) the recent trauma has converted this probably benign synovioma into a malignant one and (4) of the typical microscopical features.

Lt.-Col. Sangham Lal's Unit :

HYDATID DISEASE OF THE BREAST AND THE PAROTID GLAND.

A lady aged 30 was admitted under Lt.-Col. Sangham Lal for (i) a lump in the upper medial quadrant of the left breast, (ii) a lump over the angle of the mandible on the right side and the parotid gland of three years' duration.

Lump in the breast :—Cystic, freely mobile and was not fixed to the chest. Transillumination—opaque. No dilated veins were seen on the surface. The axillary, supraclavicular and the mediastinal lymph nodes were not enlarged.

Lump over the angle of the mandible:—Smooth, tense and cystic. 'Hydatid' thrill was elicited. The lump was adherent to the deeper structures. A slight facial paresis was noticed on the right side.

Skiagram of the skull and mandible:—The mandibulo-mastoid recess was widened and the posterior margin of the ramus of the mandible was concave.

Other bones showed no radiological evidence of cysts.

Treatment:—The cyst in the breast was dissected by reflecting the skin through a semicircular incision on the medial aspect of the lump. As the cyst was being separated, it ruptured and clear fluid with a number of daughter cysts escaped. The ecchinococcal origin of the cyst was recognised on the table.

A second operation was undertaken to remove the hydatid cyst with the parotid gland. Under general anaesthesia, the skin over the lump was easily reflected and the cyst was dissected out. The cyst was found to extend deep into the recess between the mastoid process and the angle of the mandible, reaching the base of the skull. The transverse process of the first cervical vertebra was identified and the pulsating internal carotid artery and the internal jugular vein were visualised. The cyst was seen extending deep to the base of the skull and was adherent to the base, the vertebral process and the neighbouring structures. During dissection the cyst wall ruptured. The cyst wall was entirely removed and the area was touched with carbolic acid and alcohol.

Pathological study of the specimens: Breast:—The ectocyst was formed by fibrous tissue and mammary gland and the endocyst contained a large number of daughter cysts.

Parotid gland—The parenchyma of the salivary gland and a thin fibrous layer formed the ectocyst. The endocyst was pearly white and contained a number of daughter cysts.

The cysts were multilocular cyst and in the case of the parotid gland, the cyst was adherent to the bony structures.

Hydatid disease of the breast and the salivary gland is rare. Geschickter in his monograph on 'Diseases of the Breast' refers to the incidence of hydatid cyst of the breast as occurring 'most rarely'. Kaufmann mentioning about the rarity of the condition, has recorded a hydatid cyst of the size of a hen's egg. Craig and Faust compiled statistics from several workers and they did not give percentage of incidence in breast or salivary gland separately. Perhaps they have included it under 'Other organs 2.8—4.2%'.

The Department of Pathology, Madras Medical College, has previously reported echinococcal cysts from rare sites such as mesentery, mediastinum and thyroid gland.

Lt.-Col. C. R. Krishnaswami's Unit:

A CASE OF FOREIGN BODY ABDOMEN HELD IN A JEJUNAL POUCH.

Ramiah, aged 23 years, who was convicted for theft of a cycle, swallowed eleven four anna coins five months ago on an attempt to commit suicide.

Unusually it produced no symptoms of complete or partial obstruction nor were such small coins passed spontaneously in the motions. He was admitted a few times and discharged without any presenting complaint. He was advised operation all through this time, for which he was not willing.

X-ray taken showed all the coins grouped together in the left lumbar region (? in sigmoid colon) and thinking it would come out, we waited for long, but failed to see them come down. Then he was again admitted on 23rd August 1949 without any complaint. X-ray showed the same picture. Screening showed that the mass moved slightly with respiration. With the idea that it was in some region of gastro-intestinal tract which is directly or indirectly attached to the diaphragm and because of its stationary position, we opened the abdomen.

On opening the abdomen, we searched the sigmoid, the descending colon and the transverse colon and the caecum. We could not find the coins. We searched the lower part of small intestines with no result. Lastly, we began the search from duodeno-jejunal flexure and we found them about one foot distal to this site. All of them were found together in a pseudo-cul-de-sac of the jejunum. Convalascence was good.

Comment:—It is unusual to find such small coins in the gastro-intestinal tract, more so in the jejunum and much more so to find them all clumped together.

Lt.-Col. Sangham Lal's Unit:

A CASE OF RECURRENT VOLVULUS OF THE CAECUM AND ASCENDING COLON DUE TO NON-ROTATION OF THE GUT.

B. S., male, aged 32 years, was admitted on 12th June 1949 for a complaint of pain in the right iliac fossa of 15 days duration. The pain was unrelated to food. Occasionally he got attacks of severe pain with vomiting. He gave a history of dysentry ten years ago, but no history of jaundice. Patient has lost weight since the onset of pain.

On examination there was a swelling in the middle line. The lump was intra-abdominal, extending from about 1½" from the costal margin to a little above the umbilicus, and was mobile. It was seen to move freely on respiration. The lump occasionally disappeared spontaneously. There was no clinical evidence of a renal tumour. Liver and spleen were not palpable. Testis was normal. Examination of the other systems did not reveal anything abnormal. X-ray of the chest—nil abnormal. Blood pressure: 125/85. No leucocytosis Motion—No amoeba or ova. On 2nd July 1949, the Condition was suggestive of recurrent volvulus of the pelvic colon.

Investigations:—F. T. M. within normal limits. Barium meal, Moderately sized, and hyposthenic stomach. Contours normal. Emptying normal. D. C. fills normally. Lateral fornices sharp and tender. Duodenum appears to be reversed Proximal jejunum persistently on the right side. I. V. Pyelogram—Nil Abnormal.

Barium enema:—Descending colon fills normally. The caecum was on the left side in between descending colon and transverse colon. Transverse colon looped. Splenic flexure normal. Emetine 10 gr. given.

Operations notes:—Under spinal anaesthesia, operation was done by Lt. Col. Sangham Lal with a left paramedian incision. On opening the peritoneal cavity, examination revealed the descending colon and pelvic colon being normal. The transverse colon was kinked on itself and congested and was enveloped by the omentum. Further exploration revealed that the caecum ascending colon and hepatic flexure were not in their normal position, but were lying free in the peritoneal cavity in the left side of the abdomen. The caecum and the ascending colon were in a hypertrophied state. There were a few bands of adhesions as a result of old attacks of volvulus. The duodeno-jejunal flexure was on the right side with the proximal jejunum, the whole condition being one of reverse rotation of the gut with recurrent volvulus involving the caecum, ascending colon and frontal part of the transverse colon. In view of the state of affairs, on the history of recurrent attacks hemicolectomy involving the caecum, the ascending colon, and the transverse colon beyond the kinked part was done and the end of the terminal ileum was anastomosed to the descending colon.

Dr. C. P. V. Menon's Unit:

A CASE OF PANCREATICO-DUODENAL ANASTOMOSIS.

Sankaran Nair, aged 25 years, was admitted in the Government General Hospital, Madras, on 24th October 1949 for symptoms of duodenal ulcer. Investigations proved the correctness of the clinical diagnosis and a gastro-duodenectomy with antecolic polya anastomosis was done on 31st October 1949. When the duodenum was being mobilised, the common bile duct and the pancreatic duct were accidentally cut through. So after reopening the already closed duodenal stump, the head of the pancreas with the common bile and pancreatic ducts, was invaginated inside the duodenum with a double layer of continuous sutures. The field of operation was covered by the omentum and drained through a separate stab incision on the flank Local sulphanilamide was applied and the abdomen was closed in layers Post-operative chemotherapy and penicillin were given for one week. The main operative wound healed by first intention. On the 10th post-operative day, there was some pain and swelling over the duodenal area and slight serous discharge through the stab wound. So a rubber catheter was passed through the stab wound and a large quantity of bile-stained fluid escaped. A duodenal fistula had occurred. So the catheter was removed. At present both the wounds have healed well and the patient is completely alright.

This is an example of accidental trauma to the bile-duct and the pancreatic duct, treated by implantation of the pancreas into the duodenal stump, resulting in a biliary fistula which was successfully treated by continuous aspiration of the fistula

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Lt.-Col. C. R. Krishnaswami's Unit:

A CASE OF CONGENITAL MEGACOLON.

R, aged 24, was admitted for progressive constipation from childhood and extreme distension of the abdomen. As a child he used to pass motion only once in three days and at present his bowels more only once a week.

The colon was standing out prominently with marked visible peristalsis in the abdomen which was enormously distended.

The case was admitted as intestinal obstruction from the out-patient department in view of the constipation, the extreme distension and the colon standing out as an inverted U and a plain x-ray showing colon full of gas. But as the case was observed, that possibility was dropped and a congenital megacolon thought of. Barium enema was taken which showed extreme distension of the colon and the enema lost as it were, in the colon. There was a constriction at the pelvi-rectal junction. Sigmoidoscopy was done which confirmed the findings of the Barium enema. A total colectomy was thought of and the case was prepared, by giving repeated bowel washes given by passing two flatus tubes through sigmoidoscope. Patient was also put on a course of pre-operative sulfaguanidine (50 gm.)

Treatment:—Under high spinal supplemented by gas and oxygen, the abdomen was opened by a left paramedian incision. The sigmoid colon was found distended from the pelvirectal junction upto the splenic flexure. Though the Barium enema showed dilatation of the ascending colon, as the patient was under the effect of spinal anaesthesia, it was thought that the pathology had not advanced far in the ascending colon which was prabably capable of contracting, and that the ascending colon and proximal half of Trans. Colon could be left in; Hence a left hemicolectomy was done and the abdomen was closed. Patient passed the first motion four days later and then had diarrohoea for four days.

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