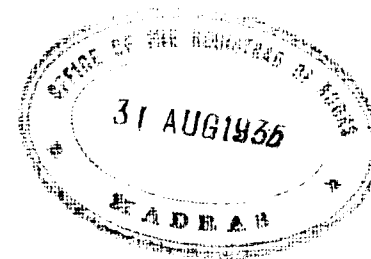


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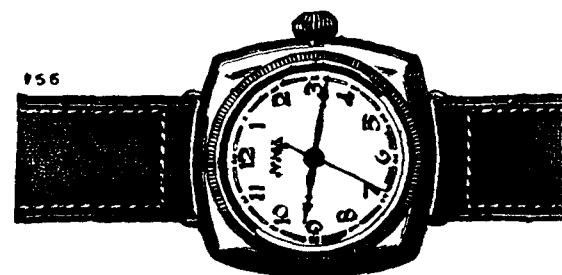
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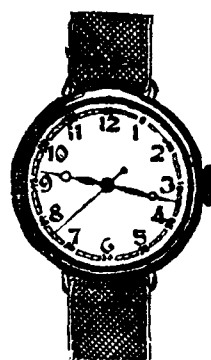


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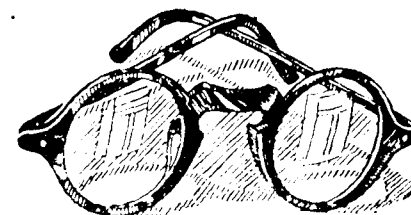
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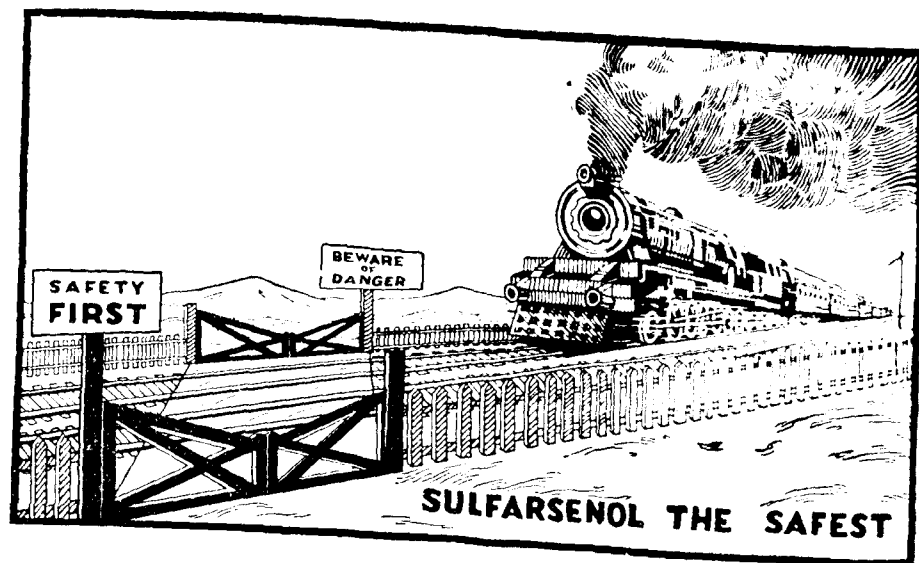
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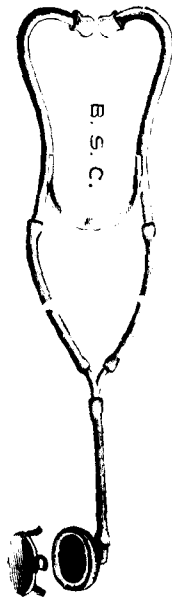
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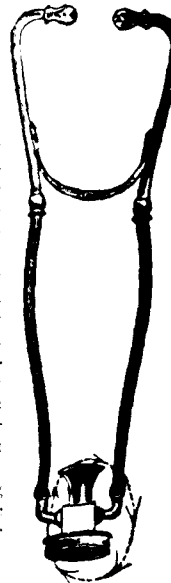


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VOL. XIV

MAY 1955

No. 4

Surgery and Some Experiences.

BY MAJOR-GENERAL SIR FRANK CONNOR, D.S.O., F.R.C.S., V.D.M., C.M.S.

Surgeon-General with the Government of Madras.

Examples of the surgical art date back to very ancient times. Little is yet known of the practice of surgery in Sumerian times, that is about 5000 B.C., but we know from the excavations at Ur that their mechanical arts were well developed, and it needs only a fortunate and among the tablets of clay to give us what the Edwin Smith papyrus has given us for Egypt, when at her zenith at about 2000 B.C. This papyrus reveals the work of a skilled surgeon who had seen war service and had a scientific mind having no use for charms and amulets which at a later date clogged Egyptian surgery, as it did surgery in India. The great school of Hippocrates followed a thousand years later. The Chinese probably preferred procedures similar to those of Sumerian times; they were afraid of drawing blood and went in for dry cupping and needle puncture, and the Japanese did much the same until about 1871 when they suddenly adopted the most scientific methods and forged ahead. In China also scientific methods are now being adopted and ancient methods having no scientific basis are being given up but India still clings too much to ancient medical lore. But it will bore you if I proceed with this rather dull history.

The Apposable Thumb.

Perhaps some of you have not realised that the ascendancy of man in the art of surgery, or in any other art, depends on the development of his appposable thumb—that is to say a well developed thumb which can be easily apposed to the tip of all the fingers of the same hand. That thumb has developed side by side with the human brain; without that appposable thumb the hand loses more than half its cunning. If you study the thumb of a poorly-developed ape, such as the chimpanzee or the orang, you will find that his thumb is a poorly-developed structure compared with ours: his brain is proportionately backward. Henri de Mondeville a famous French Surgeon at the end of the thirteenth century A.D. wrote that the surgeon's hands should be well shaped with long, delicate and supple fingers which must not be tremulous: He took for granted the strong appposable thumb. Some of the Dinosaurs with a body as big as an elephant had a brain not much bigger than a chicken, while the modern elephant has quite a fine brain and you may ask where is his appposable thumb? It is, so to speak, in the tip of his trunk, which you know is capable of some most delicate manoeuvres.

Curiously trephining or trepanning as it used to be called, was one of the most ancient operations, and skulls of great antiquity have been discovered with obvious trephine holes in them. This can be very easily explained, because in ancient times as in comparatively modern ones a biff on the skull was not an unusual end to an argument!

And it was gradually learnt that unless the depressed piece of bone was raised or removed brain symptoms would follow immediately or at a later date, if death did not result immediately. In the Stone Age they probably performed the operation with a sharpened flint and I am told that

some tribes such as the Somalis do the operation to-day with a sharpened shell.

A Curious Belief.

A curious belief which existed for some hundreds of years was that gunshot wounds were poisoned, it was generally thought by the gunpowder. To neutralise the poison it was thought necessary to cauterise the wounds with boiling oil or with a red hot iron and thus were men tortured in hundreds after every battle. This curious and unfounded belief persisted even up to the time of the battle of Waterloo. It was the great Ambroise Pare, a military Surgeon, who discovered one day on the field of battle, when he had fallen short of the oil and spent a sleepless night thinking of the awful plight of the poor wretches he had merely treated with some cooling application that these particular patients were better and infinitely happier than their burnt and scalded comrades. He always used these cooling applications after that and wrote about it for the benefit of other surgeons. It was also Ambroise Pare who first used linen thread to tie the ends of bleeding arteries instead of the same dreadful cautery methods and he also wrote about this. But alas! we find the cautery still being used in London over 200 years later; so hard is it to remove prejudice and to change custom.

Perfection not Reached.

In criticising in this apparently superior way the mistakes of our predecessors, one is likely to convey the impression that modern methods have reached perfection. I do not believe this myself for one moment. About a hundred years ago one of the leading surgeons of the period Chassagniac is reported to have stated that he could not conceive how surgery could advance much further. This was at a time when the work of Pasteur and Lister had not begun; that is to say, antisepsis and anaesthetic were

still unknown. More recently Sir Barkeley Moynihan, now Lord Moynihan, is reported to have made a similar statement of the surgery of to-day—but perhaps he was in his Irish way “pulling our legs.” I personally have not the remotest doubt that there are still undreamt of possibilities in the development of surgery. We have some glimmerings of this in the introduction of new methods of cutting by means of a gentle touch with an electric knife, so called. This seals the bleeding points as it cuts. Then there are the new developments in anaesthesia by means of local or spinal injections, which deaden the part while the other harmless drugs are injected to give the patient sleep; and now still other methods are being tried by means of injection of the anaesthetic directly into the blood stream instead of by way of the lungs, thus doing away with the need of an anaesthetist throughout the operation and also the injurious effects of an irritant on the lungs.

Use of Anaesthetics.

I always think that the stories relating the circumstances under which the two great anaesthetics ether and chloroform were first administered to human beings are very fascinating and the use of anaesthetics in surgery can be fairly claimed to have started in America, and the terms anaesthesia, anaesthetic and anaesthetist, we owe to Oliver Wendell Holmes, the anatomist and poet. Ether was first used in his surgical practice by Dr. Crawford Williamson Long in 1842. It was taken up for dental purposes by William Morton in Boston, who first tried it on himself, then on his dog and finally in 1846 on a patient. He then offered to give a demonstration on one of Dr. Warren's patients at the Massachusetts General Hospital. Everything was arranged and the operating theatre was crammed and the patient placed on the table, but Morton the anaesthetist did not turn up. Dr. Warren was about to start the operation without the anaesthetist when

Morton came in and explained that he had been delayed in experimenting with his apparatus. Dr. Warren, who was very sceptical about the whole thing and irritated by the delay said to him: “Well, Sir, your patient is ready!” The operation was rapidly completed without movement or pain to the wonder of all, and Dr. Warren, at last convinced said to the audience “Gentlemen, this is no humbug.”

Story of Chloroform.

The story of the beginnings of chloroform is still more interesting and hails from much nearer home, from Edinburgh. The credit of using this anaesthetic rests with Sir James Y. Simpson, Professor of Midwifery in the University of Edinburgh. He had been searching for some time for something to relieve the pangs child-birth, and he and his friends Thomas Keite and Mathews Duncan tried various drugs upon each other. A chemist named Waldie of Linlithgo, settled in Liverpool, suggested the trial of chloroform. One evening on the 4th November 1847, these friends and several others were trying the effect of inhaling various vapours and it occurred to Dr. Simpson to try this heavy liquid. They all started inhaling from tumblers and after a period of excitement they all collapsed under the supper table. They were delighted with the experiment and repeated it several times on their friends including a lady, Miss Petrie, a niece of Dr. Simpson: she fell asleep murmuring “I'm an angel, eh. I am an angel.” The use of chloroform, particularly for labour cases, spread rapidly to England and the Continent of Europe, but not without opposition, the Scottish Ministers particularly objecting to it as a mitigation of the punishment inflicted on women by the sin of Eve. Simpson cleverly argued this down by claiming that the birth of Eve was itself associated with an Anaesthetic: “And the Lord God caused a deep sleep to fall upon Adam, and he slept; he took one of his ribs

and closed up the flesh instead thereof : and the rib which the Lord God had taken from the man made He a woman.' In 1853 Queen Victoria was anaesthetized with chloroform during the birth of Prince Leopold and the victory was complete. Thus two great English speaking nations share between them the honour of introducing to the world the first general Anaesthetics."

There is to-day no part of the human body which cannot be invaded by the surgeon in his attempts to relieve troubles. Some of us are inclined to protest against all vivisection but all surgery is human vivisection in the best sense. With the advantages afforded by modern Anaesthetics, not only is the surgeon able to deal with disease or injury, but also to investigate the secrets of human physiology. By means of X-rays also by introducing miniature telescopes provided with minute electric lights into many of the orifices of the body, or through artificial openings, many of the organs can be actually studied performing their function, natural or diseased.

Some Recent Advances in Medicine*

BY DR. R. VISWANATHAN, B.A., M.D., M.R.C.P. (LOND.)

Lecturer in Infectious Diseases, Medical College, Vizag.

Dr. Joseph Loebel has written an enjoyable book with the title "WHITHER MEDICINE" in which he opines that people complain medicine is not progressing, simply because it has progressed so rapidly that they themselves have been unable to keep pace. The public have no doubt about the progress made by medicine during the last few decades. When we take into consideration the enormous amount of worthless printed material which goes under the caption of 'Recent Advances in Medicine,' the actual advance is comparatively small in amount. Many of these so called advances are merely antiquated ideas which did not stand the test of time but were excavated by enterprising individuals who "labouring for invention, bear amiss the second burthen of a former child." For instance, with the introduction of cellular pathology, humours and diathesis were relegated to the museum of archaic ideas, not to speak of the limbo of superstition. Virchow declared that "there is no such thing as a sick body that is disordered in all its parts. I maintain that no doctor can systematically think of a morbid process unless he is able to assign to it a place in the body." But with the discoveries of serology and endocrinology, humoral pathology and diathesis came creeping back, though with new and more scientific attributes. The individual, as Dr. Bernard Hart put it, is no longer regarded "as the uninteresting vehicle of a fascinating disease process." Another instance of the rebirth of an old idea in an illuminated garb is the influence of mind over matter. Osler was a firm believer in the optimism of the doctor in working miracles of cure. The Psychiatrist and the biochemist can find a

* An address delivered at the Dt. Medical Conference, Trichinopoly.

common meeting ground in the fact long suspected but now, as a result of Sir Henry Dale's work, capable of being enunciated as a general law—that all nervous mechanisms produce their effect through the intermediary of chemical substances. This new symbiosis of mind and body, this conception of the individual as a dynamic entity is an important advance in medicine of the present century capable of far reaching influence on its future. Yet another brilliant excavation of an old idea for which of course no credit is taken by the excavator who is no other than the Scholar Physician, Sir Humphry Rolleston, is that diseases change their character from time to time. Sydenham, the British Hippocrates, maintained that acute diseases had seasonal variations with waves measured in months and due, as Hippocrates believed, to Meteorological conditions, so that their character and response to treatment differed within a short period, a feature now so well seen in epidemics of influenza. This idea of changes was vigorously opposed by doctors in the last century like J. H. Bernet and Markham. But now Rolleston has shown by statistical evidence that many diseases, especially, acute infectious diseases like scarlet fever, change their character. He says that they are not rigid entities like precious stones or an issue of postage stamps but are the reactions of the living body when it fails to adapt itself to an adverse environment, internal or external. The practical disappearance of Chlorosis, the absence of once prevailing complications like Pneumonia and Hyper-Pyrexia of acute Rheumatism, the increasing rarity of Tophaceous Gout, the obviously less malignant nature of contemporary Syphilis, the increasing incidence of appendicitis after the return in 1889 of influenza, the growing rarity of typical lobar Pneumonia are some of the illustrations to show the change in the character of diseases.

The doctrines of the iatrochemists, Paracelsus and Sylvius of Leyden in the 16th and 17th century have now assumed an entirely different character in bio-chemistry and metabolism. Blood Transfusion practised by Gean Denys of Montpellier and

Richard Lower was practically abandoned until very recently when the technique was rendered comparatively safe by the discovery of blood groups.

Apart from these happy and interesting rebirth of ideas and conceptions which have received the hoaridom of antiquity, the 20th century has been exceptionally fortunate in witnessing the birth of entirely new ideas in almost all the departments of medical science, particularly, Physiology, Pathology and Therapeutics, which have come to stay and which have reasonable chance of surviving and coming out unsinged from the fire of unrelenting adverse criticisms. With the limited time I have before me, it will be impossible to survey the whole field of modern medicine. I shall therefore confine myself only to the most outstanding of advances in some of the departments of Physic.

Tropical medicine with the help of bacteriology and protozoology under the leadership of Sir Patrick Manson, the father of modern tropical medicine, has developed enormously. Sir Ronald Ross's proof of the mosquito born infection of malaria in 1897 is only one of the first but an outstanding example of the part played by insect vectors and human carriers in infection. The almost settled problem of the vector of Kala-azar is an additional argument for pursuing research in Entomology so far as tropical medicine is concerned, as I am almost certain, that insects are criminally responsible for many diseases prevalent in the tropics. A review of the work of the Calcutta School of Tropical Medicine by Knowles shows a record of useful and important activities in all branches of tropical medicine. Remarkable therapeutic advances have been made in recent years particularly with regard to the treatment of Kala-azar, a very common cause of splenomegaly in Madras though not in this District. The use of organic pentavalent antimonials like the Ureastibamine of Bramhachari and Neostibosan of Napier has brought about a sensational cure for a disease which was at once a bugbear to the public

and a despair to medical men. Mass treatment with these drugs properly carried out leads to the eradication of the disease in an infected area. In case of malaria, the advances though not sensational have been extremely important. An additional proof for the statement of Rolleston that diseases change their character is supplied by malaria which does not seem to conform always to type. Atypical forms of Malaria with atypical temperature charts are commoner than before. The advances in malarial therapy though not sensational have been extremely important. In 1920, Quinine was considered to be the sole and sovereign remedy for malaria. Since then, the Calcutta School demonstrated that the total alkaloids of Cinchona bark constitute an equally efficient and cheaper remedy. The value of palasmoquine in sexual forms thus rendering the patient non-infective to mosquitoes has also been established. The synthetic compound atebirin was now proved to be a successful rival to quinine and is decidedly superior to it in case of malignant Malaria. It is particularly useful in special conditions as quinine idiosyncrasy, blackwater fever and pregnancy. The discovery of monkey malaria is sure to prove of much value in the experimental study of malarial therapy. As regards hookworm infections, carbon tetrachloride is now-a-days discarded as being toxic, particularly to Indian populations. Experimental work has shown that a combination of carbon, tetrachlor-ethylene, with *Oilum Chinnapodium* is perhaps the best treatment for ankylostomiasis. Chronic Amæbiasis has long been and still is troublesome and recalcitrant. The Alkaloids of Kuruchi bark were boomed up as giving excellent results, but later reports are much less satisfactory. Last year, however, the drug carbarsone was found to be of great value in this condition. Col. Knowles believes that its introduction may prove one of the most notable of recent advances in tropical medicine.

Bacteriology through the efforts of Louis Pasteur and Robert Koch began to progress from the middle of the last

century even though the diehard section of the medical public in the early eighties referred to it with a condescending smile as 'the germ theory,' thus intimating that it was the obsession of a crank. But with the discovery of the tubercle bacillus by Koch in 1882, the Cholera vibrio in 1883, the Typhoid Bacillus by Jaffky in 1884, the diphtheria bacillus in 1884, the bacillus of Tetanus in 1889, by Kitasato and the Plague Bacillus in 1894, Bacteriology began to make such rapid strides that, during the early years of this century, people were in serious expectations about the realisation of a long cherished vision of a panacea for all ills. The enormous production of vaccines and seras and their usage in season and out of season have not met with the same success as to justify the Utopian hopes of some of the over-optimistic members of our profession. It is true that they are useful in many diseases but only to a limited extent. But I do believe that bacteriology is a potential field for further research as the last word has not been said in most of the diseases caused by organisms. I am of opinion that further improvement in technic and increase of knowledge about the organisms themselves will help in the production of more successful seras and vaccines. The recent success of two London doctors in producing influenza in Ferrets by inoculating the virus is going to be of far reaching importance as it would greatly facilitate the prevention and cure of that disease. Lot of recent work has been done in filterable viruses, which would form the basis for further investigations in bacteriology.

An entirely new cardiology has resulted from the work of Sir James Mackenzie and Sir Thomas Lewis who have made us look at diseases of the heart from an entirely new angle of vision mainly as a result of the use of the polygraph and the electro-cardiograph. In the latter half of the 19th century, the era of morbid anatomy, physical signs of the underlying structural changes were enthusiastically cultivated and in the case of the heart, murmurs were the data on which diagnosis depended. Even to-day many Life

Insurance Companies and Medical Boards in India do not pass a man as a first class life if he happens to have a murmur over the præcordium, but in the more advanced countries of the world medical men have rightly transferred their attention from the condition of the valves to the functional efficiency of the cardiac muscle. Whether it be a stenosis of the mitral valve or regurgitation through Aortic opening, the heart is capable of compensating for any mechanical deficiency so long as the myocardium is normal. Heart function will be impaired only when the heart muscle is damaged. Hence murmurs and other auscultatory sounds over præcordium are of minor importance in the diagnosis of heart failure. Functional efficiency of the heart is to be gauged by the degree of breathlessness on exertion and by the exercise tolerance tests. The Electro-cardiograph helps us to find out the condition of the myocardium. Radiography has definitely superseded the percussion methods in ascertaining the size and shape of the heart. No less a person than John Parkinson has definitely discarded percussion of the heart as fallacious in preference to orthodiagraphy. Besides it makes possible the inspection of the Thoracic Aorta and the Pulmonary Arteries. Cardiac irregularities like flutter and fibrillation have been classified by the use of the Polygraph and the Electro-Cardiograph. Coronary Thrombosis has now come to be recognised as a separate entity as differentiated from Angina Pectoris. Incidentally, the Coronary theory about the causation of Angina has gained ground considerably owing to the existence of similarity in some of the symptoms in the two conditions. Coronary occlusion is no longer regarded as a necessarily fatal lesion and can often be diagnosed during life. In fact some cases of almost complete recovery have recently been reported. Neuro-circulatory asthenia which attracted much attention during the war is now recognised in civil life as a result of acute infections and focal sepsis. It should be treated by graduated exercise and not by rest. I know of one or two instances of Neuro-circulatory asthenia as a result of influenza being treated as

acute myocarditis with absolute rest in bed and heroic doses of Digifortis. In the province of therapeutics, the massive dose method of administration of Digitalis, Iodine therapy in thyro-toxic hearts before operation, the use of Salyrgan intravenously for the production of copious diuresis in cases of congestive heart failure, the closed mask and nasal catheter methods for the administration of oxygen and complete thyroidectomy with a view to reduce the metabolic rate in people with heart failure are some of the outstanding advances of the day.

The knowledge of blood diseases has considerably advanced largely as a result of the introduction by Ehrlich of new and special staining methods which have enabled to bring the reticulo-endo-thelial system into great prominence. In fact anaemias and leukaemias are no longer considered as blood diseases but as diseases of the reticulo-endo-thelial system. Primary pernicious anaemia is a misnomer, as it is neither primary nor pernicious. To avoid all misconceptions it is to be called after the name of Dr. Addison of Guy's Hospital, who described it for the first time in the middle of the last century. Some of the American research workers, call it by the more scientific but rather cumbersome name as Hyperchromic megaloblastic anaemia as opposed to hypochromic Microcytic anaemia described by Witts recently. I reported two cases of the latter condition before the Indian Science Congress in 1932. Whereas Addisonian Anaemia is the result of the absence of secretion of a haematogenous substance by the stomach cells. Hypochrome Anaemia is caused by want of sufficient amount of iron and copper in the system. The former improves by treatment with liver extract and Hog's Stomach, while the latter rapidly improves by the administration of iron and small doses of copper by mouth.

Gastro-enterology has advanced rapidly owing to the assiduous work of Dr. A. F. Hurst, and his colleagues at Guy's

hospital. In his Alvarez Lecture on "the Unity of Gastric disorders" he attributes almost all the diseases of the stomach to two factors, one constitutional and the other gastritis. Thirty years ago Prof. Knudfaber emphasised the importance of gastritis in the production of Achlorhydria. Hurst who previously attributed all gastric disorders to diathesis has now come round to believe that gastritis is an equally important factor. Without gastritis there is no Achlorhydria, but gastritis does not cause Achlorhydria unless the patient is predisposed to having the hyposthenic gastric constitution. Gastritis in the presence of the hypersthenic diathesis may lead to duodenal and gastric ulcers. It is the conjunction of gastritis with predisposition to cancer that leads to carcinoma of the stomach. It is gastritis that causes Achlorhydria and it is gastritis, not Achlorhydria, that causes Addisonian Anæmia and Subacute combined degeneration of the cord. Hence the prophylaxis of gastritis is the prophylaxis of these diseases. It follows therefore that these diseases could be prevented by the adoption of simple hygienic methods required to avoid the exciting process of gastritis like mechanical, chemical and thermal irritants, infection from teeth, tonsils and sinuses and bacterial toxins from acute infections. But it must be admitted that a universal prophylaxis of this kind is an ideal of perfection, not easily adoptable. It can however be provided for those people who can be recognised from their physical characteristic and family histories as being constitutionally predisposed to develop organic diseases of the stomach. Early recognition of gastritis and gastric ulcer amongst the population of this Presidency will keep gastroenterology mainly within the province of the physician and thereby lessen the work of operating surgeons in Madras whose abilities are now-a-days gauged by the number of gastroenterostomies they have to their credit. The Practitioners by treating gastric diseases in their early stages medically will be doing a service not only to the patients by avoiding a serious abdominal operation but also to the surgeons who will have more time at their disposal to devote to really surgical conditions.

Addison's disease of the Supra-renals and diseases of the Thyroid were the only endocrine diseases recognised a few decades ago. But during recent years endocrinology has advanced by leaps and bounds. Grave's disease or Exophthalmic Goitre which was once considered to be a disease of the nervous system has now been proved by Greenfield to have its origin in Thyroid disfunction. The discussion as to whether it is due to excess of normal secretion or due to an abnormal secretion is still going on without any prospect of settlement. Professor Drouet of Nansy has recently published an account of his work which concludes that over-activity of anterior pituitary is responsible for changes in the Thyroid and that Grave's disease is a combination of primary Hyperpituitarism with secondary hyperthyroidism. He therefore recommends treatment of both pituitary and thyroid by X-rays and of the Thyro-toxicosis by Lugol's solution and Hematothyroidine.

Hyperadrenalism is considered by D'Courcy and co-workers as the cause of essential hypertension. Working on this hypothesis they removed 2/3rds of each supra-renals in many cases with very satisfactory results. Other workers like Oliver and Meilkere also take a similar view as to the value of Adrenalectomy in essential hypertension. If the above view is correct I wonder whether subjecting the supra-renals to deep X-ray exposures will be practicable and beneficial. The Pituitary body has been the subject of enormous amount of experimental as well as clinical research. The isolation of Vasopressin and Oxitosin from the posterior lobe, the preparation by Vandyke of separate concentrated extracts of both growth promoting and gonad stimulating principles from the anterior lobe called respectively Phyone and Hebin, the description of a new Syndrome by Cushing due to a basophiladenoma of the anterior lobe are some of the recent advances so far as Pituitary is concerned.

The influence of parathyroid on Calcium Metabolism and its hyper-secretion in the production of bone changes like

Ostitisfibrosa Cystica have been much discussed recently by Hunter and others. The recent preparation, Cortin, from the Adrenal Cortex promises to be of real value in Addison's disease.

Dr. James Collier's Harvian oration on "INVENTIONS AND OUTLOOK IN NEUROLOGY" while exhibiting the author's powers of description, imagination and philosophic insight, surveys the knowledge of the past as well as the present and seeks for those principles which should guide the development of Neurology in the future. Collier is of opinion that psychical functions of the cerebral hemisphere are not amenable to localization. In fact the speech centre and auditory centre and further subtle subdivisions into idosensory and idomotor centres regarding deafness and blindness can no longer be put into water tight compartments as it used to be before. We have only the vast expansion of the brain, in the words of Sherrington "as an output and input signalling system which is newly arisen as a gigantic combining mechanism for signals from the outside world and as a dominant part of the nervous system which tends to deal with the requirements of the animal as a whole more than does any other part." A new orientation of neurology is occurring. Anatomy and physiology are rapidly becoming exhausted fields for research in neurology which appears to be in imminent danger of being absorbed into other departments of medicine. It is encroached on by general medicine, by biochemistry and by Bacteriology as the recent development in the treatment of posterolateral Sclerosis and of Poliomyelitis illustrate. Psychiatry is no longer such a close preserve for physicians in charge of asylums, as it is more closely related to general medicine—for example the casual influence of toxæmias and local infections. Malarial and other thermotherapy in G. P. I., removal of toxæmias and focal sepsis in mental conditions, treatment with vitamins in some forms of nerve degeneration, adoption of psycho-analytical methods based on Freud's hypothesis are some of the advances in neurological therapeutics.

Amongst the specific infectious diseases, tuberculosis deserves our special attention. Koch's discovery of the tubercle bacillus in 1882 is one of the milestones in the history of medicine. The original belief that a non-fatal infection with tubercle bacilli produce immunity against subsequent infection cannot hold water because though this immunity prevents rapid generalisation, tuberculosis assumes a malignant form in chronic phthisical adults as a result of tuberculin hypersensitivity associated with it. The American National Tuberculosis Association differentiated two types one the childhood type said to be primary and the adult type as a result of re-infection generally. A positive tuberculin test means only that there is hypersensitivity in the individual caused either by a previous infection or by an existing active infection. Rich has shown recently that hypersensitivity and immunity can exist independently and that hypersensitivity may be abolished while immunity persists. A tuberculin-Negative individual when exposed to massive contagion will almost certainly develop a symptomless or mild primary tuberculosis which may become generalised in a child. The positive individual will perhaps develop chronic Phthisis. B. C. G. vaccination which is one of the recent introduction for the prevention of tuberculosis is said to produce tuberculin hypersensitivity as well as immunity. Hence, while a child may be benefited by the prevention of generalised forms of tuberculosis, the protected adult, might after vaccination be at a disadvantage when meeting his first infection owing to this destructive hypersensitivity. B. C. G. vaccination though adopted generally in the continent is not welcomed in Great Britain. It is still too early to say whether B. C. G. vaccination is entirely beneficial. Though constitutional and sanatorium treatment with fresh air, plenty of fare and freedom from care are the main stay in the therapeutics of tuberculosis artificial Pneumothorax, Phrenic Evulsion and Gold Therapy are found to be very useful adjuncts in combating this fell disease.

A review of therapeutic progress during recent years must from consideration of space alone be incomplete since time and

wide experience are necessary to prove the value of new remedies and methods. In the third quarter of the last century devotion to morbid anatomy had bred an honestly pessimistic attitude of therapeutic nihilism which lasted into the eighties and nineties. Hence the main advances in treatment have comparatively been recent. In the annual oration on "New Treatments for old," Lord Horder wants us to remember the harmony that exists and must be preserved between the various organs and tissues when we seek to restore a state of equilibrium which has been temporarily upset. Early years of this century has seen apperilous rush towards extreme specialisations, but how the pendulum is beginning to swing back and the wiser amongst us are beginning to realise that a good doctor though he may call himself Physician, Surgeon or Immunologist must in spirit be all of these.

The discovery of insulin and the adoption of liver therapy are outstanding achievements of long and patient research and strict adherence to the principles of physiology and the established facts of histology and chemistry. The application of technique to therapeutics has led to new methods of treatment as Artificial Pneumothorax, Phrenic avulsion and Thoracoplasty in securing physiological rest to the lung in tuberculosis, blood transfusion in many critical situations, the application of X-Ray and Radium in cases of malignant growths, and such forms of Physiotherapy as ionization, diathermy, ultraviolet rays, high frequency, auto-condensation current, Finsen Light, etc.

In the matter of dosage of drug the pendulum of practice has swung on towards the use of massive doses, a few instances being the doses of Salicylates in Rheumatic fever, of Potassium Iodide in Streptothrix infections, of Hexamine in Cholecystitis, of Alkalies in Peptic Ulcer and Digitalis in heart failure.

Up till now, perhaps even now, with the exception of a few drugs like Quinine and Ipecacuanha, practically every other drug aims at the relief of symptoms rather than the eradication

of the cause. Sir Henry Dale however expects the future to see "a clearer distinction between remedies acting in relief of symptoms or by stimulating bodily functions to higher activity and those which specifically suppress an infection, arrest its progress or directly neutralise the morbid products of the invading organism".

Nutritional research has not only brought about the identification of Vitamins but also isolation of some of them in a state of purity. Vitamins D & C have definitely been isolated and their dosages have also been accurately established.

Recent reports of the results of active immunisation against diphtheria go to show that the success of this method is becoming year by year more striking. The increasing efficacy of serotherapy in streptococcal infections is generally admitted. B. Coli infections apparently yeild excellent results under treatment by the serum of Vincent. Two new methods have been introduced for the control of serum reactions, namely, the the oral administration of pancreatine both as a prophylactic and for relief of symptoms developed and the combined administration of Sodium Benzoate and Salicylate. Tetanus has been treated with remarkable success by intravenous injection of Serum combined with Urotropine, the latter facilitating the entrance of Antitoxin into the cerebrospinal fluid. The recent introduction of Cobra Venom in the local treatment of Haemophilia is a remarkable achievement. French Physicians claim to have employed intravenous injection of alcohol (66 c.c.m. of absolute alcohol in 140 c.c.m. of physiological serum) with success in puerperal sepsis, pneumonia, abscess of lung and streptococcal endocarditis. Intra-abdominal injection of Salyrgan has been used with success in cases of ascites. New remedies and measures have been introduced for dealing with hypertension such as hypodermel injection of .05 grs. of Sodium Cholate, intravenous hypertonic glucose solution and division of the left splanchnic nerve. Angina pectoris has been ameliorated by

intravenous iodine and subcutaneous injection of CO_2 . Migraine and tabetic pains are said to be relieved by injections of antirabic vaccine or intravenous atropine which is particularly useful in gastric cases. An interesting addition has been made to the treatment of gastric ulcer and hyperchlorhydria with the injection of posterior pituitary extract.

The confusing jumble of therapeutic advances enumerated above must make us pause and reflect on the advisability of the adoption of these newfangled methods and remedies. Lord Horder gives a necessary word of warning against the incursion of what he calls the "Mass Man"—the apostle of direct action into medicine. We must be sceptical of tendencies that dissociate themselves from known physiological principles and therefore of remedies that are thrust upon us from outside, the result of ill-digested hypothesis and which never have been submitted to proper control. If we are to consider all the patent medicines that have flooded the Indian Market as advances in treatment, I am afraid, I will be compiling a rival to *Encyclopedia Britannica*. The samples of medicines thrust into my hands by the pestilential multitude of persistent salesmen who are as dogged as the other—perhaps more offensive—plague of mankind, the insurance agent, are sufficient to fill a chemist's shop. The manufacturing chemists and their loyal representatives flourish because even though we are deluged with new ideas and new medicines we clamour for still more. In the words of Lord Horder "Though we are already dyspeptic, we want more food to bolt." We suffer from a sort of mental achylia. There seems no time to chew, and thought which is the juice by which facts may be prepared for assimilation has become denude."

I believe whole heartedly in research: Harvey the great founder of scientific medicine said "seek out nature by observation and experiment." Even though we medical men of this Presidency, whether they be in service or in private practice are

considerably handicapped by want of facilities, it is up to us to create opportunities and use them as much as possible for scientific research. Exigencies of service require and rightly too constant rotation of its members throughout the Presidency, so as to provide equal opportunities to all. Hence, unless a research cadre with permanency of tenure is established, service members of our profession cannot be expected to do much by way of research. The independent medical practitioner on the other hand has greater opportunities at least for clinical research though not laboratory research as his position as the family Physician facilitates study of cases by observation extending over longer periods. But his field also is limited. I therefore strongly advocate an early establishment of a research institute in Madras either by Government or by Public donations so as to enable us to keep pace with other countries of the world in the matter of medical research.

I wish to be permitted to say a final word about advances in the teaching of medicine. I can speak with some authority as I had opportunities to study the methods of teaching both in England as well as in the Continent. I consider the individualistic method of teaching in Vienna to be perhaps the best as it enables the student to come in intimate contact with the professor who seems to have the peculiar knack of understanding the psychological deficiency of each and every student put in his charge. In other countries, the foundation of medical knowledge is laid not by the professors but by the junior members of the staff. Here on the other hand the duty of the assistants however capable they might be stops either with the taking of rollcall or with the copying of prescriptions or cutting catguts out of the hands of surgeons. Medical Education in this Presidency, will not improve unless separate teaching cadres are established for each and every subject and unless the enthusiasm of the young is commandeered without allowing it to fade in the desert air.

My survey of advances in medicine is far from complete but it is sufficient to show that the present period was one of rapid progress. The mist that had hidden the aetiology of many diseases are breaking and dispersing and the prospect is beginning to take form and detail. I shall only pause to wonder with Sir Henry Dale, "Who could say that from this new vision of our enemies, the fire of some imaginative genius might not kindle for the forging of weapons of a type yet unforeseen to give victory at last on yet another field in the battle for life and health."



"The Art of Crowing."

BY V. S. SUBRAMANIAN

I am not at all joking, but am cent per cent serious in writing this article because I feel, as most of my friends do, that crowing is a very important thing to be practised by all those who want to get on in life. It is the finest of all the fine-arts and just as an excellent artist or musician must be a born artist or a born musician, a 'Crow' must be a born crow to practise it in the most exquisite way. Wide experience and thorough knowledge of human psychology is very important for a person before he or she can be a good crow, as there are various types of crows like good crow, bad crow, subtle crow, apparent crow, aristocratic crow, base crow, flirting crow etc. etc., not to speak of the numerous subdivisions and grades in each of the main headings given above.

Before proceeding to discuss the art, and practice of 'Crowing,' let us consider the origin of the word 'Crow.' It really looks very far fetched to associate the art of Crowing, which as I have already said is the finest of the fine-arts; with the detestable bird crow. Well, I have thought over this for many months and now I think that Crowing at its primitive stage of evolution, as practised by our great grandfathers and grandmothers must have been in the nature of low class, base crowing where the 'Donor' (that is the person who crows) must have used all hollow sounding big words of flattery, to win the favour of the 'Recipient' (that is the person on whom crowing is practised,) and these hypocritical words must have sounded as detestable and hollow as the sound 'KA-KA' produced by the bird crow.

Now coming to the definition of the word 'crow,' it is a very difficult task indeed. Surely we cannot call it as flattery, though a constituent of it may be flattery. For instance if you try to crow a person, say your professor with 100 per cent flattery you are not only sure of miserable failure, but perhaps you will gain the opposite end. Of course in certain types of the recipients who are nearer the line of B. Fs. (*i.e.* Big fools) flattery forms a decent constituent of crowing, say up to 10 or 15 per cent. In more polished and higher forms of crowing flattery is actually absent, being displaced by the more subtle ingredients. Of course all human beings do have a certain amount of weakness for flattery, but the 'Threshold' of each individual for flattery differs, and unless the donor is careful enough to find it out, this method of crowing is not a very safe one. For example there are people with very high threshold and in such cases the donors can wrecklessly flatter them without the least fear of being detected. Curiously enough I have observed that most of the pandits, drawing masters and drill instructors come under this category of high threshold values, and perhaps it is due to the fact that the more intelligent types of people do not take to the above mentioned professions. Any way since all the medical men are from the very intelligent class of people, this method of crowing as far as we are concerned, is no good.

If crowing is not flattery, then what else is it? Is it slavery? Surely not; or if it is, it belongs to the lower grade or strata of this fine art, and is practicable only if both the donor and the recipient possess very low type of mentality. Since, if the donor tries it on a normal recipient, he is sure to win not his favour, but his contempt and disgust.

There are few other low types of crowing like giving car, etc., etc., or take some private clients to the recipient,

etc. All these are rotten and base types, not worth including under this fine-art 'Crowing.'

Now talking of the refined, advanced and delicate methods of crowing which can be practised by all especially the students with advantage, let us consider the following important factors.

Firstly the donor should possess 'Personality.' Some are lucky to be born with it, some acquire it, and for those who lack in it we can only give them our heart-felt sympathy.

Second important factor is 'Behaviour.' This means a lot, much more than what we expect, and amounts to nearly 50 per cent I should say. The donor should not give the impression that he is trying to crow, but at the same time he must be careful enough not to appear very indifferent of the recipient. Also it is very important for the donor to get into the practice of using polite words like pardon sir, thank you sir, please sir, may I sir, good morning sir, etc., etc.

Thirdly, what is known as 'First impression' counts a lot in ones success or failure. For instance if you are posted under Dr. X. you should come in time for the first few weeks at least, read up the cases, answer some of the questions, and take down the clinics or the lecture in a note book, (or at least pretend to do so by writing some damned thing, say your name or your *flance's* name 100 times) and while taking down the clinics or the lectures, for heaven's sake don't forget to look often at the lecturer's face in order to (a) attract his attention, (b) and succeed in 'face presentation,' that is make the face familiar to the recipient so that if you happen to see the recipient somewhere in the China Bazaar or the Marina you may be recognised. If the donor fails to create a good first impression, and especially if he succeeds to give a bad first

impression, there is no more salvation for him, and it is perhaps better for him to discontinue the course. But if the donor succeeds in it, he can as well go to sleep for the rest of the period as he will always be in the good books of the recipient. Therefore ladies and gentlemen, please remember that it is no use your postponing this part of your work to the final year, but must begin it even during the third year posting. So also for my younger sisters and brothers of the junior classes, it is no use trying to work hard in the last term of the second year, but must begin at least to put on a show of hard work and earnestness in dissection and practical classes from the very first day of the first year course.

The fourth factor in crowing is the 'Earnestness in work.' Very important it is to exercise a certain amount of earnestness and interest in the work, but much more important it is that this is not overdone, lest the donor might appear to be a Bore, a pest and a regular nuisance to the general work.

The fifth essential factor in crowing is that the donor should have his or her 'Wits' sharp and ready. That is be able to recognise all the intended jokes and wits of the recipient (the lecturer) and laugh even though it may not be laughable. Please do try to be serious and put on an earnest pose at other times even though you may very much feel like bursting out with laughter. Asking some doubts is a very sensible method, but it is rather risky for two reasons namely, the question is apt to be silly and secondly the recipient may be put to a very inconvenient position. As I pointed out in the beginning, all these require a good knowledge of human psychology supplemented with sound common-sense.

Lastly there is one more case to be considered, that is where the donor and the recipient do not belong to the

same sex, "Crowing by flirtation." This method is good as long as the recipient is a bit of a Ladies' man, but is dangerous if the recipient is a down right flirt. In an institution like ours where all the recipients are (unfortunately for us) are men, the donors of the fairer sex are at an advantage, and to those unfortunate donors who are in the majority, I can only ask them to try the various other methods I have discussed above, and at the same time hope for better luck in the next birth to be born a girl.

Other activities of the donors like sports, social service, secretaryship, etc. have some influence on the recipients, but too much of it often prejudices the recipients because some of the recipients are not good at sports, and also because most of the good sportsmen amongst the donors are not good in their work.

Before closing the article I must say that there are some recipients who are so wonderful and ideal, that the donors need not try any crowing, but will do well to mind their own business, that is the recipient is far beyond the crowable zone.

Well ladies and gentlemen, I have said almost everything on the 'Art of Crowing' and it is left to you to practice the same.

*Women Medicos Club***Women Medicos Club.****ANNUAL REPORT.****Introduction.**

The Club was started last year on February 3, at a preliminary meeting of the women medical students presided over by Dr. Amritraj, the warden of the Hostel. The need for bringing into existence of such a Club was to have some kind of life outside our books and studies and to cultivate social intercourse among women students and to habituate ourselves to become more sociable, to entertain others and not the least important to have occasional diversions by way of picnics and parties.

Work Done.

In the objects of the Club are included many more ambitious plans, but, considering what we have been able to carry out in an year and that too in its first year of experiment, I must say we are far short of what we aimed. Yet with the handicap of examinations every six months which keeps our members busy for the greater part of the year, we have not done so badly. We have held five Committee Meetings, two general body business meetings, three picnics, one games and social day, one old girls' day in convocation week. Every one of them, I may say without reservation has been a success.

Handicap.

Of course, as is always the case, there has been a certain amount of obstacles we have had to overcome—in the shape of either conservatism on the part of some, lukewarm enthusiasm on the part of others a kind of un-expressed but sullen opposition from some of our senior members of the College. All this is but a criticism perhaps of our inability to be able to carry out our work better and of our deficient powers of organisation. But with experience comes perfection. So we would beg those who have been sceptical regarding our Club and its work on the one hand to bear up a little with our drawbacks and on the other hand help us to stabilise it to do good work in the future.

For the present, one great achievement the Club can boast of is the hope of bringing back into use the fairly large amount of money collected by our predecessors, more than Rs. 1,000, for the purpose of building a Common Hall. The Principal has very kindly agreed to hand over the sum to us to put it to use according to the object for which it was started. So it is up to us now to see the erection of a Common Hall. Besides this we hope to add yet another enterprise and hope to raise more funds to enable us to buy and maintain a Motor Bus, type-writer, a telephone and perhaps in course of time to set up a small co-operative stores for stationery and sundries, instead of having to go all the way to town for everything. These little conveniences of modern life, we feel should form part of our lives too in the College.

Apart from all this, the Club would like to make a few more representations and press on the College authorities for such facilities as a separate residential quarters for Women House Surgeons attached to the General Hospital.

Finance.

With regard to finance, I have to state that subscriptions from present students have been realised to the extent of Rs. 175-8 so far from 67 members whereas nearly an equal sum is in arrears of payment. We have only two old students who have paid on the rolls. But this latter we hope to make up by properly approaching them again. Though the Club was started in February last year, the actual enrolling of members was commenced only from July so the financial receipts for February to April was confined to the Committee members who paid Rs. 1-8 each. It has been the policy that money realised must be put to the use for the benefit of members and in this direction, in spite of subscriptions coming in rather slowly, our expenditure has not been slow. We have spent liberally on picnics and if regular payments are made we can spend even more. Another big item is our investment of Rs. 25-8 on crockery. We felt it was an essential thing what with our frequent parties. In the coming year, I would suggest similar investment on necessary articles like a big durree or carpet for our meetings and parties, a few more crockery articles like plates and tea pots, and lime juice jugs, etc. Our postage and stationery expense this year is very small indeed but with growing work next year we must lay by for this item too. So it is hoped now that to-day's

Medical College Magazine

meeting decides on reduced subscriptions, there will not be delay in payments and members will voluntarily pay up their subscription.

RECEIPTS.			EXPENDITURE.		
	Rs.	A. P.		Rs.	A. P.
Subscriptions	...	178 0 0	Stationery	...	7 7 0
Old girl's subscriptions	...	9 0 0	Postage	...	5 2 3
Balance of picnic party in February 1934	...	0 13 3	Crockery	...	25 8 0
From Committee Members February to April	...	9 0 0	Books	...	1 3 0
			Picnics —		
			10-8-34	...	48 9 0
			19-1-35	...	15 14 9
			9-2-35	...	9 7 6
			Balance	...	116 4 6
Total	...	194 5 2		...	77 12 9
			Total	...	194 5 3

This is exclusive of Rs. 58 raised and spend last February in connection with the Final Years Party on the beach.

Conclusion.

You have heard a general account of the year's work and to make a long story short, I have put it in as few words as possible. In conclusion I only to say a few words of our future. But first I must take this opportunity of thanking all of you for your co-operation in keeping the Club going. But I consider that merely to run a Club is no use. There must be more enthusiasm and each one of you must feel a sense of personal loyalty and patriotism for an institution which is exclusively yours. Remember this Club is the outcome expression of your own desires and you must show a love and loyalty equal to the shape you have turned your desire into. In our several stages of life through school, college or profession we have to evince a loyalty that stands on a particularly exclusive basis of selflessness that called forth in other walks of life. We have to build a character before we successfully undertake the great art of Healing. And the best opportunities to build that character we have got here in our college life, our club life by way of being useful to one another, of serving each other, of suppressing pettiness and small mindedness, of showing and expressing our loftiness, of being considerate and courteous, in fact of stilling that great weakness which brings havoc and confusion namely selfishness. The proper use of these opportunities alone will enable us to flower out as selfless and broadminded young women of character and nobility.

Women Medicos Club

To the Committee that has always stood united as one person and backed the Club in all its undertaking I must give special thanks. To the President though she has been unable to attend many meetings, we must convey our thanks for initiating and morally backing the Club at all times.

With the change of hands that the Club is going to have in the elections of new office-bearers for the first year, we hope will come in fresh vigour and new ideas and the Club will progress along its useful career and celebrate as many anniversaries as there are years in the store of time.

1st Anniversary Celebrations.

The Women Medico's Club celebrated its first anniversary on the 12th March 1935. Lt.-Col. Newcombe presided. There was a short programme of games, competitions, tea and refreshments followed by music.

Dr. Mrs. Amritraj then welcomed the guests and spoke a few words about the promise of usefulness which the Club held out in working not only to better the social life of the women medicos in general, but also in voicing their requirements and bettering their existing conditions in different spheres, in College, hostels, in the profession, etc. The Secretary then read out the annual report. In bringing the proceedings to a close with his concluding remarks, Col. Newcombe wished the Club a very successful future. He was glad the Club was trying to serve such useful objects as stated by the President, and promised to do all that lay in his power to help the Club in all its undertakings that would be of benefit to the students. The meeting then came to a close, but the members stayed on late till 8-15 P. M. and after a good exercise, to their lungs, screaming, shouting, singing merrily and dancing, dispersed feeling greatly refreshed and happy for the nice time everybody had.

*Editorial Notes***Editorial Notes.**

One thing or another had all the time intervened and delayed the publication of the present number of the Magazine. This delay is much regretted.

The Royal College of Physicians, London, have conferred on Major G. R. McRobert, I. M. S., their highest honour by electing him a Fellow. In honouring him, they have also honoured our College. We hope that the coming years of his labours with us will bring more laurels to him and also to our College.

The following changes in the staff of the College have been effected:—

Col. Plumptre, I. M. S., has proceeded on leave and Dr. A. Lakshmanaswami Mudaliar, M.D., is acting as Professor of Midwifery.

Capt. R. D. Alexander, I. M. S., on leave is replaced by Capt. M. Gerard Kelly, I. M. S.

There is a strong rumour afloat that Capt. R. D. Alexander will accept the post of Professor of Medicine at the University of Lucknow.

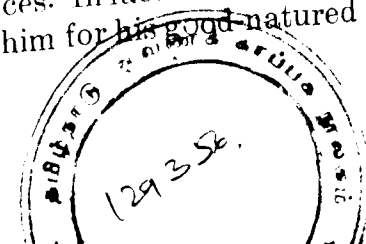
Dr. S. Mannadi Nayar is away on leave to the United Kingdom and Dr. Narayana Rao from Vizag is posted to fill in the place temporarily.

We extremely regret to report the death of Dr. Narasinga Rao, Lecturer in Anatomy at the Vizag Medical College. He joined the Anatomy Department, Vizag, having served as lecturer in that subject both at Tanjore and Royapuram. He was an impressive lecturer and much liked by the students and staff. We extend our sympathies to the bereaved family.

Dr. T. V. Mathew is re-entertained in the service and posted as Demonstrator in Anatomy at the Vizag Medical College. He has richly merited this recognition, if one will remember his labours in the Anatomy museum of our College and also his interesting classes in Junior Anatomy. He was always regarded as an acquisition to the Anatomy Department.

The Outgoing secretary of the Medical College Association, Mr. Janardhanan, had done a good deal to promote the interest of the Association. He strove to make the temporary accommodation for the students at the Jaya Mansion a success. The present number at the 'Mansion' is 80, and perhaps ways and means will be found to take in more students soon. He was quite an enthusiast and organized many excursions and lecture demonstrations under the auspices of this Association. He has all the makings of an indefatigable organizer.

Editing the magazine is not an arm-chair business as many are apt to imagine. In spite of the wealth of material available, we are dying of slow and sure starvation, as our students require yearly a spurring up. Prizes were offered and still we are looking out for a good competition and high water-mark type of material. There is enough talent, and we would like to point out to the students that the Magazine is their own and they should contribute more and more. The staff also has a share in the affairs of the magazine; if there are original articles they would rather have them first published elsewhere and then require us to put up a reprint of them. Why not honour our magazine and raise the standard of our publication. We will be failing in our duty if we omit to mention the unstinted help generously rendered by Dr. J. C. David, Professor of Pharmacology at all times when we required his services. In fact he has much lightened our labours and we thank him for his good-natured help.



The College World.

'To my lady'—

Variety to the men of old
Was spice of life for so they told.
If all the earth were coloured green,
It's beauty could be never seen;
If all the world were made in red,
No one would have invented blood;
But red and white and green and blue
When put together in a hue,
Join to form in one accord
A beautiful majestic world.

A world in miniature form
With all its struggles and alarm
Is in Medical College found
Though within four walls it is bound.
Varied castes, and varied sects,
Varied creeds of both the sex,
Crowded are here to form a world
Of variety unparalleled.

One batch of boys spend all their days
In beautifying their arrays.
Hours set their hair in curls—
Is that to charm the College girls?
And hours move to soap their face,
And have one of their daily shaves.
This waste of time though needs whipping
They all the same look quite ripping.

Amidst the uproar of the boys,
And their violent thundering noise,
Amidst the whispers of the girls,
And their bright smiles as bright as pearls;
There are creatures of one species,

They're creatures—men I dare not call
For they never move with us all.

To laugh aloud they feel's too low,
Their teeth they never wish to show.
Of bacilli they muse awhile,
And have one of their best of smiles.
Their joy of life is Gray and Price,
Or other books about that size.
Sickening though they seem to me
Scholars they all happen to be.

The Bible says the way to heav'n,
Like that to hell is not so e'en,
True to that verse success to us
Means lot of trouble and distress.
Some research workers we possess,
And they with dignity profess,
To have found out a shorter way
It's the surest also they say.

The shorter cut is catching crows,
And save the sweat of your brows.
But 'He that casteth not his net
Shall never catch' the proverb saith
The proverb only mentions 'He'
For it does not apply to 'She';
E'en as what's said of fisher men
Does not apply to king fishers.

'Tween 'He' and 'She' there's difference
In this struggle of existence.
When Adam finds him sin king,
And S. O. S. he's sending
With in 'White ship' the Noah's ark
There is a loud complaining talk.
Of course Eve can never keep quiet,
And so she screams of mosquito bite.

So blessed be the boys who dress,
The crow catchers and all others,

Medical College Magazine

Blessed be not any lady
 For they're over blessed already.
 Having made that point clear
 Let me finish with a small prayer:
 Grant soon, Oh! God, so kind and great,
 For girls a College separate.

With love

FROM M. S. W. MANIVALLI

University of Madras.

Pre-Registration Examination, 1935

INORGANIC CHEMISTRY

MONDAY, 1ST APRIL. 10 A.M. to 1 P.M.

Maximum: 100 marks

NOTE: *Candidates must use separate books for PARTS I and II.*

PART I

1. What do you understand by 'osmosis'?

Describe accurately what happens when a vessel with a semipermeable membrane containing sugar solution is placed in pure water. What is the effect of (a) increasing the strength of the sugar solution, and (b) raising the temperature of the whole apparatus? [20]

2. Explain in terms of the electrolytic dissociation theory (a) the interaction of a solution of copper sulphate with metallic iron, (b) the interaction of a solution of silver nitrate and hydrochloric acid. [14]

3. State Dulong and Petit's law and explain its value in the determination of atomic weights.

If the specific heats of two metals A and B be 0.25 and 0.214, and their equivalents 12 and 9 respectively, what will be the formulae of their chlorides? [16]

PART II

1. Describe, in detail, any method by which the solubility of silver chloride can be accurately determined.

If the solubility of silver chloride in distilled water is 10^{-5} gram molecule per litre, calculate its solubility in decinormal silver nitrate solution. [20]

2. Write a short essay on the theory of the use of indicators in (a) titrations, and (b) P_H determinations. [14]

3. Write short notes on:—(a) partition coefficient, (b) critical solution temperature, (c) heavy hydrogen, (d) ionization constant. [16]

Pre-Registration Examination, 1935

PHYSICS

TUESDAY, 2ND APRIL. 10 A.M. to 1 P.M.

Maximum : 100 marks

NOTE: Candidates must use **separate books** for PARTS I and II.

PART I

1. Explain how you would determine the following physical constants:—(a) the wave-length of sodium light, and (b) the specific rotation of cane sugar. [15]

2. Write a note on electromagnetic induction, and explain the construction and use of a Du Bois Raymond coil. [15]

3. Give the formula for the time of oscillation of a short bar magnet supported at its centre of gravity, and free to oscillate in a horizontal plane under the action of the earth's magnetic field. [16]

Explain how the formula enables you to compare (a) the magnetic moments of two magnets, and (b) the horizontal component of the earth's magnetic field at two places. [16]

PART II

1. Describe two types of hygrometers you have used. Describe the conditions of atmospheric humidity under which (a) the dew-point will be 8°C . below room temperature, (b) the difference between the dry and wet-bulb readings will be nearly negligible. [10]

2. Find an expression for the centrifugal force on a body moving along the circumference of a circle with a uniform linear velocity. [10]

Explain the action of a rotary mercury interrupter used in the primary circuit of an induction coil. [15]

3. Write short notes on:—

(a) Capillary depression of mercury in glass tubes.

(b) Wave-lengths of the radiations from the sun.

(c) A thermo-electric thermometer.

(d) An achromatic lens. [10]

Pre-Registration Examination, 1935

BIOLOGY

WEDNESDAY, 3RD APRIL. 10 A.M. to 1 P.M.

Maximum : 100 marks

NOTE: Candidates must use **separate books** for PARTS I and II.

PART I

1. What are the characters that distinguish higher animals from higher plants? Why is it that in the case of certain lower forms these distinctions fail? [15]

2. Describe the structure and life-history of *Saccharomyces*. Discuss its importance to man. [15]

3. Write short notes on:—Schizogony, Conjugation, Karyokinesis, Amnion, Recapitulation Theory. [20]

PART II

1. Describe the characteristics of a Mammal (rabbit), and show how a Mammal differs from an Amphibian (frog). [18]

2. Describe the nature and structure of the following fruits:—mango, cashew-nut, custard-apple, orange maize. [15]

3. Write notes on:—variation; inheritance of acquired characters; Mendel's laws of heredity. [17]

First M.B. and B.S. Examination, 1935

ORGANIC CHEMISTRY

MONDAY, 1ST APRIL. 10 A.M. to 1 P.M.

Maximum : 50 marks

NOTE: Candidates must use **separate books** for PARTS I and II.

PART I

1. An organic compound on analysis gave the following results:—carbon 31.4 per cent., hydrogen 1.3 per cent., nitrogen 18.3 per cent., and oxygen 48.9 per cent. 11.2 milligrams of the compound dissolved in

100 milligrams of camphor lowered the melting-point of camphor by 19.5°C . Calculate the molecular formula of the compound. (Molecular depression for camphor = 400) [8]

2. What are primary, secondary, and tertiary nitroparaffins? What are their reactions? How do they differ from alkyl nitrates? [9]

3. Give a short account of the methods used to effect the hydrolysis of fats and oils, the nature of the hydrolytic products, and the uses to which these products are put. [8]

PART II

1. Explain the following, giving examples: isomerism, polymerism, substitution, diazotization. [8]

2. How is phenyl hydrazine prepared, starting from benzene? Give examples to illustrate its use as a reagent. [8]

3. What are the general methods of preparing hydroxy acids? Give the properties and reactions of any one of them. [9]

First M.B. and B.S. Examination, 1935

ANATOMY, INCLUDING ELEMENTS OF
HUMAN EMBRYOLOGY

TUESDAY, 2ND APRIL. 10 A.M. to 1 P.M.

Maximum: 100 marks

NOTE: Candidate must use **separate books** for PARTS I and II.

PART I

1. Describe the crystalline lens. What do you know about its development? [16]

2. Give a full account of the thoracic portion of the sympathetic system. [17]

3. Describe the mesenteric part of the small intestines. [17]

PART II

1. Give a detailed account of the styloid process of the temporal bone, and describe the dissection necessary to expose its outer surface. [17]

2. Describe the superior radio-ulnar joint and give the position of the various structures in relation to its capsule. [17]

3. Describe the arterial supply of the foot. [16]

First M.B. and B.S. Examination, 1935

PHYSIOLOGY, INCLUDING BIOCHEMISTRY

WEDNESDAY, 3RD APRIL. 10 A.M. to 1 P.M.

Maximum: 100 marks

NOTE: Candidates should use **separate books** for PARTS I and II.

PART I

1. Give an account of the origin and fate of the blood-cells in adult life. [17]

2. Describe the structure and functions of the glomeruli of the kidney. On what experimental evidence is our knowledge of the glomerular functions based? [17]

3. How may a sample of human cerebrospinal fluid be obtained? Give an account of its origin, composition, and functions. [16]

PART II

1. Give an account of the structure and functions of the sensory nerve-endings in the voluntary muscle and tendon. [16]

2. Describe the interchange of gases between the blood and the tissues. What principles underlie 'tissue oxidation'? [17]

3. Mention the conditions under which the pancreas becomes active. What are the effects of complete excision of this gland? [17]

Second M.B. and B.S. Examination, 1935

PHARMACOLOGY

MONDAY, 1ST APRIL. 10 A.M. to 1 P.M.

Maximum: 100 marks

NOTE: Candidates must use **separate books** for PART I and II.

PART I

1. Describe the pharmacological action, absorption, and fate in the body of iron salts. [20]
2. What are the relative therapeutic values of Digitalis, Strophanthus, and Squill as cardiac tonics? What toxic symptoms may be produced on prolonged administration of these? [18]
3. Describe the pharmacological action of tannic acid. In what forms may it be prescribed? [12]

PART II

1. (a) In what conditions is the administration of oxygen of value? [14]
(b) Describe the therapeutic use of carbon dioxide.
2. What factors modify the activity of a disinfectant? Discuss the mode of action and relative merits of the following disinfectants: Chloramine, acriflavine, boric acid, and cresol. [20]
3. What are diaphoretics? Give examples and explain how the action is brought about in each case. [16]

Second M.B. and B.S. Examination, 1935

HYGIENE

TUESDAY, 2ND APRIL. 10 A.M. to 1 P.M.

Maximum: 100 marks

NOTE: Candidates must use **separate books** for PARTS I and II.

PART I

1. State what methods may be adopted for obtaining and protecting a water-supply for a small labour colony in rural areas. [18]

2. Describe the methods by which the rubbish of a town may be collected, removed, and finally disposed of. What are the principles to be observed in the sanitary disposal of such rubbish? [16]

3. What is a contact bed, and what a percolating filter? Describe each, and state wherein their functions differ. [16]

PART II

1. How is food poisoning caused? What are the characteristics of an outbreak of food poisoning? State briefly the methods of prevention. [17]

2. What are the advantages gained by school medical inspection? Mention the points that should receive attention in the inspection. [17]

3. Write brief notes on—(a) vitamin A, (b) kata thermometer, (c) census, and (d) sub-soil air. [16]

Second M.B. and B.S. Examination, 1935

GENERAL PATHOLOGY AND BACTERIOLOGY

WEDNESDAY, 3RD APRIL. 10 A.M. to 1 P.M.

Maximum: 100 marks

NOTE: Candidates must use **separate books** for PARTS I and II.

PART I

1. How would you decide whether a tumour is simple or malignant? Describe the mode of spread of malignant tumours. [16]

2. What are the post-mortem appearances of a case of porta cirrhosis? [16]

3. Describe the lesion caused by *Bacillus dysenteriae* in the intestines. How would you make a laboratory diagnosis of infection with this organism, and how would you isolate it in culture? [18]

PART II

1. Describe the naked-eye and histological appearances of the kidney in a case of sub acute parenchymatous nephritis. What changes are found in the blood and urine in this condition? [18]

2. Describe the microscopic characters of *Spirochaeta pallida*. Name the other spirochaetes which have to be distinguished from *S. pallida*. Describe the histological changes and possible results of syphilis of the aorta. [18]

3. What are the various forms of leptomenigitis? How does the examination of cerebrospinal fluid assist in the diagnosis of these conditions? [14]

Second M.B. and B.S. Degree Examination, 1935
OPHTHALMOLOGY

FRIDAY, 5TH APRIL. 10 A.M. to 1 P.M.
Maximum: 50 marks

NOTE: Candidates must use **separate books** for PARTS I and II

PART I

1. Describe the signs and symptoms met with in a case of chronic non-congestive glaucoma. [9]

2. How would you treat a case of acute iritis? [8]

3. Describe the ophthalmoscopic appearance in a case of detachment of the retina. [8]

PART II

1. What is the chief malignant growth of eye in children? How would you recognize it in its earlier stages? [8]

2. What are the early evidences of the condition known as keratomalacia? [9]

3. What methods of anaesthesia are used for operations on the eye? Give the strengths of any solutions mentioned. [8]

Final M.B. and B.S. Degree Examination, 1935
FORENSIC MEDICINE

MONDAY, 8TH APRIL. 10 A.M. to 1 P.M.

Maximum: 100 marks

NOTE: Candidates must use **separate books** for PARTS I and II.

PART I

1. Discuss the cause of difficulties in criminal investigation in India. [14]

2. Describe the changes that occur in the body after death. What factors influence them, and how? [18]

3. What are the causes of homicide in India? Describe the characteristics of homicidal cut-throat wounds. [18]

PART II

1. Compare and contrast the appearances of (a) cadaveric hypostasis and ecchymosis, (b) ante-mortem and post-mortem wounds. [14]

2. Describe the signs, symptoms, and treatment of opium poisoning. [18]

3. What procedure should be adopted to examine a case of alleged rape? [18]

Final M.B. and B.S. Degree Examination, 1935
MEDICINE

TUESDAY, 9TH APRIL. 10 A.M. to 1 P.M.

Maximum: 100 marks

NOTE: Candidates must use **separate books** for PARTS I and II.

PART I

1. Give fully the pathology of dropsy. [16]

2. Discuss the causes and differential diagnosis of foetid expectoration. [18]

3. Discuss the pathological conditions which result in destruction of R. B. C. [16]

PART II

1. How would you arrive at the diagnosis of a case of acute dysentery? Give the treatment of acute dysentery. [17]
2. Give the symptoms and signs of meningococcal meningitis in an adult. State exactly how you would diagnose and treat such a case. [17]
3. Give a clinical description of subacute rheumatism in childhood and outline of treatment of such a case. [16]

Final M.B. and B.S. Degree Examination 1935

SURGERY

WEDNESDAY, 10TH APRIL. 10 A.M. to 1 P.M.

Maximum: 100 marks

NOTE: Candidates must use **separate books** for PARTS I and II

PART I

1. Describe the etiology, symptoms, and treatment of tetanus. [17]
2. Describe the varieties, diagnosis, and treatment of tuberculosis of the peritoneum. [17]
3. Describe the manifestations of filarial infection in the scrotum, and indicate their surgical treatment. [16]

PART II

1. Describe the pathology, signs, and symptoms of senile gangrene. Discuss the treatment you would adopt in such a case. [17]
2. Describe the different types of vesical stones, and discuss their signs, symptoms, diagnosis, and treatment. [16]
3. Describe the causes, signs, symptoms, and treatment of epididymitis. [17]

Final M.B. and B.S. Degree Examination, 1935

OBSTETRICS AND GYNAECOLOGY

THURSDAY, 11TH APRIL. 10 A.M. to 1 P.M.

Maximum: 100 marks

NOTE: Candidates must use **separate books** for PARTS I and II.

PART I

1. Discuss the etiology, pathology, signs and symptoms, and complications of vesicular mole. [17]
2. An eighth para is brought to you in labour for sixteen hours and membranes ruptured six hours previously. The head is found at the vulval outlet. Discuss the further observations you would make, the prognosis and treatment of this case at the different stages in labour at which she might have come. [16]
3. Discuss the modern methods of treatment adopted in cases of puerperal sepsis. [17]

PART II

1. What are the common causes of prolapse of the uterus in a parous woman? Describe the sequence of events that take place. Give the details of an operation for anterior coporrhaphy. [17]
2. Describe the naked-eye appearance of a fibromyoma of the uterus. To what symptoms may these tumours give rise? What methods of treatment can be adopted and what factors would you take into consideration in deciding on the treatment you would employ? [17]
3. Give the causes, symptoms, and treatment of *pruritus vulvae*. [16]

M.D. Degree Examination, 1935

(COMMON TO ALL BRANCHES)

MEDICINE (GENERAL)

MONDAY, 1ST APRIL. 10 A.M. TO 1 P.M.

[N.B.—All the questions to be answered.]

- I. Describe the medical treatment of chronic duodenal ulcer. What are the indications for operation?
- II. Discuss the differential diagnosis of lymphadenoma.
- III. What are the signs and symptoms of bronchiectasis? Give the diagnosis and treatment.

IV. State the common varieties of congenital heart disease, their symptoms and diagnosis.

V. Give an account of the symptoms, diagnosis, and treatment of uraemia.

M.D. Degree Examination, 1935

BRANCH I

MEDICINE, INCLUDING MENTAL DISEASES AND PATHOLOGY I

TUESDAY, 2ND APRIL. 10 A.M. TO 1 P.M.

[N.B.—All the questions to be answered.]

- I. (a) Discuss the tuberculous risks for a life assurance.
(b) Give a detailed plan of campaign against tuberculosis in Madars Presidency.
- II. Discuss the distribution, characteristics and relation of the vitamin B complex to health and disease.
- III. Discuss the pathology and symptomatology of encephalitis lethargica. Give the differential diagnosis.

M.D. Degree Examination, 1935

BRANCH I

MEDICINE, INCLUDING MENTAL DISEASES AND PATHOLOGY II

WEDNESDAY, 3RD APRIL. 10 A.M. TO 1 P.M.

[N.B.—All the questions to be answered.]

- I. In what conditions is dysphagia found? Discuss the differential diagnosis.
- II. Give an account of the pathology (including the life history of the parasite), clinical findings, course, complications and ascariasis.
- III. Give details of the treatment and general regime which you would prescribe for a middle class vegetarian Hindu school boy, aged 14 years, suffering from moderately severe diabetes mellitus.
- IV. Give an account of the main organic preparations of arsenic used in medicine and discuss the indications for their employment, the dosage and mode of administration.
What special dangers are involved in their use and how may these be obviated or minimized.

M. D. Degree Examination, 1935

BRANCH II

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN, INCLUDING PATHOLOGY I

TUESDAY, 2ND APRIL. 10 A.M. TO 1 P.M.

MARKS

- I. Discuss the management of a case of pregnancy, complicated by Cardiac Disease seen first in the sixth month. [25]
- II. Discuss the physiological action of the Hormones of the ovary, to what pathological conditions may these Hormones give rise. [25]
- III. How may displacements of the uterus affect pregnancy and labour, discuss the methods of treatment? [25]
- IV. Discuss the causes of Neonatal Mortality. [25]

M. D. Degree Examination, 1935

BRANCH II

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN, INCLUDING PATHOLOGY II

WEDNESDAY, 3RD APRIL. 10 A.M. TO 1 P.M.

MARKS

- I. In what sites are endometriomata found, discuss the etiology, symptoms, and treatment of this condition. [25]
- II. Describe the different types of urinary fistulae, their etiology and treatment. [25]
- III. Discuss the Etiology and Pathology of noninflammatory swellings found in the Broad Ligament. [25]
- IV. Give a critical survey of the treatment of retrodisplacement of the uterus. [25]

*Medical College Magazine***M. D. Degree Examination, 1935**

BRANCH IV

**TROPICAL MEDICINE, INCLUDING THE PATHOLOGY
OF TROPICAL DISEASES I**

TUESDAY, 2ND APRIL. 10 A.M. TO 1 P.M.

[N. B.—*All the questions to be answered.*]

- I. Give an account of the symptomatology, differential diagnosis and treatment of cholera.
- II. Give a short account of what is known of the present geographical distribution of yellow fever. Give an account of the etiology, symptoms and method of transmission. Why is this disease of special importance to India?
- III. Write a short general account of *Filaria bancrofti* including what is known of the method of transmission. Indicate the various conditions produced by filarial infection by this parasite.
- IV. A patient comes to you complaining of passing blood in his stools. Describe how you would investigate his case.

M.D. Degree Examination, 1935

BRANCH IV

**TROPICAL MEDICINE INCLUDING THE PATHOLOGY
OF TROPICAL DISEASES II**

WEDNESDAY, 3RD APRIL. 10 A.M. TO 1 P.M.

[N.B.—*All the questions to be answered.*]

- I. Give an account of the aetiology, pathology, symptoms, differential diagnosis and treatment of the tropical typhus fevers.
- II. Give an account of the aetiology, pathology, symptoms, differential diagnosis and treatment of heat stroke.
- III. Give an account of the aetiology, pathology, symptoms, differential diagnosis and treatment of lathyrism. What measures may be adopted to prevent the occurrence or spread of the disease?
- IV. Discuss the use, dosage and mode of employment of synthetic organic compounds in the treatment of malaria.

M. S. Degree Examination, 1935

SURGERY

MONDAY, 1ST APRIL. 10 A.M. TO 1 P.M.

FIRST PAPER

- I. Discuss the causation, pathology, prognosis and treatment of ankylosis of the Elbow Joint.
- II. Describe the intra-cranial complications of chronic middle ear suppuration, their diagnosis and treatment.
- III. Discuss the pathology, diagnosis and treatment of tumours of the Maxilla.

M. S. Degree Examination, 1935

SURGERY

TUESDAY, 2ND APRIL. 10 A.M. TO 1 P.M.

SECOND PAPER

- I. Discuss the causation, pathology, diagnosis and treatment of Jaundice of surgical importance.
- II. Discuss the etiology, pathology, and treatment of Talipes.
- III. Discuss the etiology, pathology, diagnosis and treatment of Empyema Thoracis.

M. S. Degree Examination, 1935

SURGICAL ANATOMY AND PATHOLOGY

WEDNESDAY, 3RD APRIL. 10 A.M. TO 1 P.M.

- I. Explain the pathological basis of the symptoms which follow the development of
 - (a) an islet-cell adenoma of the Pancreas.
 - (b) a parathyroid adenoma.
- II. Describe the pathological and X-Ray appearances in a case of
 - (a) diffuse Endothelioma of bone (Ewing's tumour).
 - (b) a giant cell tumour of bone.
- III. Describe in anatomical detail the operation of perineal excision of the Prostate.

M. S. Degree Examination, 1935SPECIAL SUBJECT: GENITO-URINARY SURGERY
INCLUDING VENEREAL DISEASES

FRIDAY, 5TH APRIL. 10 A.M. TO 1 P.M.

I. Discuss the aetiology, diagnosis and treatment of obstructions of the Urethro-Vesical Orifice.

II. Rectal stricture:—Discuss the pathology, diagnosis and treatment with reference to the aetiology.

III. Enumerate the congenital anomalies of the Kidney and Ureter. Discuss one of the conditions in detail.

Examination for the Diploma in Midwifery, 1935

MIDWIFERY

MONDAY, 5TH APRIL. 10 A.M. TO 1 P.M.

MARKS

I. Describe in detail the method of investigating a patient developing a rise of temperature in the first week of her puerperium. 25

II. Discuss the course of labour in a case of moderately contracted pelvis. 25

III. Discuss the causation and treatment of Placenta Praevia. 25

IV. Discuss the difficulties and dangers in the use of Obstetric Forceps. 25

Examination for the Diploma in Midwifery, 1935

GYNECOLOGY AND DISEASES OF A NEW-BORN CHILD

TUESDAY, 9TH APRIL. 10 A.M. TO 1 P.M.

MARKS

I. Discuss in detail the diagnosis of carcinoma of the cervix. 25

II. Describe the development of the uterus and vagina; and discuss the malformations that may occur. 25

III. Discuss the etiology and treatment of Metropathia Haemorrhagica. 25

IV. Discuss the indications for removal of the uterus, and the method you would adopt with reasons for your choice. 25

University of Madras**MEDICAL EXAMINATIONS, APRIL 1935.**

The following is the list of successful candidates at the recent Medical Examinations held in April 1935:—

Note:—Names in italics denote female candidates.**Medical College, Madras.****PRE-REGISTRATION EXAMINATION.**

SECOND CLASS.

Rank.	Regr. No.	Name of candidate.	Rank.	Regr. No.	Name of candidate.
1	22	Jagannath, S.	35		<i>Moses, Christiana</i>
2	28	Krishna Rao, K.	36		Nandagopal, T.
	3	Ahmed Hussain, H.	38		<i>Nayudu, Varalakshmi</i>
	5	Anantagiri, V.	40		Pereira, B. J.
	6	<i>Annakutti, P. A.</i>	43		Radhakrishna Chetti, M.
	7	<i>Arokyadoss, Shantha</i>	44		Rajakannappan, A. C.
	9	Balakrishna Ayyar, N.	46		Sanjiva Rao, P.
11		Channabasappa, M. N.	47		Sankaran, S.
15		Gopalakrishna Ayyar, S.	48		<i>Sarah, Samuels</i>
17		Govindarajulu, N.	49		Seshan, A. M.
18		Harirajan, C.	50		<i>Simcock, Ruby</i>
19		Hart, W. S.	51		Somayya, C.
20		Hogg, L. M.	52		Srinivasan, J.
23		<i>Janaki, K. G.</i>	53		Subrahmanyam, C. T.
24		Jansen, R. A.	54		Terry S. W. W.
26		Kannivelu, P. D.	55		Thanaratnam, P.
30		Lionel Bannerji, M. J.	56		Thomas Zacharias, P.
31		Lionel Sylvester.	58		Velayudhan Pillai, K.
33		Madhava Rao, T.	60		Venkataramanan, G. N.
34		Mohanarangam, V.	62		Venkatarama Rao, B.

FIRST M. B. & B. S. EXAMINATION.

PART I.

Register number and name of candidate.

66	<i>Afzalunissa Begum.</i>	81	Korula John, J.
67	Anandan, K. P.	84	Krishnakutti Menon.
68	Arthur, D.	85	Krishna Rao, S.
69	Atmaram Rao, G.	87	Lucas, J. K.
70	Balasubrahmanyam, C. S.	89	<i>Mahboob Unissa,</i>
71	Bhavadasanunni Nayar, K. P.	90	Martin, Fasil H.
74	Davidson, H. A.	91	Mathew, K. N.
76	Gopalakrishnan, C. B.	93	Muhammad Taki Kaleeli.
78	Ittooppunni, P. O.	94	Muttukrishnan, C.
79	Jaganivas, B.	95	Narayanan, G.
80	Jayaram Rao, D.	96	Narayanan Nayar, K.
		97	Natarajan, K. J.

FIRST M. B. & B. S. EXAMINATION—(Contd.).

PART I—(Contd.).

Register number and name of candidate.

98 Radhakrishnan, P.	112 Stephens, D. S. B.
99 Raghavan, T.	114 Sukumaran, R.
100 Rajagopalan, A. V.	115 <i>Sunanda Bai, K.</i>
101 Raja Rao, S. V.	116 Tiruvengadam S.
103 Ramapandiya Raj, V. P.	117 <i>Vedakkan, Daisy</i>
104 Ramaswami, M.	119 Venkatachalam, V. C.
105 Ranganatha Pillai, T. V.	120 Venugopalan, M. S.
106 Ratnakannan, N. R.	121 <i>Verghese, Lucy A.</i>
107 Robert, J.	122 Visvanatha Ayyar, P. S.
108 <i>Saguna Bai, M.</i>	123 Yusuff Siddiq, P.
109 Samuel Victor, J.	127 Marthandam, L. R.
110 Sarathi, K. P.	

FIRST M. B. & B. S. EXAMINATION.

PART II.

FIRST CLASS.

Rank. Regr. No. Name of candidate.

1	180	* Ramachandar, P.
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* Distinction gained in Organic Chemistry, Anatomy and Physiology.

SECOND CLASS.

Rank.	Regr. No.	Name of candidate.	Rank.	Regr. No.	Name of candidate.
1	154	<i>John, Sosamma.</i>	142	Desai, M. D.	
	159	<i>Krishnaswami,</i>	148	Ganesh Mudaliyar, V. E.	
2		<i>Vasantha, S.</i>	149	Gangadhara Kartha, N.	
	202	Sundararami Reddi, G.	155	Krishnamurti, B. N.	
4	163	Madhava Rao, D. N.	161	Kuriya, A. L.	
	212	Waller, S. O.	169	Muhammad Shamsuddin.	
6	188	Sambasivan, V.	171	Nagappa Alva, K.	
7	166	* Money, N.	172	Narayanamurti, V. V.	
8	139	Chandrasekhara	175	Nepal Chandra Dey.	
		Panikkar, T. G.	178	Pushong, E. C.	
9	152	Gopala Menon, K.	183	Ramanathan, A. N.	
	141	Dandapani, T.	184	Rama Rao, K. R.	
10	160	Kumaran, V. C.	192	Satya Joseph, H. A.	
12	187	Rithuparnan, T. K.	193	Shrivastwa, G. P.	
13	140	Coshan, A. R.	196	Srinivasan, A.	
14	133	Antony, P. K.	198	Sriramachandra Rao, C.	
	211	Visvanatha Rao, S.	204	Suryaprakasa Rao, J.	
16	164	Manikkamuttu, C.	205	<i>Thomas, Ebenezer nee</i>	
17	134	Balakrishna Menon, K.		<i>Gnanamuttu</i>	
	127	Marthandam, L. R.	209	Vaidhya, D. R.	
	132	Ali Bahadur Khan,	210	Venkateswar, C. H.	
	138	Chacko, C. W.			

* Originally registered as "N. Sivasubrahmanyam."

SECOND M. B. & B. S. EXAMINATION.

PART I.

Register number and name of candidate.

214 Abraham, M.	245 Paul, T. C.
216 Aga Muhammad Jawad Shirazi.	247 Raghavan, E.
218 Anantakrishnan, T. A.	248 Raju, W. S.
219 Bhaskara Menon, A.	250 Ramalingam, T. T.
221 <i>Connor, Gladys nee Chester.</i>	252 Rangavadivelu, N.
222 Damodaram, P.	253 Sankarankutti Menon, M.
223 Damoder Shenoi, G.	254 Sankaranunni, T.
224 Dominic Sebastian, K.	255 Sivabushanam, K.
225 Duraiswami Ayyar, H.	256 Sivanandam, T. V.
226 <i>Elizabeth, P. K.</i>	257 Sivarama Ayyar, N.
227 Gangadharan Tampi, P.	258 Srinivasan, S. K.
228 Gibson, Heywood B.	259 Srinivasa Rao, B.
229 Govindan Nayar, M.	260 <i>Subbalakshmi, K. S.</i>
231 Humphreys, G. H. F.	261 Sudarsanam, V. C.
232 Jagannathan, M. R.	262 Syed Muhammad Ghouse.
233 Kailasam, P.	263 Vasaya Menon, S.
234 Kamath, M. V.	264 Velayudhan, A.
235 Krishna Pillai, V.	265 Venkatachalam, P. V.
236 Madhavan Nayar, R.	266 Venkatakrishnayya, S.
237 Madhavanunni Nayar, M.	268 Venkateswar, C. H.
238 Mathew, T. M.	269 Vittaldoss, S.
239 Miran Rowther, K. M.	270 Ali Bahadur Khan.
240 Muhammad, K. C.	271 Brahmabhat, K. A.
241 Narayanan Nayar, M. K.	272 Padmanabhan, Nambiyar, E. K.
243 <i>Padmavati, I. K.</i>	276 <i>Thomas Ebenezer nee Gnanamuttu.</i>

PART II.

SECOND CLASS.

Rank.	Regr. No.	Name of candidate.	Rank.	Regr. No.	Name of candidate.
1	308	Lakshminarayana Ayyar,	17	314	Muhammad Ismail, M.
		A.		334	Soundararajan, A. C.
2	331	Shankar, E. A.	19	271	Brahmabhat, K. A.
3	342	<i>Thangamma, K. G.</i>		297	Kasim, P. A.
4	272	Padmanabhan Nambiyar,	21	311	Madhavan Nayar, P.
		E. K.	22	341	Taraka Shenoi, L.
5	339	Sundaresvaran, D.		277	Abdul Karim,
6	329	<i>Samuel Annamma.</i>		279	Audinarayana Raju,
	294	Kalyanarama Ayyar,			S. G.
7		P. K.	282		Buchinarasimham, M.
	312	<i>Mahadevan, Sumathi.</i>	285		Damodara Taravanar, T.
	315	Muttuswami, T.	286		<i>Davis, Lizzie.</i>
9	318	Padmanabhan Nayar,	292		John, J.
		M. G.	293		Joseph, C.
11	302	Kochukuttan	296		Kantappa Hegde, K.
		Thampuram, K.	309		<i>Lalitha, N.</i>
12	295	<i>Kameswaramma, G.</i>	316		Narasimhachari, R.
13	313	Mathuram Santosham,	322		Paul, M. A.
		A. W.	323		Pereira, J.
14	337	Sudhakar Rao, R.	330		Santhanam, N.
15	303	Krishna Bhatta, B.	336		Subrahmanyam, V.
16	325	Ramachandra Setti,	346		Vaughan, E. E.
		P. N.	347		Venkatachari, P.

FINAL M. B. & B. S. DEGREE EXAMINATION.

PART I.

Register number and name of candidate.

348	Audinarayana Raju, S. G.	370	Srinivasan, O. V.
349	Balachandrab Tampi, K.	371	Subba Rao, K.
350	Bhaskaran, K.	372	Ward, W.
351	Chandrasekhara Menon, C.	374	Avudaiappan, T. S.
352	Colledge, Merlyn.	376	Devadas, B.
353	Damodara Das, D.	378	Gopala Pillai, P. P.
354	Eapen, K. E.	379	Karunakaran, Nayar, K.
355	Edwin E. C. Sarah.	380	Koshi, P. K.
356	Gangadharan, V.	381	Padmavathi, K. K.
357	Gopalaratnam, P.	382	Radhakrishna Reddy, G.
358	Govindan Nayar, K.	384	Rajam, K.
359	Isvaran, N.	385	Rangabrahmatanda Rao, I.
360	Jacob, T. M.	386	Sankara Ayyar, G.
361	Joseph, A. D.	387	Saraswathi, M. K.
362	Kunara Menon, R.	388	Sitaranayya, P.
363	Munswami, I.	389	Srikumara Kurup, T. N.
364	Nandlal Bordia.	390	Sundaram Pillai, V. G.
365	Noronha, Teresa.	391	Thomas, M. A.
366	Pankajam, L. M.	392	Vaidyalingam, K. V.
368	Ramachandran, V. K.	393	Varghese, T. C.
369	Rudrani Amma, G.		

PART II.

The following candidates qualified for the M. B. & B. S. Degree:—

SECOND CLASS.

Rank.	Regt. No.	Name of candidate.	Rank.	Regt. No.	Name of candidate.
1	398	Andikesavulu, M.	421		
2	406	Bhimaneshtoshan	422		
3	446	Chattopadhyay.	423		
4	405	Muktha Bai, B.	431		
		Bhupendranath	432		
5	408	Mukhopadhyay.	433		
6	387	Chakrapani Menon, M.	434		
	414	Saraswathi, M. K.	435		
8	432	Dwaraka Bai, G. S.	436		
9	412	Krishnamurti, V.	437		
10	487	Dalai, I. C.	438		
11	485	Venkateswara Rao, T.	439		
12	381	Venkatalakshamma, K.	440		
13	428	Padmavathi, K. K.	441		
14	456	Kokila Ramabrahma.	442		
15	378	Paranjoti, Prakash D.	443		
	402	Gopala Pillai, P. P.	444		
	410	Balakrishnan, V. K.	445		
	413	Chertyan, Mary P.	446		
	417	Daniel, P. H.	447		
	421	George, P. V.	448		
		Grant, May, E.	449		
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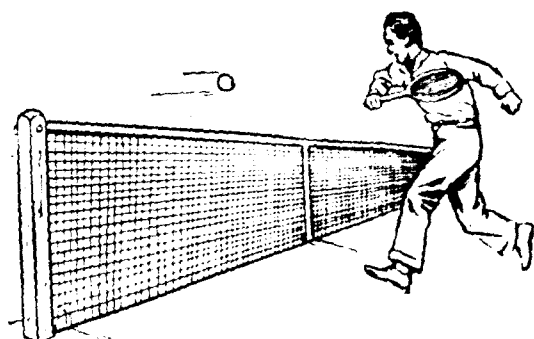
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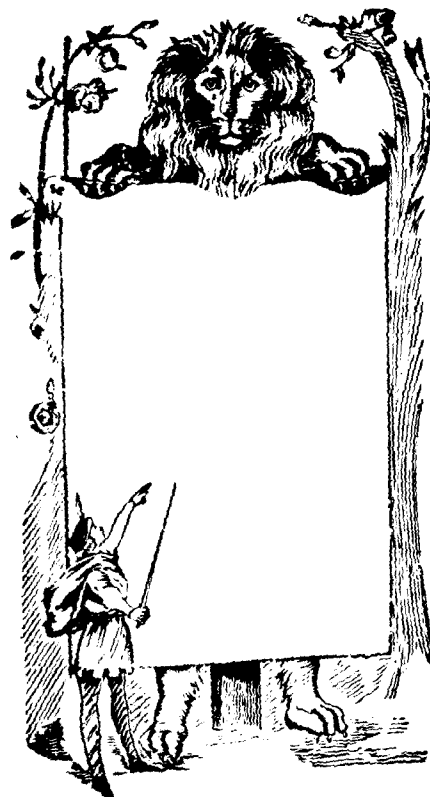


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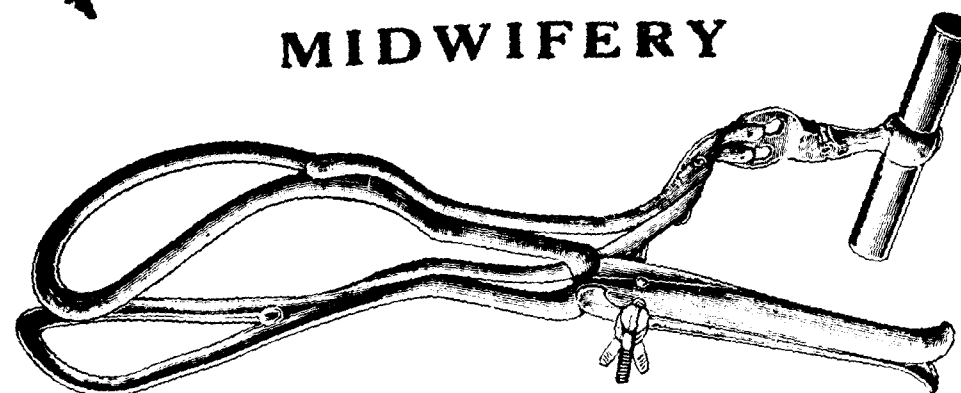
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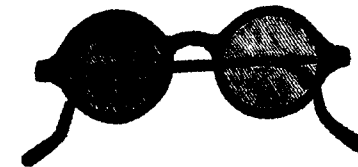
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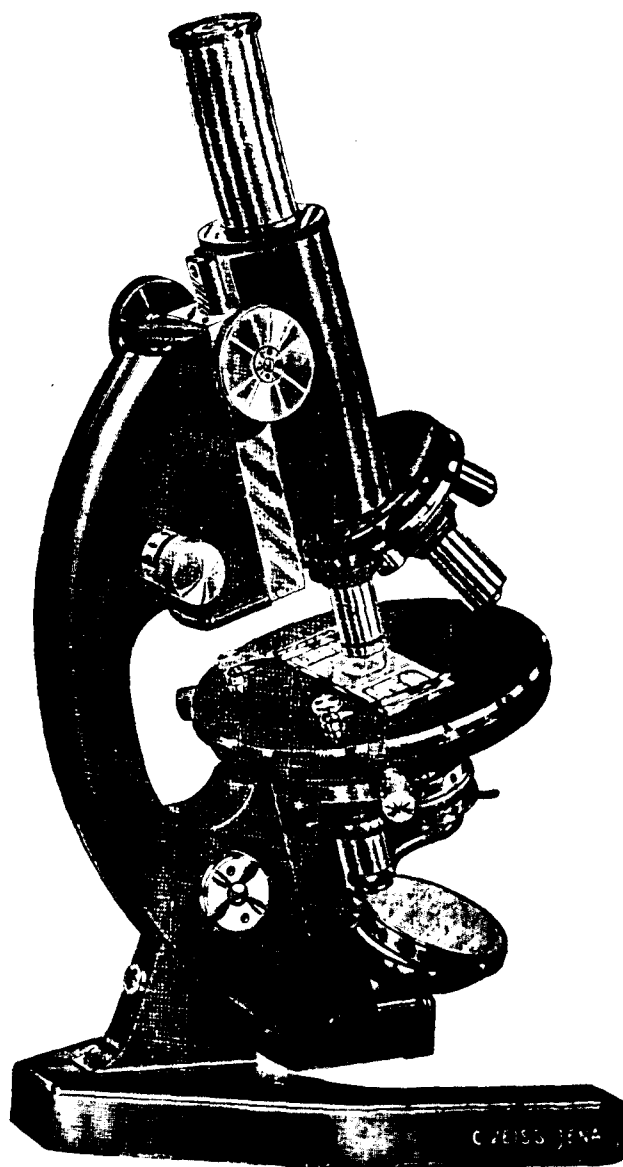
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