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APRIL 1940.

THE MADRAS MEDICAL COLLEGE MAGAZINE

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Vol. XIX.

April 1940

No. 3.

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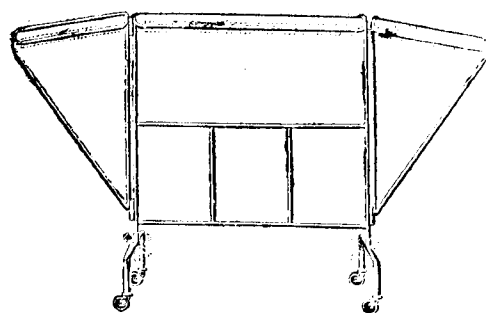
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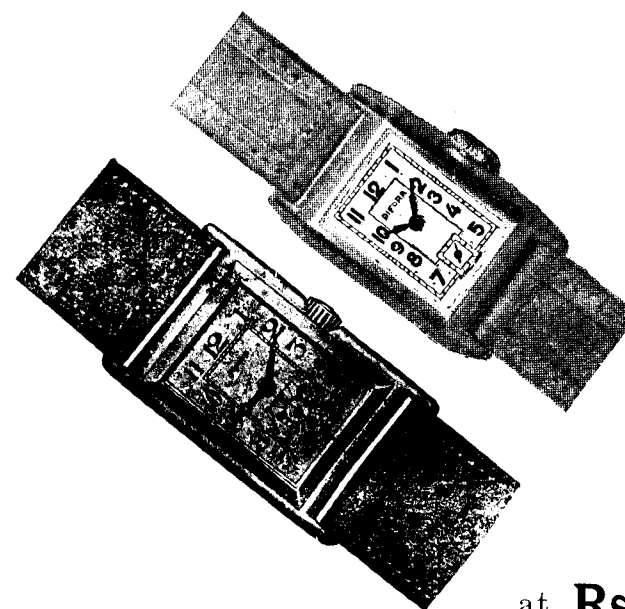
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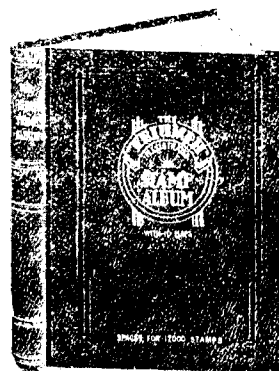
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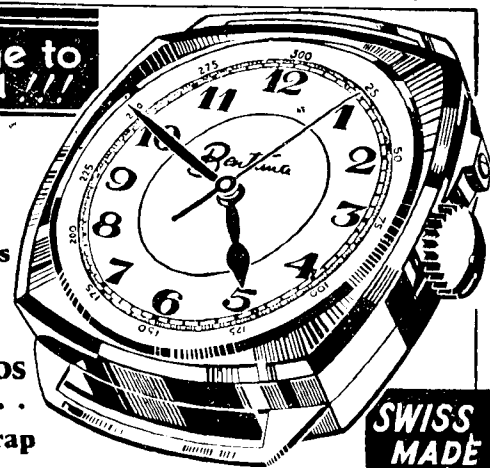
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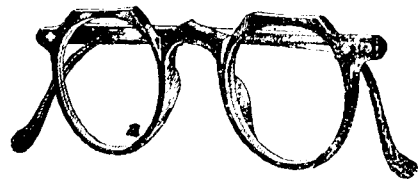
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A great piece of work in the spread of the knowledge of the causes of blindness and the means of preventing this catastrophe was done by the former Prevention of Blindness Committee of the Union of Counties Associations of the Blind. When that Committee was dissolved the work was taken over by a Special Committee of the Ministry of Health, which is continuing the analysis of the certificates of blindness prepared for the local authorities throughout the country. There has been some feeling that a voluntary committee, as part from a Government Committee, might serve a useful purpose in driving home the lessons of these statistical returns to masters of industry and local authorities. Accordingly the National Institute for the Blind, which has done so much and such valuable work for the blind, has appointed a prevention of blindness sub-committee. Its personnel is representative of all classes, lay and medical. The National Institute for the Blind has a report on blindness in India. There is no country in the world to-day where the affliction of blindness is so widespread as in India, nor where the ratio of blindness to population (350 millions) is so high. The totally blind are estimated at one and a half millions, the partially blind at three millions. Again, there is no civilized country in which so little is being done by the State, by public bodies, by voluntary associations (which hardly exist in India), and by private philanthropy to prevent blindness or to alleviate the lot of the blind. Among the reasons for the failure to tackle the problem are primarily the fatalism, common in the East, of regarding physical affliction as an act of God; the strength of the family and caste system, which, though producing many admirable results, limits the outlook and prevents the growth of a civic sense; the fact that nine-tenths of the population live in small and scattered villages or hamlets remote from the amenities of civilized life; and that only one-tenth are able to read and write.

—B. M. J., January 13, 1940.

11 APR 1940
MADRAS

The Madras
Medical College Magazine

Vol XIX.

APRIL 1940.

No. 3.

Hepatology Through the Ages.

(A Historical Note)

BY P. RAMACHANDRA RAO, M.B., B.S. (MADRAS) Ph.D. (LOND.),

Professor of Pathology, Medical College, Madras.

II

HEPATOLOGY OF THE MODERN PERIOD.

"Dissect in Anatomy, experiment in Physiology, follow the disease and make the necropsy in Medicine; this is the threefold path without which there can be no anatomist, no physiologist, no Physician". (Bichat 1771-1802). It is along these threefold paths, that the quest after the lore of modern hepatology has been pursued, assisted, no doubt, in no small measure by collateral advancements in physical and chemical procedures.

Evolution of Modern ideas of Hepatic Structure.

The era of cellular pathology ushered in by Virchow (1821-1902) shortly after the introduction of the use of achromatic lenses into the study of Medicine (1810-1830), saw rapid advances in the knowledge of hepatic minute anatomy. The earlier classical contributions of Kiernan (1833), Beale

(1850-60) and Schmidt (1859 and 1860) to this subject were soon followed by those of Hering (1871), Sabourin (1888), Mall (1896), Hering and Simson (1909) and others. The cells of the reticulo-endothelial component of the organ were first described by Kupffer (1876). Shore and Jones (1889) and Renaut (1897-1899) pointed out the tubular nature of the glandular elements. The knowledge of the important lymphatic apparatus of the liver was the fruit of the patient labours of MacGillavry (1864), Teichmann (1887, 96 and 99), Disse (1890), Wittisch (1874, 1878). Budge (1875), Fleischl (1874) and others. The manner of the intrahepatic distribution of the nervous elements of the liver were studied by Korolkow (1895), Berkeley (1895), Dogiel (1895), Wolf (1902) and Greving (1924). The application of the silver impregnation techniques of Santiago Ramon Y Cajal (1852) and Rio del Horteaga (1851-1918)

modified by Foot and Menard, has enabled the visualization of the reticular frame work of the sinusoidal capillary net permeating the parenchymal mantle stretching between the corresponding porto-hepatic venous terminals. It was also possible by this method to demonstrate the division of the hepatic folium (lobule) into the central zone of capillary branches of the hepatic venule and the peripheral zone of those of the portal venule (P. R. Rao, 1933-1934). But it was not till the growth of Embryology had shed light on the early stages of the development of the hepatic and biliary buds through the illuminating contributions of Mall (1905), Thomson (1908), Toldt and Zuckerkandl (1876) and others, that the controversy regarding the centre of the hepatic lobular unit and the relationship between the hepatic cords and the bile capillaries was set at rest and the way cleared for the lucid presentation by McNee (1925) of his well-known scheme of the hepatic structural unit. The study of the hepatic vascular components by corrosion and Radiographic techniques by Kelly, Eppeln, Mall, Kolliker, McIndoe and others supported the notion indicated by the embryological study that characteristic lobular structure of the organ is determined by the constant pattern of the branching of the porto-hepatic venous trees and that the parenchyma is not a collection of lobular units but is a continuous mantle insinuated between and enshrouding the symmetrically dovetailed branches of the two vascular trees—the Portal and Hepatic veins (Von Theile 1844; Loeffler, 1927). Lastly the unique regenerative power possessed by the hepatic parenchyma—both vascular and glandular—after destruction or surgical removal was revealed by the labours of Rous and Larimore (1920), Mann and Bollman (1926), Fishback (1929) and Higgins

and Priestly (1932) in the field of experimental Pathology. It was also shown that this regeneration was dependent on a proper supply of portal blood and the functional urge offered by it.

Modern Hepatic Physiology.

The latter part of the 19th century saw enquiry into hepatic function proceeding side by side with the quest after knowledge of its intimate morphology. But the multiple vital functional roles played by this composite organ, as a circulatory, haemopoietic, metabolic, excretory, digestive and defensive organ, were however more slowly disclosed and are still far from being fully understood. Though the method of study of function by experimentation on animals is as old as Galen (129-201 A.D.) and the genius of Malpighi (1699) had attempted to study in this manner the influence of ligation of the hepatic artery on the secretion of bile, it was not till the early part of the 19th century, that we find this method of approach to the study of function in health and disease being strongly advocated by Lobstein (1777-1835) and generally pursued by others.

(i) The hepatic artery and its functions:—

A large number of observations, mostly on experimental animals and occasionally from instances of accidental, surgical or pathological occlusion, finally established that the hepatic artery is the nutrient vessel of the biliary excretory apparatus, the vessels and connective tissue framework of the liver. An excellent review of the literature on this subject, from the days of Malpighi (1699) and Simon De Metz (1828) to comparatively recent times (Haberer, 1906; Bainbridge and Leathes, 1907; Behrend

Radesch and Kerscher, 1922; Loeffler, 1928) is seen in a learned paper published by Cameron and Mayes (1930).

(ii) The portal circulation and its dynamics:—

The role played by the portal vein as the functional vessel of the organ was not only concluded from anatomical observations but also by experimental demonstration of the onset of atrophic fibrosis of the gland after portal occlusion by numerous observers (Frerichs, 1858; Solowieff, 1875; Doyon and Dufourt, 1898; Bainbridge and Leathes 1907, Rous and Larimore, 1920; Mann and Bollman, 1926 and 1931; P. R. Rao, 1933). The dynamics of the slowly streaming portal circulation which delivers into the organ a large volume of blood (78-88 per cent of its total blood supply) under a low head of pressure (6-10 m.m.) also received attention (Bayliss and Sterling, 1894; Rosapelly and Villaret quoted by Roger, 1922; Grab Janssen and Rein, 1929). The independent streaming of the gastro-splenic and superior mesenteric currents of blood in the portal vein and their distribution mainly to the left and right lobes respectively, as the probable basis of the characteristic localisation of the hepatic lesion in one or the other lobe in diseases of the two corresponding abdominal visceral territories, was also pointed out by a number of observers (Glenard, 1890; Serege, Bartlet Corper and Long, 1914; Copher and Dick, 1928; Dick, 1928). The careful researches of Cameron and Mayes (1930) exposed the fictitiousness of Gad's Hypothesis (1873) regarding the mechanics of the intra hepatic portal circulation as being dependent on the presence of arterio-venous anastomoses between the

terminals of the portal vein and hepatic artery at the level of the parenchymal periphery of the hepatic foliae. The utilization by Eppinger and Hess (1910) of the ideas of Gaskell, Langley and Sherrington regarding the opposing functions of the two autonomies of the vegetative system for the elucidation of the complex mechanism of physiological equilibrium and visceral neurology, was not without its echo in Hepatology. Bauer and Dale (1932) presumed the presence in the liver of a sluice mechanism situated at the level of the opening of the hepatic veins into the Inferior Vena-Cava controlling the discharge of blood from the liver into the general circulation and operated by the splanchnic and parasympathetic nervous influences. The above hypothesis pieces together into a rational picture, various observations made from time to time regarding (1) the effect of splanchnic stimulation or portal circulation by Von Basch (1876) and Mall (1892), (2) the hepatic discharge of blood into general circulation after administration of adrenalin by Ludwig; (3) the vasodilator and vasoconstrictor action of the hepatic parasympathetic and sympathetic fibres respectively on the portal vein by Berti and Rossi; (4) the manner of distribution of the blood in the liver in anaphylaxis and shock by a large number of observers (Mautner and Pick, 1915; Simmonds, 1919; Arey and Simmonds, 1920; Cori and Mauthner, 1922; Simonds and Ramson, 1923; Bayliss and Starlings; Manwarling, 1911; Vogtlein and Bertheim; Denecke; Weil, 1917; Weil and Eggleston; Gilbert and Villaret, 1900) and (5) the presence of smooth muscle fibres in the walls of the large hepatic venous trunks by Elias and Feller (1926). From the above, the surmise made by Burton Opitz that the hepatic branches of the portal vein possess their own

motor mechanism, innervated by the plexus hepaticus which regulates the pressure and flow of blood in the portal vein and its branches, appears to be a logical conclusion.

(iii) The liver as a circulatory organ:—

The importance of the liver as a reservoir for the storage of blood, protective to the right side of the heart, emphasized by Gerlach, is based on the result of oncometric studies made by Thacher (1909) on the volumetric variations of the liver occurring in response to alterations in the strength of the cardiac contraction. The sponge-like distensibility of the vascular and lymphatic apparatus of the liver which enables this organ to serve as the emergency reservoir for the blood going to the right side of the heart, had however attracted attention much earlier (Munnaret and Ranke, Lauder Brunton, Azoulay and Jacquelin).

(iv) The liver as an organ of lymph filtration:—

The present ideas regarding the position occupied by the liver as an important lymph filtering organ ($1/3\frac{1}{2}$ of the entire lymph of the body being filtered out in the liver) concerned in the metabolism of water in the body is the logical outcome of the numerous studies on the minute anatomy and circulatory (systemic and portal) function of the organ mentioned above. The experimental studies of Conheim and Lichtheim (1877) on the problem of hydraemia and Oedema had blazed the track early for the acquisition of this knowledge. The observations of the lymphatic distension of the organ in experimental animals either after obstruction of the hepatic vein (Bolton and Barnard) or Histamin injection contributed further confirmatory

evidences. The clinical and experimental study, on the mechanism of the onset of ascitis in portal obstruction and the nature of the ascitic fluid have also contributed much to advance our knowledge in this direction. The observations on the lymphogouge action of Peptone noted by Abel and Geiling, has offered the explanation to the adverse influence exercised by a meat diet on the course of ascites in hepatic cirrhosis.

(v) Liver as a Reticulo-Endothelial Organ:—

In the defensive reticulo-endothelial system defined by Aschoff and Maximow the liver takes its rightful place as a major concentration point of this organization on account of its large content of the Kupffer cells and sinusoidal endothelium, whose affinity to intravital dyes was shown by E. E. Goldmann (1909). Later He M. Evans (1914-1915) pointed out the analogy between this affinity to vital dyes and the phagocytic activity of these cells, originally discovered by Metchnikoff (1892-1901). The hæmolytic role of this system and the part played by the liver in the formation of bilirubin were clarified by the endeavours of McNee (1913-24), Whipple (1913) and Mann (1924-25). As already pointed out the demonstration of abundant argentophilic reticulum supporting the sinusoidal endothelium of the hepatic capillaries was of a more recent date (P. R. Rao, 1933 and 1934).

(vi) Liver as a Hæmopoietic organ:—

The active role played by the sinusoidal endothelium of the liver in foetal hæmopoiesis was first recognized by Kolliker (1846) and later by Weber, Neumann (1874), Schmidt (1892) and others. To Mollier (1909) however,

belongs the credit of explaining the common origin from a reticular syncytial stem of the elements of blood formed in the foetal liver and of the sinusoidal capillary endothelium and reticulum appearing later in it. On this observation, depended the rational interpretation of the hepatic changes observed in certain dyscrasias of the blood, such as Icterus Gravis, Anæmia Hæmolytica Neonatorum, Hydrops Foetalis and Leukæmias.

(To be continued)

Blood Groups and Practical Blood Grouping.

BY K. S. RANGANATHAN, M.R.C.S., L.R.C.P. (Lond).,

The King Institute, Quindiy.

Blood transfusion has now been proved to be a most beneficial therapeutic measure and it has come to stay. The number of blood transfusions done each year in the medical institutions in each of the western countries must run into thousands. The same cannot be said of our country. In our hospitals the number of blood transfusions performed is fewer than even some major operations which require considerable skill and perfection of technique. Lack of donors is the frequent reason why blood transfusion is not performed as often as it is indicated. As it is not frequently performed, few medical men have the necessary experience when facilities for a blood transfusion do exist.

Blood grouping tests and tests for compatibility form the most important part of the technique of blood transfusion. These should be done by an expert who knows their limitations. It has been advised that each large hospital should have on its staff at least one man who devotes himself exclusively to this work. The most important cause of reactions, frequently of fatal reactions, following blood transfusions is the use of blood of incompatible group. No apology is needed for the description at some length of the apparently elementary technique of blood grouping.

The blood of human beings is divided into four groups named respectively, O, A, B, and AB. (International

classification). If the red blood cells of certain groups are mixed with the sera of other groups agglutination occurs. This is due to a specific reaction between two substances one of which is present in the red blood cells (agglutigen) and the other in the serum (agglutinin). The reaction is almost similar in nature to the Widal test. The existence of the four blood groups depends on the presence or absence of agglutinogens A and B in the red cells and of agglutinins a and b in the sera. The following table gives the composition of the four blood groups:—

Groups. (International classification)	Cells. (agglutigen)	Serum. (agglutinin)
O.	—	a & b.
A.	A.	b.
B.	B.	a.
AB.	A & B.	—

A person of Group O is known as a “universal donor” since his cells are not agglutinated by other sera. One of group AB is known as a “universal recipient” as his serum contains no agglutinins and so cannot agglutinate the cells of any of the other groups.

Besides the two agglutinogens A and B two others have been described, namely agglutinogens M and N. These are unrelated to A and B and are of special importance in medico-legal cases when the exclusion of paternity is required. They have no practical bearing on blood transfusion.

Grouping test:—To determine the blood group of a person, collect one to two c.cm. of blood with a sterile syringe. Squirt two drops of blood into a test tube containing one c.cm. of physiological saline solution and the rest into a small dry sterile test tube. Separate the serum from the latter by centrifuging.

The microscopic method of blood grouping using a white porcelain slab is simple and efficient. Mark with a glass pencil the letters A, B and O on the top of the white tile and below each place a fairly large drop of the respective group serum. With a pipette transfer an equal quantity of red cell suspension from the test tube to each drop of serum, using a separate pipette for each drop. Mix each serum-cell mixture thoroughly with a platinum loop taking care to heat the loop after each drop. Do not use too small a drop of group serum. On a warm day it may dry up before the agglutination becomes visible. Besides the larger the area of serum-cell mixture, the quicker the time for agglutination to become visible. Now rock the tile to and fro and also rotate it. Care should be taken to see that the drops do not flow into each other. Within a minute or two one of the following four reactions will occur:—

	SERA			Group of Cells is
	Group A.	Group B.	Group O.	
Unknown cells.	+	+	+	AB.
	—	+	+	A.
	+	—	+	B.
	—	—	—	O.

* Note. + Signifies agglutination.

As a rule the reaction is clear cut and easily read with the naked eye. If the reaction is indefinite, the slab should be covered over by a Petri dish with a piece of wet blotting paper

under it to prevent drying and the reading taken again after 15 minutes.

It is usual to determine the blood group by testing the red cells against known group sera as indicated above. But no blood grouping test can be said to be complete unless the serum is also tested for agglutinins using known cells of groups A and B. One can thus check the blood group of the cells. The following table indicates the results of determination of blood group of unknown by the use of cells of known groups:—

	CELLS.		Group of serum is
	Group A.	Group B.	
Unknown serum.	+	+	O.
	—	+	A.
	+	—	B.
	—	—	AB.

For blood grouping “all that is necessary is to secure known sera of groups A and B.” I quote this sentence from a well-known text-book of surgery. In fact, most books teach us the same. Two group sera are ordinarily sufficient. But it should be remembered that group sera are liable to deterioration. It would therefore be safer to use a method which provides in addition a safe-guard for the detection of deterioration of one or both group sera. The inclusion of group serum O in routine blood grouping tests provides such a safeguard. It will be seen from Table I that agglutination produced by group sera A and B must also occur in the Group O serum. The activity of Group A and B sera is thus verified. It would be disastrous to use inactive group sera. Thus if the titre of a group serum has fallen, a blood may be identified as Group O when it belongs to Group A or B, or a blood of group AB may be regarded as group A or B. It is very important that blood grouping

sera should be fresh, active and of high titre. Their potency should be tested at frequent intervals, once a fortnight, with cells of the same person. It would be advantageous to have the results checked up by other laboratories.

To sum up, the best results can be achieved only by attention to every detail. Thus, the blood grouping sera should be fresh and active. The blood should be grouped both as regards agglutinins and agglutinogens. Undiluted blood from the finger should

not be used. Only a 3 to 5 per cent suspension of fresh red cells should be used. Red blood cells from a blood clot are best not used. The porcelain tile should be slightly warm when the test is done. It could be warmed by immersion in hot water and then dried. The use of citrated or oxalated blood is best avoided. Whenever possible the blood should be sent to a well-equipped laboratory as most of the disasters reported in connection with blood transfusion have occurred in cases in which blood grouping was at fault.

(To be continued)

A Case of Vesico-vaginal Fistula

(Case report from 'The Edward Maternity Hospital', Trichur.)

BY MRS. KAMALAM M. MENON,

Hon. Assistant Surgeon.

Name.—K.

Age.—22 Years.

Sex.—Female.

Admitted.—13th November 1939, at 1 a.m. being in labour for five hours.

Previous History.—First delivery was three years ago. The patient was in labour for seven days and delivered only three days after the rupture of membranes, resulting in still-birth. The puerperium was normal except for retention of urine which required catheterisation for seven days. From the seventh day onwards she had dribbling of urine and it lasted for three months after which it stopped spontaneously.

Condition on admission.—Fairly healthy individual. No oedema or any signs of toxæmia.

Urine.—clear.

Heart and lungs.—Nil abnormal.

Abdomen—

Height of Uterus, Full Term.

Condition of Uterus, acting feebly

Presentation—Vertex

Position of the foetus—LOA

Rate and position of F. H.— $\frac{1}{140}$

Relative position of head to pelvis. Head fixed. Greater diameter gone through.

Per Vaginum.—A circular constricting band, in the upper part of the vagina 2" from the vaginal orifice, was felt admitting two fingers with difficulty. The cervix was found to be just above this constriction, as admitting one finger and the membranes loose over the presenting part. The right half of the upper and lower lips of the cervix was found to be adherent to this band. Since the patient was not having pains then and as the first labour was natural, she was left alone. At 4 a.m. examination per vaginum showed no progress whatsoever in spite of fairly good contractions. So it was decided to deliver the patient by the abdominal route. While preparing the patient for Cæsarian section we tried to pass a catheter to draw the urine but the urethra admitted only the tip of the catheter. On being allowed to sit up she was able to pass urine.

The operation was performed (Classical Cæsarian) and a live child was delivered. The patient had a practically uneventful recovery except for a slight rise of temperature (99.4) and offensive lochia on the eleventh day.

On trying to catheterise her for getting a specimen of urine for microscopical examination it was found that there was obstruction in the urethra, the condition being the same as it was noticed at the time of admission and which was thought to be due to the

pressure of the presenting part on the urethra. It is interesting to note that the patient had no retention of urine or any other urinary trouble ever since she was admitted. She was then asked to pass urine and we noticed another opening 1 cm. below the external urethral orifice through which the urine was escaping. On passing a catheter it was found that this opening was leading into the bladder. Examination per vaginum showed that the condition was the same as on admission except for the fact that the cicatrical band was just half an inch from the vaginal orifice and the cervix was found to be adherent to the surrounding tissues.

As the urine was very cloudy, bladder wash was given till the return fluid was clear and then she was put on hexamine. The patient was discharged well on the 21st day.

Remarks.—The cicatrical band and the adhesions might be due to the healing of the lacerations that might have occurred during the first labour. The interesting feature in this case is the sphincteric control of the fistula and the spontaneous cure of the dribbling of urine.

My thanks are due to the Superintendent for allowing me to report this case.

An Operation for Imperforate Anus.

BY CAPT. G. B. THOMAS, I.M.S.

The condition of imperforate anus may merely be that in which a thin membrane occludes the anal orifice, when the treatment consists of simple incision. Or the term may be used to cover a condition in which the anal canal is well formed but in which there is atresia of the lower part of the rectum. In this case the rectum ends as a blind diverticulum from which a fibrous cord passes to the blind end of the anal canal, which may be described as the "anal pit". The length of bowel which is atretic, *i.e.*, the length of the fibrous cord, varies and may be a matter of a few inches or only a fraction of an inch. Very often it is about one-half or three-quarters of an inch.

If more than a thin membrane intervene between rectum and anal pit simple incision will be useless and the question arises; what is one to do by way of operation? One's decision is handicapped by the fact that the degree of atresia of the bowel cannot be determined, so that a simple operation from below may be ineffective, while a colostomy may be more than is required. What, then, are the points for and against the various types of operation and how should one proceed?

Colostomy.—In severe degrees of atresia this may be the only possible treatment, but it is a comparatively severe operation for a newly born child, apart from which it is so objectionable that it should be avoided if at all possible. But how is one to know

whether it can be avoided or not? This will be discussed presently.

Perineal Dissection.—The lower blind end of the rectum may be sought by a perineal dissection in which an incision is made transversely or antero-posteriorly either in front of or behind the anus. It is not an easy operation as the parts are small. Further, shock is considerable even if local anæsthesia is employed. This question of shock is of great importance, not only because of the danger to the child even if the operation is successful but also because it may forbid a laparotomy should one discover so severe a degree of atresia that dissection from below would be profitless. There are the added dangers of injury to the nerve supply of the sphincter ani, to the Levatores Ani, or even to the prostate and bladder.

Peranal Dissection.—The object of this paper is to press the claims of the approach through the anus; the technique will presently be described. I have not seen it described in any book or paper but I make no claim for originality as I have not undertaken an exhaustive search of the literature, and it is in any case so simple in conception that it may well have been used by many surgeons.

Its advantages are:

1. There is no external wound nor extensive dissection and therefore little chance of widespread sepsis in the ischiorectal fossæ.

2. There is no interference with the nerve supply to the sphincter nor with the integrity of any important structures.

3. Shock is almost negligible as there is no extensive dissection and local anaesthesia is used.

4. It follows that if one fails to find the blind end of the rectum in a case of severe atresia the child is still fit for an abdominal operation. Thus it has the chance of cure by a simple operation which, should it turn out to be inappropriate to the condition, does not preclude or even prejudice more heroic measures.

5. Almost a normal condition of the parts is attained.

6. It is appropriate to a large number of cases.

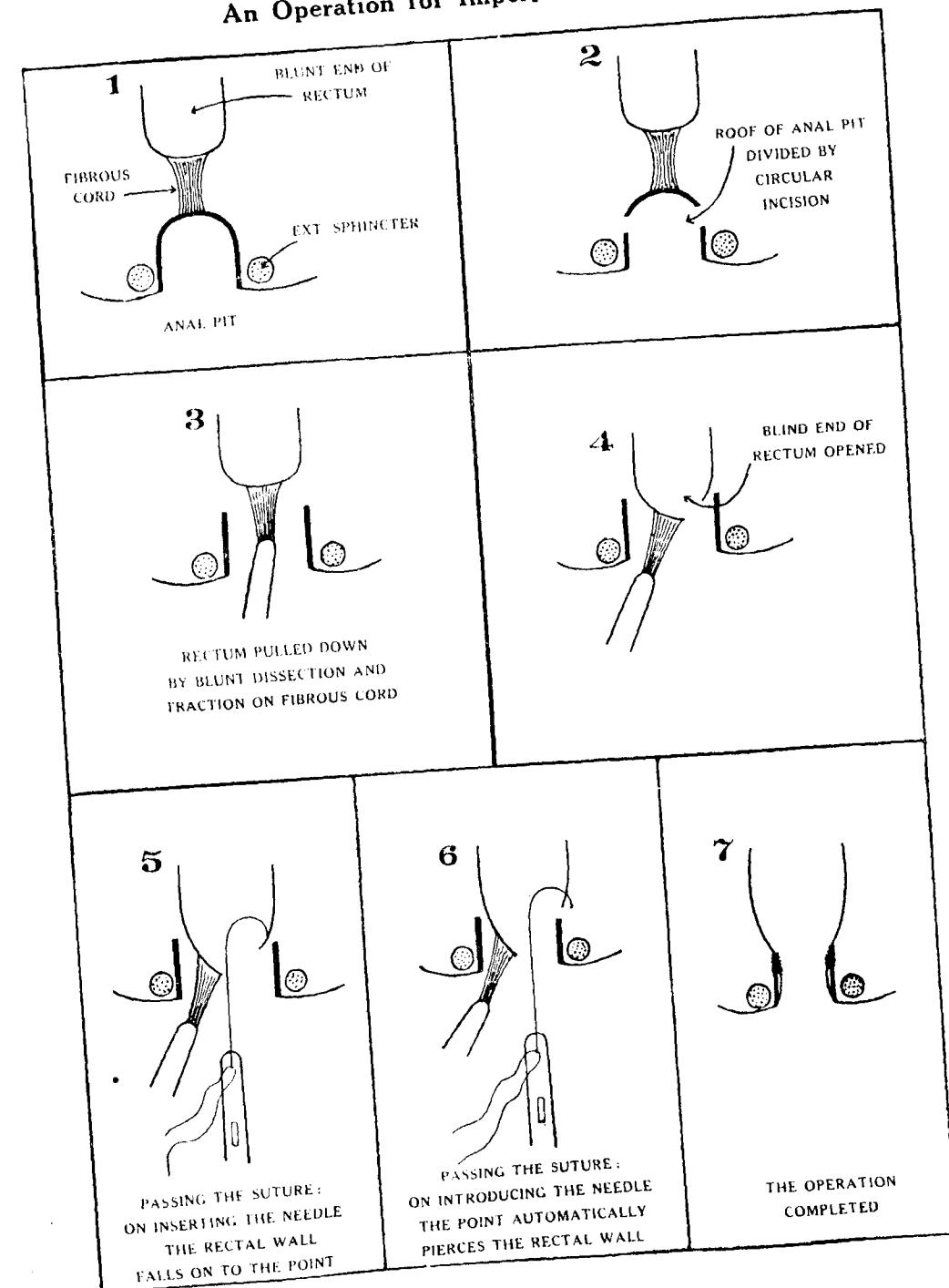
Its disadvantage is that the parts are small and the operation, though not difficult, is tedious. It is not a disadvantage compared with the method of perineal dissection that one may fail to find the rectum. If it could not be found by this peranal technique it would avail nothing to find it by the perineal technique as it would be too high to allow of its being brought down to the anus successfully. If it can be brought down at all it can be brought down by the peranal route.

Technique.—The child is held by an assistant in the lithotomy position. An injection of 1 per cent novocaine is then made around the margin of the anus, after which the needle is passed through the margin up along the sides of the anal pit: in front, behind, and on both sides. About 2 or 3 cc. are injected in each site for a depth of $1\frac{1}{2}$ or 2 inches.

A Killian's nasal speculum is now inserted into the anal pit and held steady by an assistant. A pair of small toothed dissecting forceps now grasps the apex or roof of the anal pit and this roof is excised by means of a circular incision. This is best made by a sharp-pointed Bard-Parker blade—the No. 11 pattern is recommended. A slender pair of Kocher's forceps now takes firm hold of this excised circular piece of anal pit. On its deep aspect is the fibrous cord which connects it to the blind end of the rectum. It is gently pulled upon and closed scissors are now passed up along its sides and then opened so as to free it. It is wise not to cut but to proceed by this method of blunt dissection. Even so, vessels may spurt, when ribbon gauze should be inserted until the bleeding stops. Little by little the fibrous cord is pulled lower and lower until the blind end of the rectum, to which its further end is attached, is seen. It is easily recognised by its dark bluish green appearance resulting from the contained meconium. When a sufficient amount is visible it is snipped open by means of scissors just to one side of the apex—care must be taken not to cut the apex itself or one may divide the fibrous cord which is being used to pull the rectum downwards. A rush of meconium follows and a considerable amount should be allowed to escape to afford the child some relief. Before the operation can be continued it is necessary to check the flow by inserting a pledget of cotton wool into the rectum through the incision that has just been made into it.

The cut margin of the rectum may now be sutured to the cut margin of the anal canal, or else brought down through the canal and sutured to the anal margin; the latter method is easier and probably gives better results.

An Operation for Imperforate Anus



The suturing is not easy as even the smallest needles seem large when one tries to pass them into the small anus. The best way is to put a small J-shaped needle into a needle holder so that its shank is in line with the axis of the needle-holder. It is then introduced into the rectum until its point has passed about 1/8 inch beyond the cut edge. It is then pulled downwards. As it descends the shape of the needle causes the point to pass through the rectal wall automatically. The needle-holder is then removed and used to pull the point of the needle through.

Only about four such sutures are usually necessary. The fibrous cord may for safety be drawn down as far as possible sutured to the margin of the anus. The cotton wool pledget is then removed from the rectum and the operation is over.

The immediate results obtained have been very satisfactory though the late results have yet to be seen. Apart from possible stricture formation, which should be easily treated, there seems to be no reason to suppose that there will be any objectionable sequelae

Extracts.

THE HEART IN ANÆMIA

BY LIEUT.-COLONEL GEORGE R. MCROBERT, M.D., I.M.S.

AND

D. GOVINDA REDDY, M.D.

General Hospital, Madras.

In dealing with a patient with a damaged heart the physician must not only take into consideration the state of the myocardium, valves and vessels, but must carefully investigate the oxygen-carrying power of the blood.

In India, particularly, stress has to be laid on this aspect of cardio-vascular pathology and therapeutics. Again and again, it is found that the child or young person with a mitral stenosis and dyspnoea responds well to large doses of iron, and that when the anæmia has been removed the heart again becomes able to carry on its duties without the production of breathlessness. A number of patients indeed who come to hospital complaining of what at first sight seems to be cardiac disease, are but subjects of advanced anæmia.

In the course of a series of investigations on cases of anæmia we have had a number of serial 2-metre teloradiographs made at the Barnard Institute, Madras, and have been struck by the decrease in the size of the heart shadow in treated cases of severe anæmia. The most striking is that cited below :—

Case 1.—A, male; aged 14 years, Hindu, non-vegetarian; carpenter; re-

ported at hospital on 10th February, 1938, complaining of weakness, precordial distress and breathlessness. The condition had set in gradually and he had not felt fit for four years. The patient was extremely pale, the body and face appeared 'puffy' and there was œdema of the feet with pitting on pressure. The conjunctivæ and nails were extremely pale, but there was no koilonychia nor was the tongue sore. The skin and the angles of the mouth appeared healthy, and careful investigation of the nervous system revealed nothing abnormal—certainly nothing suggestive of beriberi. The urine was normal. On examination of the cardio-vascular system there was bulging of the precordium with obvious diffuse systolic heaving. The apex beat was visible, diffuse and easily palpable in the 6th intercostal space $1\frac{1}{2}$ inches external to the midclavicular line. The jugulars pulsated strongly as did also the epigastrium. No thrill was felt on palpation. On auscultation, the heart sounds were loud and very easily heard; the first sound at the apex and tricuspid areas was followed by a blowing murmur not well conducted, whilst at the base of the heart there was loud systolic bruit. There was no history of rheumatism.

Extracts

Tonsils.—Normal.

Respiratory system.—Normsl.

Spleen not palpable.

Liver palpable half an inch below costal margin; soft and slightly tender.

Examination of the blood revealed a severe microcytic anaemia with anisocytosis and poikilocytosis, but no nucleated red cells. No parasites were seen.

Fæces—numerous hookworm ova.

Van den Bergh—direct negative; indirect positive.

Icterus index 15 units.

Preliminary screening revealed an unusually voluminous heart, generally enlarged in all its diameters.

The cardio-thoracic ratio was 0.71.

It was decided to treat the boy as a pure case a hookworm anaemia and in order to eliminate the rest factor, he was told not to recline in bed except when sleeping, but to move about the ward and verandah. He was given ordinary ward diet, without extras such as fruit and milk or vitamin preparations.

Heart Measurements, Case 1.

	Average	On admission, 10-2-38.	After treatment, 13-3-38
Long diameter	14.0 cm.	15.0	13.0
Transverse diameter	10.1 "	17.2	12.9
Basal diameter	10.7 "	14.0	9.0
Cardi-thoracic ratio	...	0.7	0.54

Ninety grains of iron and ammonium citrate were given daily and the improvement can be seen in figure 3. De-worming was postponed until the hæmoglobin had increased to 40 per cent when 1 c.cm. of oil of chenopodium

and 2 c.cm. of carbon tetrachloride was given. A second course was given later, as shown.

In the course of this simple treatment, the size of the heart was reduced practically the normal limits (figure 2): the precordial pulsations and the loud systolic murmurs completely disappeared.

The boy who had co-operated well in the investigations left our wards an apparently healthy, cheerful and vigorous young specimen of humanity, having gained 20 pounds in weight, with no ova in his fæces and with a cardiothoracic ratio of 0.54.

Another similar case is reported :—

The clinical and pathological findings were practically identical with those already quoted.

Urine—Normal.

Fæces—Hookworm ova.

Wassermann reaction—negative.

Van den Bergh—indirect positive, faint.

Icterus index 8 units.

Blood—Severe microcytic anæmia.

Similar treatment without rest and with ward diet was given. Iron and ammonium citrate, grs. 90 per day, were prescribed. His red cell count reached almost normal figures in 45 days on iron alone. Two courses of worm treatment, as in case 1, were given.

He was discharged feeling fit and strong, having put on 10 lb. in weight and with none of the systolic murmurs present on admission,

Heart Measurements, Case 2.

	"Normal" admission,	On	After
	14 4 38	14 5 38	
Long diameter...	14.0 cm.	16.2	14.7
Transverse diameter	10.1 "	17.0	13.7
Basal diameter	10.7 "	13.5	10.6
Cardio-thoracic ratio	...	0.68	0.56

—The Indian Medical Gazette.

Such cases serve to emphasize the great efficacy of simple iron therapeutics in anaemia in India and the importance of eliminating the anaemia factor before making a diagnosis of cardiac disease.

We have to thank Dr. M. J. Santhanakrishna Pillai, Medical Superintendent, Barnard Institute of Radiology, for the telerradiographs and the measurements.

STERNAL PUNCTURE IN KALA-AZAR.

BY D. GOVINDA REDDY, M.D. & R. SUBRAMANIAM, M.B.B.S.,
General Hospital, Madras.

A number of publications dealing with sternal puncture in the diagnosis of kala-azar have appeared in the past few years. Unanimity of opinion with regard to the value of the method is, however, lacking.

Vaughan (1938) states that parasites in leishmaniasis may be demonstrated more readily in smears of sternal marrow than by any other method.

Napier (1938-1939) in a long series of cases found the method useful but inferior to splenic puncture.

We have been carrying out sternal puncture with Salah's needle as part of routine investigation of anaemia in the wards of the Professor of Medicine, Madras Medical College, for some months and have taken the opportunity of investigating 11 cases of kala-azar.

In two cases, prolonged search of several slides (extending over two hours) failed to reveal the presence of Leishman-Donovan bodies. The para-

sites were readily demonstrated in splenic puncture.

In most cases the findings of leishmania in the marrow smears was a time-consuming and tedious process, whereas the parasites could readily be found in splenic puncture.

Although leishmania bodies were scantily present in the marrow smears of two case spleen punctures were made for demonstrations to the class, and the difference in the ease of finding the parasites was very striking.

In one case the diagnosis depended on spleen puncture. A male Hindu, aged 25, from an endemic area. History of fever of 14 days' duration. The spleen was just palpable. The aldehyde and antimony tests were negative. Sternal puncture negative, after prolonged search. Spleen puncture showed numerous parasites.

Summary and Conclusions.

In a small series of cases it was found that in 2 patients suffering from

Extracts

kala-azar leishmania bodies were not demonstrable in sternal puncture though abundant in splenic puncture.

The method is time-consuming and tedious, although safer and requiring less preparation and after-care than splenic puncture.

A negative sternal puncture should therefore lead to spleen puncture in doubtful cases with equivocal biochemical reactions.

Our thanks are due to Lieut-Col. G. R. McRobert, I.M.S., Professor of Medicine, Madras Medical College, in whose wards the investigations were carried out.

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—The Indian Medical Gazette.

PHYSICS OF THE ATMOSPHERE.

Sir C. V. Raman's Address.

Sir C. V. Raman delivered a lecture on "The Physics of the Atmosphere" at the Gokhale Hall. Mr. S. Satyamurti presided. The lecture was illustrated with lantern slides.

The Chairman said that the existence of such eminent men as Sir C. V. Raman was an authentic guarantee for the great and glorious future of the country.

Sir C. V. Raman said that men lived submerged in an ocean of air which was the sustenance of all life on earth. Man sensed air in all possible ways. Though it was not generally realised, he was seeing air daily in the blue firmament. The firmament was really the atmosphere made visible by the action of light.

Explaining the chemistry of the atmosphere, Sir C. V. Raman said that it was mainly composed of oxygen

and nitrogen. Gradually it was discovered that besides these two, it also contained water vapour, carbon dioxide, several inert gases and small quantity of ozone higher up. But for the existence of ozone, however small the quantity might be, they would all become blind, because the ozone cut up from the sun's rays the ultra-violet and infra-red rays which would seriously affect human sight.

Referring to the physics of the atmosphere, Sir C. V. Raman said that it was the seat of a great number of phenomena of the greatest possible significance and interest to them. He described it as a 'theatre' in which the forces of Nature played their parts for the benefit of humanity. The atmosphere could be broadly divided into two layers, the lower and the upper. In the lower sphere, they had all kinds of turbulent currents and winds, dust storms and other phenomena of great significance from the scientific

point of view. If they were to understand Nature they had to study these phenomena. The main cause of these disturbances was the heating of the air near the earth's surface. Such phenomena as the mirage, the dust storms, fogs and clouds were the result of these changes. The lecturer threw on the screen pictures showing the curious effects in the panorama of the surface wrought by mirage, fog and clouds. All the motions in this sphere were characterised by the cyclic or the vortex motion. These also played a very essential part in the thermodynamics of the atmosphere.

Nature of Clouds.

Sir C. V. Raman then spoke about the nature of clouds, which he said be divided into two groups, the water clouds and the ice clouds. These differed in many respects. The ice cloud was thin and feathery, while the water cloud was bumpy and massy. The ice clouds had very different optic effects. Explaining next the rainbow, he pointed out that the study of rainbow stimulated the study of optical science to a great extent. He also pointed out that the atmosphere in the lower layer was a very bad conductor of electricity and it was because of this poor conductivity that life on earth had not been affected by the strong electric currents formed in the upper layers.

Continuing, Sir C. V. Raman said that of late there had been very sensational development regarding the knowledge of the air in the upper layers. There was a popular belief that the higher one went the cooler

the air became. But that was true only for a small height. Beyond a certain height, the temperature was above boiling point. There were indirect evidence for this statement. The study of the nature of sound, the shooting stars and meteors, the sky after sunset, when the sky was brighter than it ought to be, and the wireless revealed the existence of the hot layer. He also pointed out that while in the lower layer the atmosphere was a bad conductor of electricity, the atmosphere in the upper layer was a good conductor of electricity. The oscillations of the magnetic needle showed that the upper layer was always in motion. The magnetic storms occurring in the regions of the upper air were indicated by the magnetic needle.

Sir C. V. Raman referred to the advances made in the study of the upper layer and explained how the knowledge of the existence of the different regions in the upper layer had helped in the development of the wireless.

Concluding, Sir C. V. Raman said that the study of the physics of the atmosphere from the points of view of the chemist, the physicist and the meteorologist in their different branches had proved that the atmosphere was full of life and had proved of great benefit to humanity.

Slides showing the beautiful forms of the effects of turbulence in the lower layers, of aurora lightnings and charts showing the different strata of the atmosphere were thrown on the screen and explained.

LT.-COL. CHOPRA'S ADDRESS ON "IMPORTANCE OF INDIAN MEDICINAL PLANTS".

India an Emporium of Drugs.

Dealing with his work in connection with the medicinal and toxic properties of the different plants in India, Bt.-Col. Chopra said that this work should interest them from the scientific and economic point of view. Further, the significance of the large numbers and wide prevalence of plants toxic to man, livestock and insects had not so far been fully appreciated in this country and vast as the vegetable resources of this country, were, they were not being properly exploited to the best advantage of the people. After a general survey of the climatic condition of India, the general features of Indian vegetation and the relationship of Indian flora to other floras, Bt.-Col. Chopra said that there were more than 700 important fodder plants including about 260 species of valuable fodder grass. More than 2,000 plants out of a total of about 11,000 species found in India, were stated to have medicinal properties of some description or other and were enumerated in the literature of indigenous medicine. Nearly three-fourths of the drugs mentioned in the British and other Pharmacopoeias grew in a state of nature and others could be easily grown. Indeed, this country was a veritable emporium of drugs. If these resources could be utilised and the finished products manufactured, treatment of many diseases could be brought within the means of the Indian masses whose economic condition was unfortunately of a very low order.

Collectors of medicinal drugs growing in a state of nature, and the present and prospective cultivators, Bt.-Col. Chopra continued, should

bear in mind certain factors to be considered in order to obtain the standard product. There was a good deal of variation in the active principles in the different parts of a plant and in different seasons in the same part of the plant. Even the same part and at the same time of the year showed remarkable variations in the contents of its active principles. He had often observed in the course of his work that plants collected at the proper time, when the active principles had reached maturity and were at their maximum, gave very effective results while the same plants when collected under other conditions were utterly useless. Conditions for the collection of drugs in the case of plants under cultivation were more favourable and strict control over various factors could be exercised with greater ease than was the case with plants growing in a state of nature.

"Intimately connected with the study of medicinal plants," continued Bt.-Col. Chopra, "is the problem of poisonous plants, but till recently little attention has been paid to this study in this country. They contain chemical constituents which, if introduced into the body of an animal in relatively small quantities, act deleteriously and may cause serious impairment of bodily functions or even death. They injure the basic life principle, the protoplasm, of the cells of which the animal body is built up. They are ordinarily called poisonous plants, and apart from the utilization of their potent properties in the treatment of diseases to alleviate the sufferings of man and animals, there appears to be no doubt that they are a source of great menace in India

through poisoning of livestock. It is a matter of regret that no systematic attempt has been made in India so far to investigate these plants on scientific lines with a view to devising means where by this menace could be controlled.

Study of Poisonous Plants.

"With a view to combating this menace, and as natural corollary to the study of medicinal plants, the study of poisonous plants of India has been undertaken at the School of Tropical Medicine during recent years. This work has brought out some outstanding features of the problem which had not been hitherto appreciated in India. About 700 poisonous species belonging to over 90 families of flowering plants are known. In the case of the majority of plants, poisonous properties are only suspected but have not been substantiated by chemical analyses and pharmacological experimentation. This is now being done. A thorough and comprehensive study of all these plants, however, would mean sustained work for many years and perhaps for several generations. Another aspect of these plants which will repay study concerns those which have insecticidal and insect repellent properties. Losses inflicted upon India by insects are enormous and at a moderate estimate are calculated at 2,000 million rupees annually and over a million and a half of human lives. The finding of cheap insecticides for the diverse needs of agriculture, destruction of household pests, prevention of vectors of such diseases as malaria and many others borne by insects, commensurate with the limited means of great masses in India are important problems to which little attention has been paid till recently. Vegetable insecticides are preferable to mineral ones, as these are less dele-

terious to man and other warm-blooded animals generally, and as they are also less harmful from the point of view of agriculture. Lists of the possible insecticidal and insect repellent plants growing in India, and of reputed fish poisons some of which may also act as insecticides have been prepared."

Proceeding, Bt-Col. Chopra said :

"One of the chief difficulties in connection with our work on medicinal and poisonous plants has been the proper identification of the material to be investigated. The descriptions of plants given in the literature on indigenous medicine are meagre and vague and this has resulted in considerable confusion. Descriptions alone are not always sufficient for settling disputed questions and recourse to actual specimens is often absolutely necessary. With a view to combating this state of affairs it was considered desirable to collect authentic specimens of all the plants with alleged medicinal or toxic properties and after proper identification preserve them for the purpose of comparison. This work has progressed and it has been possible to collect 6,000 specimen sheets of about 1,600 species. About 900 species have yet to be obtained to complete the collection of all the known medicinal and poisonous plants growing in India.

Classification of Plants.

"With the advance of knowledge of the chemistry and pharmacology of plants, it appears to be certain that some correlation exists between the botanical classification of plants, their chemical constitution and physiological properties, and one is frequently struck with the remarkable resemblance exhibited by closely allied plants in this respect. An ideal classification of plants would be the one

which in addition to satisfying botanical criteria broadly provides an index to the nature of their chemical constituents and physiological properties. With our existing knowledge this is not possible. The very fact that some of the families and genera, as at present understood, are quite homogeneous in these respects, however, reflects a ray of hope that after all the problem is not so difficult as it appears at first sight. I do hope that botanists, chemists and pharmacologists will collaborate in evolving a natural system of classification based on their combined efforts."

After citing a few examples of some families and genera to show the marked resemblances between their botanical, chemical and pharmacological aspects, Bt-Col. Chopra said that the brief review of the relationship which seems to exist between the botanical classification and the chemical and physiological characteristics of medicinal and poisonous plants should prove sufficient to show that in many of the families and genera these characteristics show a marked

degree of correlation. He hoped that further work would produce increasing evidence of this relationship. The botanical characters, chemical constituents and properties exhibited by plants were all the results of organic evolution and a natural classification must embrace all these three aspects. There was, however, an element of disturbance in the case of plants. Climate, seasons, soil, cultivation, etc., had profoundly affected their chemical composition and hence their physiological characteristics, and it was for this reason also that closely related plants differed in their pharmacological properties.

"Collaboration between botanists, chemists, pharmacologists and agriculturists in work of the type indicated in a country such as India," Bt-Col. Chopra concluded, "is pregnant with possibilities which should not only be of very great scientific and academic interest, but also prove of great practical importance to the country from the economic point of view."

DOCTOR SIGMUND FREUD.

Method of "Free Association."

Sigmund Freud underwent a thorough physiological training before he decided to become a clinical neurologist. It was when he was co-operating with the physician Breuer, in Vienna, that he happened to come upon the case that led him to develop the psycho-analytic technique and theory. In that particular case, symptoms of hysteria were cured by getting the patient to recollect, in a state of hypnosis, the circumstances of their

origin and to express the accompanying emotions. But Freud determined to give up the use of hypnosis for his own method. He then went to Paris to study under the famous neurologist Charcot whose moral support strengthened the young innovator's determination to investigate hysteria from the psychological point of view. As was to be expected, he met with great opposition even from his colleagues; but he continued his work, publishing his results in many important books. It was in 1894, that he took the

decisive step of replacing hypnosis as a means of reviving buried memories by the method of "free association"—the key to the psycho-analytic method.

Perhaps the most common error is to think of Freud as a philosopher, who sat down in his study and wove out of his mind an intellectual system, which he set down in writing. Nothing can be further from the truth, for Freud was a practising physician with a solid scientific background. The genius which gave him an extraordinary insight into the mysteries of personality, was not exercised in intellectual divination, or the arrangement of abstract ideas, but in dealing with individual patients in the doctor's consulting room; what he discovered he learnt from them, and from the cures and failures that resulted from his treatment. He was engaged in a continual learning process, and therefore his earlier techniques and hypotheses were subsequently modified and refined. And he had that integrity of the true scientist that does not flinch from acknowledging that his results are not final. That is why the main body of his scientific contribution cannot be found in any single book or paper written by him. It is true, of course, that the new ideas he introduced, were at the beginning, exploited by a great number of those who understood them imperfectly. Like many others he suffered from too much popularisation. The distortion of the cult wreaked its usual havoc; but what we must remember is that Freud himself was never a system-maker or the leader of a popular movement.

Three Important Discoveries.

From among his many discoveries concerning the structure and nature

of the various psycho-neuroses, we may select three of the most important, the first being the realisation of the enormous part played by the unconscious in the human mind. The unconscious has, since then, been often compared to an ice-berg, only one-seventh of which is seen above the water. The second is the fact that the mind is split into various layers due to an intra-physical conflict between various sets of forces, and third, the existence and importance of infantile sexuality. It is the unconscious conflicts in the young child's sexual attitude towards its parents, together with the accompanying jealousy and hostility—which Freud termed "the Oedipus conflict"—that form according to him, not only the central factor in the neuroses, but a fundamental contribution to the formation of character in general.

There are many who unjustly attribute to Freud—because of his discovery of the part played by the unconscious—the exaltation of the irrational element in social and political life. They forget, that the unconscious, with its irrational influence, was there long before he found it; he did not create it. They forget the debt we owe to Freud in making us realise the havoc that the unconscious can play, and in helping us to dissolve its destructive powers and gain advantages from its creative drives, by exploring it more and more and thus making it less unconscious. Reason can begin to be effective in purposeful transformation of reality only when it begins to be freed from unconscious bias. And it is the function of psycho-analysis to serve just this end.

Breuer's and Freud's Methods.

The method consists in bringing to mind, the feelings, events and

fantasies that had been put out of the mind because they were disagreeable, and in replacing them, in Freud's own words, "with acts of judgment which might result either in the acceptance or rejection of what had formerly been repudiated." Freud found that Breuer's method of using hypnotism to reawaken and thus purge the patient of his forgotten emotions, was inadequate for permanent cure. He came to the conclusion that in order to cure he must have the conscious co-operation of the patient. Freud felt that the latter could by his "free associations", recollect with more or less difficulty, forgotten, far-off events of his life, most of them "purposely" forgotten, that is, repressed. When the patient could consciously remember and face all such events realistically he was cured. Ten years Freud worked alone with his method, formulating his results into his psycho-analytic conception of human nature. Resistance to the discovery that one is influenced by unknown and disreputable emotions, as well as by reason, is a universal trait of analytic patients. It is therefore no surprise that in philosophic discussion, we should find strong opposition to the idea of unconscious motivation. They forget that centuries of authoritative "truth" have not bred a human race that a disinterested observer could call highly rational.

Two Contradictory "Instincts".

The Freudian view of the structure and unfolding of the human psyche, is, within its limitations, remarkably stable and consistent. Mind and body are to it separate and distinct, but inter-dependent, forms of "energy", inter-acting with each other in definite and determined ways. Somehow a transformation of the chemical ener-

gies of the biological organism, mental energy or the psyche manifests itself in "instincts". These instincts are urges seeking satisfactions appropriate to their natures, and avoiding frustrations. Satisfactions produce pleasure, dissatisfactions pain. The aboriginal psyche is a pleasure-seeking, pain-avoiding constellation of unconscious drives and urges whose being and striving are thus governed by the "pleasure-principle". Various and distinguishable though they are, they fall ultimately into two contradictory modes of instinctual propulsion. One is Eros, or "the libido," the sexual impulse, the combining, constructive urge. It is co-ordinate with a human being's whole body, but focalised now at this organ, now at that; and it follows a definite order of focalisation from birth to adulthood. The other propulsion is the Death or destructive instinct. This is the urge towards effortlessness, inertia and disintegration, the mental correlate of the tendency of non-living material energy to dissipate itself to the lowest possible level, and of the energy of organic life to fall back to "the peace of the inorganic world" and "restore conditions to what they were before life by its emergence upset them." Every backward trend, every destructive or aggressive impulse, whether directed toward oneself or outward, is an expression of the Death instinct.

The 'Ego' and the 'Super-Ego'

All life is tension and conflict between the polarities of Egos and Death. These two instincts are "active in every particle of living substance though in unequal proportion." In life they are fused together in such a way that Egos dominates Death. But their highest fusion is in the unborn organism; in it Freud recognises the primordial elemental mind stuff

which he calls the Id. With birth two basic modifications of the Id begin, the first of which is the Ego the second the Super-Ego. Both are consequences of the impact of the external world upon the Id. Adjustment to this would involve the operation of "the reality principle", which is the opposite of the pleasure principle. The world imposes itself upon the unwilling, intransigent Id, first through mother and father, then through the family to the wider circle of human society.

In a normal adult the Id, the Ego and the Super-Ego find an equilibrium involving a maximum of pleasure and a minimum of pain which should endure through life. But such an equilibrium is always precarious. It is an inner condition which the Ego maintains against the undue pressure from the Id and repression from Super-Ego amid changing demands of the other world. Even in the most normal personality its upkeep involves the establishment of a variety of behaviour patterns, which need only become a little exaggerated and dominant to cause abnormality. These behaviour patterns are in effect the Ego's defence mechanisms against upset. Such mechanisms are unconscious mental activities, which come to light through the study of neurotics and particularly through the analysis of dreams.

Analysis of Dreams.

In dreams repressed wishes are released and receive a vicarious gratification. The function of dreaming is to protect the sleeper from being awakened. This is accomplished by reshaping the painful external stimuli, and relaxing the Ego's vigilance against the drives of the Id. Such relaxation is never complete. The Ego "censors" the original urge, and thus

distorts their form. The process of distortion constitutes the "dream works." Dream work goes on even after making. The part of the dream which the dreamer remembers is called the "manifest content". Its meaning the unconscious wishes it fulfils, is called the "latent content." It is deciphered by means of psycho-analytic free association. Many dream symbols are so constant and recurrent as to be racial. They are found also in folk and fairy-tales, and in myths.

The dream is the foremost avenue into the unconscious and thus a prime instrument in determining the dynamic ground plan of personality. Others are the "absences of mind", the forgettings, the accidents, the mannerisms, the slips of tongue or pen, the mistakes, irrelevancies and the like, which compose "the psycho-pathology of every day-life." Still others are wit and humour, with their dream-life mechanisms and their equally wish-fulfilling purposes.

Perhaps the greatest resistance to understanding of psycho-analysis comes not from the morabills, but from the tradition of thought which insists on tracing every phenomenon to a purely physical cause. Those accustomed to think in this way, suppose that Freud sets out to deal with the psyche as opposed to the body, and that there must therefore be an element of unscientific mysticism in his method. Yet many of Freud's cases were people who were obviously physically ill.

Freud's Contribution to Medical Science

The better scientific theory of today regards as false theoretical separation between material and mental. The human body is a living organism

which is in itself neither wholly physical nor wholly mental, but both. Its behaviour has both aspects at once; the reality behind them is unitary. That the discipline of the psychiatrist and that of the physiologist are not separate divisions of subject-matter, but merely different avenues by which identical phenomena may be approached, is Freud's great contribution to modern medical science. Again, it is clear, that Freud's theories about character-formation in the child depend, not merely on his discoveries of the way in which the mind works, but on the kind of conditioning that the child receives from his environment—a conditioning which is to a great degree physical. Here again, Freud has left the influence of his work stamped on the educational thought of the twentieth century.

Popular misunderstanding of psycho-analytic ideas had, however, for some time, a curious effect on personal conduct. Those who half understood it from reading only, often assumed that it taught the basis of life was untrammelled emotional impulse, and that, in order to be healthy, it was only necessary to banish every inhibition that might prevent one from doing whatever one felt like at the moment. Of course it is true that some patients suffer from repression of unconscious drives, which then manifest themselves in a deformed aspect through bodily illness or neurotic behaviour and that the task of the doctor is often to bring to consciousness, the guilt or hate or fear that is troubling them in a disguised form. But that is only half the battle; the patient then has to learn to behave like a complete and civilised being without denying the existence of his emotions—but also without expressing them in injurious or crazy ways. He has to get them in harness, using

them instead of allowing them to drive him. This is an exercise in reason and character indeed. A person who is nothing but a bundle of raw and conflicting emotions is fit only for a mad-house or a prison. Freud's therapeutic technique is not to deny reason in the interest of instinctual life, but rather to strengthen reason by preventing it from being warped by unrecognised and, therefore, untamed and destructive emotion. He believed that the individual must have freedom, to be sure—but not only freedom from stupid external restrictions the camp life, but also freedom from irrational compulsions within himself. Such freedom imperils organisation and discipline. This new conception of personal conduct is then in great degree, if not wholly, due to Freud's discovery.

Individual and the Society.

In social thinking also the first reaction to Freud was one of opposition. It was supposed by some that psycho-analysis dealt entirely with the individual and attributed all the ills of the world to personal abnormalities and mistakes, whereas social difficulties really arose mainly from environmental causes and could be remedied only by social or political action. The psycho-analyst, it was thought, believed simply in adjusting the individual to his environment, whereas the greater necessity was to adjust the environment to individuals. It is true, of course, that the doctor's main business is to treat single patients, and since it is impossible for him to remake the whole social order overnight, a large part of his task must be to assist the individual to achieve greater health with civilisation as it exists. But it is not true that psycho-analytic theory leads to the conclusion that social change is undesirable, or that anyone who believes in it is

abnormal. Indeed, some of the most abnormal persons, according to the new theories, are precisely the stubbornly conservative, for it is a sign of neurotic character to be unwilling to change an environment, when it is reasonable to do so for purposes of survival or health. To go a step further, much of the psychiatrist's repair work might be avoided in a social order that was modified, in regard to family institutions, education and organisation of adult life; and psychiatric knowledge, from its experience of human beings, can provide extremely valuable conclusions concerning the kind of modifications that should be made, as well as techniques for achieving them. Just as individuals would be inconceivable without external relationships, so social problems cannot be really understood without accurate knowledge of the way in which individuals behave in relation to each other and to groups. To conceive of watertight compartments between the individual and society, is as erroneous as to separate, in a similar manner, the body and the mind. The real distinction lies not so much in the subject-matter as in the

angle of approach. Cross-fertilisation between the two ways of studying human behaviour—the psychological and the social—is still in its infancy, but we have already know enough to understand that here lies the next great hope for the advancement of science in the study of mankind.

Though the original popular interest in psycho-analytic theory has abated, its contributions to science have kept on quietly expanding through the work of its ever-growing number of trained practitioners, until it has become accepted as one of the established resources of medicine. In America general psychiatry has made great use of the Freudian contribution; and in other countries its position in medicine as well as in questions of education is growing ever more important. Freud is one of those who will go down in history among the group of geniuses who made us change our minds in regard to the most important problems that face mankind, and who set our feet on the path to the newest of all conquests—the conquest of man himself.

—“*The Hindu*”, October 1, 1939.

THE MEDICAL TREATMENT OF PEPTIC ULCER AND ITS COMPLICATIONS.

By E. MEULENGRACHT, LL.D., M.D.

Until 1931 I used, in common with all my fellow-countrymen, and indeed everybody else, the current treatment for bleeding gastric ulcer—namely, absolute immobility, ice box, ice pills, inanition, milk in quite small and carefully increasing doses, and slow transition to a modified Lenhart diet. The principle was, “The more severe the hæmorrhage was, or had been,

the more stringent the inanition and the other measures taken.” After some practical experiences I had, and encouraged by certain lines of reasoning, into which there is hardly time to enter now but of which the main point was that it must be fundamentally wrong to withhold food and drink from patients in a condition which can only be described as

Extracts

post-hæmorrhagic shock, I altered my treatment from 1931 in such a manner—that in cases of fresh bleeding ulcer—that is, in hæmatemesis and melaena—the patients were given *something to eat, from the very first day—a varied and liberal diet, and ad libitum*. I have adopted this method of treatment automatically from 1931 until now.

The treatment is as follows (Meulengracht, 1935): From the day of admission to the hospital all the patients are given a full puree diet, alkali, belladonna, and big doses of iron. The puree diet includes the following meals: 6 a.m.—tea, white bread and butter; 9 a.m.—oatmeal with milk, white bread and butter; 1 p.m.—dinner, including a variety of dishes; 3 p.m.—cocoa; 9 p.m.—white bread and butter, slices or meat, cheese, and tea. The patients are encouraged to eat *ad libitum*; water and milk are put on the table, and they should drink as much as they like.

With regard to the puree diet, I should like to say that at the time I instituted this treatment I chose the diet which we were using for slight indigestion, but I might just as well have chosen any other form of non-irritating food, because *it is not a question of a special diet but rather the adoption of a principle—namely, something to eat and drink, fluid and food; that is to say, water, salts, vitamins, calories.* We have also simplified the other part of the treatment. We have abandoned the customary immobility. From the very first day the patients are allowed to move freely in bed, and after about a fortnight they are permitted to get up to wash, shave, go to the w.c., etc. After about three weeks they are out of bed, and in four to five weeks they are discharged from hospital. Before they leave a test meal

is given and an X-ray examination made, and they are ordered to continue taking the medicine for another four to six weeks and the puree diet for four to six months.

With regard to the hæmorrhage itself, it can be regarded as established long ago *that food in the stomach does not increase or protract the bleeding*; one may even form the impression that the opposite is the case. I will point out that the actual bleeding as a rule can only last a short time, perhaps only a few hours; the fact that a positive blood reaction (Gregersen's benzidine test) is demonstrable for so long a time—on an average eleven or twelve days, or four or five defæcations—does not mean that the hæmorrhage lasts so long, but that it takes that length of time for the intestine to rid itself of blood, so that the fæces give a negative benzidine reaction. It is very important to have a clear conception of this fact, because a wrong interpretation has so largely contributed towards prolonging the fear of giving the patients something to eat. It used to be believed that they were still bleeding so long as blood was chemically demonstrable in fæces.

It is satisfactory, but not of vital importance, that *the lost blood is more quickly regenerated with the freer regime*, for as a rule the normal values for hæmoglobin and the number of red blood corpuscles are approximately reached within four or five weeks. This is only what one would expect in the light of Whipple's experiments on the best regeneration conditions in experimental anæmia from loss of blood in dogs. The question of the regeneration of the blood in our patients has, moreover, been subject to a closer study by my collaborator Schiodt, who has constructed the

typical regeneration curves for the earlier insufficient diet (inanition and increasing ulcer cure) and for the present free regime with a more sufficient diet.

Treatment of the Non-Bleeding Gastric Ulcer.

I will not discuss here in what way a definitely nervous constitution, accentuated by the external events of life, can be imagined to assume such a localized expression as acid gastritis with ulcer, but it is my conviction that it must be reckoned with as a factor when planning the medical treatment of gastric ulcer. I hold the view, confirmed by my experience of the last few years, that the funda-

mental principles of the medical treatment of ulcer must be: rest, relaxation, food—a soft non-irritating food but plenty of it—adequate quantitatively and qualitatively and taken at frequent meals. The ulcer diet "must not lack anything"—that is to say, it must be sufficient not only quantitatively but also qualitatively and must contain the necessary amount of vitamins and salts. In comparison with these factors—rest, relaxation, frequent feeding—it is of less interest to me whether alkali in some form or other, perhaps supplemented by belladonna, is given as medicine. I use both these drugs, and believe that they are of value, but to me they are not a matter of prime importance.

—B. M. J., August 12, 1939.

HÆMATEMESIS AND MELÆNA

Observations on Salt and Water Requirements.

By F. AVERY JONES, M.D., M.R.C.P.,

Second Assistant, Medical Professorial Unit, St. Bartholomew's Hospital.

An examination of the post-mortem records of fatal cases of hæmorrhage from simple peptic ulceration at St. Bartholomew's Hospital (1931-5) revealed data which indicated that in eighteen out of thirty-nine cases the hæmorrhage had ceased at the time of death and that many had not bled for some days previously. If the mortality from hæmatemesis is to be reduced, obviously this group offers the most hope. It has, therefore, been studied to see if other factors were present that might have led to the death of these patients, which occurred from one to three weeks after admission. The evidence suggests that dehydration may have played an important part.

Having had personal experience of fifty cases of hæmorrhage from simple peptic ulceration treated with liberal fluids and semi-solids (Witt's (1937) modification of the Meulengracht regime), and having seen many patients treated on the traditional starvation lines, I am convinced that with an adequate fluid intake they are more comfortable, and are free from thirst and hunger. They have not become delirious or developed parotitis or pneumonia. With the Witts diet, patients receive as much in one day as they would previously have received in three to six days, when no added saline was given. There appears to be no harm in giving liberal fluids by mouth from the time of hæmorrhage but the incidence of

urrent hæmorrhage (thirteen out of fifty cases) has probably not finished. The mortality, however, much decreased. In a series of twenty cases recently reported, treated with liberal fluids and semi-solids, with blood transfusion in severe cases, there was only one death (Avery Jones, 1939.)

The observation that many patients were grossly dehydrated must cast doubt on any conclusions which have been made concerning small blood transfusions in the past. The patients probably died with a low blood volume as a result of hæmorrhage and dehydration, but it might have been restored by giving liberal fluids. Although blood transfusions could only have been beneficial, the patients were more in need of 4,500 to 9,000 c.cm. of fluid than of small transfusions of blood. Transfused blood does not provide fluid to be lost from the kidneys, skin, and lungs, for which at least 2,600 c.cm. of water a day are normally required, a figure which must be increased if there is sweating, fever, vomiting, or diarrhoea.

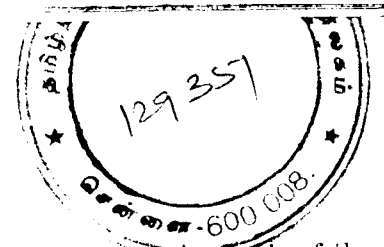
Salt Requirements after Gastro-Duodenal Hæmorrhage.

Not only must there be an adequate fluid intake, but the amount of salt required is of importance. Sodium is the main base of the extracellular fluids, and it maintains their osmotic pressure. If such fluids are lost from the body—for example, by hæmatemesis—the total volume of the extracellular fluids cannot be regained unless sodium as well as water be given. Blood contains 5 grammes of sodium chloride per litre, so that, if no blood transfusion be given additional salt is required to make good this loss and to enable the volume of the extracellular fluids to be restored.

Analysis of the urine in twenty cases has indeed shown that there is some retention of sodium chloride during the first few days after hæmorrhage. In the past, patients received very little salt, unless a rectal saline was given. It is recommended that the diet should contain about 10 grammes of sodium chloride during the first few days. By giving 1,500 c.cm. of half strength normal saline daily, and added salt with the feeds, this intake is assured.

Vagus Innervation of Stomach and Duodenum.

The effects of nerve stimulation or resection on the movements and secretion of the stomach have been studied experimentally for many years, both before and since Pavlov's gastric-pouch experiments of 1910. And for a long time it has been accepted that nervous factors are of importance in the causation of peptic ulcer in man, a view that has recently gained still further ground. The exact way, however, in which a state of mind might lead to ulceration of the stomach or duodenum still remains in doubt. In certain cases of intracranial lesions, notably those in the neighbourhood of the pituitary and hypothalamus, peptic ulceration may occur, and some connexion between parasympathetic stimulation and gastric or duodenal lesions seems frequent. Thus recent work has localized with some accuracy the centres of parasympathetic control to the anterior part of the hypothalamus in the floor of the third ventricle. Stimulation of this area in the brain causes in animals an increased flow of gastric juice and heightened gastric motility. These effects are produced by way of the vagus nerve. F. R. Edwards, reviewing certain of these investigations, refers in some details to the effects of



vagus section in animals and discusses past results of this procedure in man. If the vagus is cut in animals so that all its branches to the stomach and pylorus are divided the stomach, he writes, dilates considerably during the course of a few weeks and the animal vomits frequently. At the same time a condition of cardiospasm is set up so that mega-oesophagus gradually develops; the gastric enlargement is similarly the result of pylorospasm due to unopposed sympathetic action. If, however, the pyloric branch of the nerve is spared the animals remain healthy and the stomach appears to function normally in every way. In twelve cats upon which Edwards performed this operation the gastric secretion was also little changed. A similar pyloric spasm has been shown to arise in man if the vagus is cut above the branch to the pylorus, and in most cases a permanent reduction of gastric acid results. Thus Edwards records the work of Berg, Latarjet, and others, who have performed vagotomy in cases of hyperchlorhydria,

tables with gastric crises, and other conditions, and have reported a considerable reduction in gastric acidity. In many, however, an associated gastro-enterostomy was performed on account of the induced pyloric spasm. It is clearly a matter of interest in the experimental research upon the causation of peptic ulcer that the fullest knowledge of the neurogenic factors concerned should be available. It is at least suggestive than an apparent connection between vagus activity, hypothalamus, higher centres, and gastric study should demonstrate the precise paths through which emotional factors influence gastric secretion and motility the means of preventing ulceration may perhaps become more defined. It may be, as Edwards hints, that even if this is not possible some procedure may be developed which will block the paths of stimuli running from the brain to the stomach, as for instance, by section of the vagus nerve.

—B. M. J., January 13, 1940.

THE ACUTE, NON-SURGICAL ABDOMEN.

Suggestive of coronary thrombosis which may resemble a perforated peptic ulcer are: an ashen grey pallor and a feeble rapid pulse in an arteriosclerotic patient between 50 and 60 with a history of anginal attacks; a sudden and considerable drop of the blood pressure; dyspnoea, especially of Cheyne-Stokes type; diminishing abdominal rigidity after morphine; a prominent Q wave of the electrocardiogram with a high take off the T wave with inversion of T₁ and T₂.

Acute pericarditis may resemble cholecystitis until the rub appears.—

Epigastric pain and vomiting may be the presenting features of congestive cardiac failure.—Intense abdominal pain without at first rigidity, a contrast between the severity and persistence of the pain and the scantiness of the physical signs, a subnormal temperature, a history or source of embolism suggest mesenteric vascular occlusion. Later distension of intestinal obstruction and melaena appear. Sclerosis of the mesenteric vessels may cause a condition called angina abdominis in which a rise of blood pressure is accompanied by widespread abdominal pain without tenderness. It is relieved by nitrites.

Extracts

Acute diaphragmatic pleurisy and pneumonia may begin with a sudden severe pain round the lower ribs, vomiting, and pain above the clavicle but not at the tip of the shoulder. The skin is hyperæsthetic but pressure affords relief. Deep inspiration is painful, the abdominal respiratory movements are not restricted. A pleural rub or a patch of bronchial breathing clears the condition. X-ray may show a beginning pneumonia—A spontaneous pneumothorax may resemble a perforated peptic ulcer (X-ray!).

Tabetic lancinating pains occur in rapidly repeated paroxysms and are associated with marked superficial hyperæsthesia in the epigastrium. There is much retching but little vomit. Temperature, pulse and white count are normal.—The pain of herpes zoster may precede the rash by several days and make diagnosis difficult. Exposure to varicella suggests herpes.

In scarlatina and measles (Koplik's spots!) there is sometimes a true mild appendicitis—In pancreatic mumps there are vomiting, pyrexia and epigastric pain without rigidity. Rheumatic fever may cause lancinating abdominal pain with rather diffuse tenderness. This is often worse on movement—Malaria may cause nausea, vomiting and abdominal pain in addition to pyrexia but there is no muscle rigidity. The latter point may be decisive too, in abdominal influenza (extra abdominal symptoms!), typhoid fever resembling appendicitis (marked head-ache and pyrexia!).

In acute lead-poisoning with colic and vomiting there is no fever, no distension; the occupation of the patient, the blue line of the gums, the punctate basophilia and the presence of lead in the urine lead to correct

diagnosis.—Carbon tetrachloride, given as an anthelmintic or inhaled from certain fire-extinguishers may cause burning epigastric pain, vomiting and slight jaundice. Calcium i.v. causes marked improvement.

Uræmia, abdominal crises of pernicious anaemia, mesenteric lymphadenitis, spastic ileus, round worm infestation of children, acute gastro-enteritis in children, viscerop-tosis, nephroptosis with kinking of the ureter and temporary hydronephrosis (Dietl's crisis), hæmatoma of the rectus muscle in debilitated patients (discoloration of the skin!), etc., are frequently misdiagnosed.

Acute pyelitis causes higher temperatures and greater leucocytosis than appendicitis. The urine contains pus and organisms.—A tense Graafian follicle may cause vomiting and pain. A history of menstrual disturbance and the presence of painful breasts may be helpful. Sometimes a cystic mass can be felt in the ovary during an attack—Diabetic ketosis shows a complete reduction of Benedict's solution and a positive ferric chloride test. A history of anorexia, drowsiness and nausea before the onset of the pains is in favour of the diabetic acute abdomen. (In appendicitis pain usually precedes vomiting.) Leucocytosis may be present on account of the dehydration. In case of ketosis plus surgical abdomen operation should not be undertaken until ketosis is yielding to glucose and insulin (the surgical symptoms persist!)—in abdominal allergy (Henoch's purpura) colics, etc., are due to spasm of the bowel and infiltration of its wall with blood and serum. Diagnosis may be in doubt until purpura or urticaria is seen. Marked albuminuria and the presence of joint symptoms may be helpful.

Ars Medicia XVII—446; 39.

ON AMPUTATIONS.

By P. JENNER VERRALL, F.R.C.S.

A man with a satisfactory below-knee amputation may expect to be able to walk five to ten miles in comfort, whereas he might be unable to walk a hundred yards with a maimed leg.

At one time it was considered correct to shorten nerve ends and even to inject them with alcohol. The latter practice leads to an alcoholic neuritis and must be abandoned. A nerve bulb must form on the end of a cut nerve and all we can do is to place the bulb where it will receive a minimum of pressure. This site will generally be the end of the stump, on which the socket does not press. Nerves should therefore not be shortened. Tying off with catgut is perhaps permissible, but the nerves should not be crushed; the less trauma they receive the less trouble they give later. Haemostasis should

be performed with the greatest care and no drainage employed. On the question of drainage I am aware that some surgeons will disagree, but I must speak from my own experience.

An amputation which bleeds but slightly at the time is always suspect and tends to bleed later when the blood pressure rises. In such cases it is as well to massage the limb above and to wait long before finally suturing the wound. It is best to ligature every bleeding point, however small. A copious dressing, firm bandaging, and the control of the knee or elbow by a splint for forty-eight hours will complete the operation. The splint should be removed as soon as possible, as it is important that the voluntary use of neighbouring joints should be preserved.

—B. M. J., January 13, 1940.

TREATMENT OF GASTRO-INTESTINAL ACHALASIA BY SPINAL ANÆSTHESIA.

By E. D. TELFORD, B. Chir., F.R.C.S.,

AND

H. T. SIMMONS, M.D., Ch.M., F.R.C.S.

Congenital Megacolon.

There can be no doubt that, while many of the less severe forms are amenable to medical measures, the treatment of the more severe types should be by surgery. The earlier interventions of the surgeon took the form of resections or short-circuiting. These methods, always dangerous and

often futile, were discarded when the neurogenic basis of the disease was discovered, and the attack was then directed to an interruption of the sympathetic supply. This method, carried out in various ways, has given most excellent results, but a recent paper by Stabins, Morton, and Merle Scott (1935) causes one to doubt whether these operations are really

Extracts

necessary for the cure of congenital megacolon. These writers have made the important observation that in a number of cases of congenital megacolon in which a spinal anæsthetic was given purely for diagnostic or prognostic purposes the patients, on subsequent examination, were found to be "practically completely cured."

As the results of this suggestion we have, since January, 1938, treated six cases of congenital megacolon in children by spinal anæsthesia alone, and to these we are able, by the courtesy of Mr. R. L. Holt, to add a seventh case. These seven cases were all severe types of the disease, suffering from most obstinate constipation, with radiological evidence of an enormously dilated redundant colon. They showed also in a marked degree the sallow facies, the under-development, and the lethargy, both mental and physical, which are always so striking a feature of the severer types of the disease. The patients were six boys and one girl, and their ages ranged from 6 months to 12 years.

The spinal anæsthetic was with two exceptions given by Dr. Falkner Hill, the drug used being decicaine in heavy solution. The nature of the drug used is probably immaterial, but

it is essential that the upper limit of anæsthesia should reach the anterior root of the sixth thoracic nerve. This is necessary to ensure that the whole of the sympathetic supply to the gut is affected by the anæsthetic. The after-treatment has consisted of a regular daily dose of liquid paraffin, with a simple enema on alternate days. This treatment has been carried out for two weeks only.

Each case has been regularly examined since the anæsthesia, and all the children have been seen within the last month. The results are remarkably satisfactory. Four of the children are completely cured, and have had neither purgative nor special diet since they left hospital—they each have a normal daily motion. Three are almost completely well, but still need a small weekly dose of a mild laxative. In all cases there is evident the same gain in weight, colour, and energy as is seen after a successful sympathectomy. Those which have been re-examined by barium enema show that although function is perfect the enlarged bowel has not returned to normal, but is about half its former size. This again is in keeping with the radiological findings after sympathectomy.

—B.M.J., December 23, 1939.

CHEMOTHERAPY OF FILARIAL INFECTION.

Chopra and Sundar Rao have published their investigations with a large number of drugs of chemotherapeutic origin in the treatment of filarial infection. It has already been established that the treatment of filarial infection should aim at two things; destruction of the filarial parasite and eradication of secondary

infection with strepto and staphylococci which 72 drugs have been tried by the authors but most of them have given only poor results. Soamin, however, gave some satisfactory results in controlling the infection at the early stage though it had no lethal action on the parasite. Fouadin was found to sterilize the parasite temporarily. But

none of the synthetic drugs gave any positive result except that sulphanilamide and its derivatives were found valuable in the treatment of secondary infections, what was once obtained before by mixed conclude that the only successful method of dealing with the disease is by preventive measures against the carrier mosquito. We agree, and we hope that such measures would be undertaken in the now known endemic areas of this disease. Filaria is certainly not a fatal disease but the chronic invalidism it causes is so great and extensive that energetic measures are called for more in its prevention than in its cure.

—*Indian Journal of Medical Research*,
October 1939.

Calcium Lactate for Indian Children.

Aykroyd and Krishnan have again confirmed the nutritive value of South Indian diet by the addition of calcium lactate, and the present investigations show that skimmed milk is a good substitute for calcium lactate. Their results indicate that both weight and height increments in both the calcium lactate and skimmed milk groups were definitely greater than in the control groups and that the general condition of the children receiving skimmed milk showed greater improvement than of those in the calcium lactate group. These observations are indeed of practical interest to the practitioners.

—*Indian Journal of Medical Research*,
October 1939.

"CONTROL OF LEPROSY IN MADRAS".

The programme I would outline is as follows: The Public Health Department can easily work out the details.

(1) *Train a band of Indian workers to take charge of the antileprosy campaign.*—I have visited seven different lands where leprosy is rife. My personal opinion is that our medical men are as capable as those in the other countries and they are fully qualified to take charge of every leprosy work that is being done now in the presidency. The training should be given in the medical colleges. Indian nurses also should be trained for leprosy work.

(2) *Register all leprosy cases.*—This can be done with the help of the village munsiffs, sanitary inspectors, family doctors and medical officers in charge of leprosy clinics. The Public Health Department will decide if notification of the disease is desirable.

Much help can be obtained from the previous figures, and from the examination of school children.

(3) *Start village isolation centres* in the way it is being done in Kangra, Asansol and Orissa.

(4) *Use the existing leper asylums as hospitals for needy cases sent from the village colonies.*—There should be complete co-operation between village colonies and leprosy hospitals. The colonies should be distributed on territorial basis related to each leper asylum in the province so as to prevent lepers travelling from one end of the country to another to get admitted into any particular place.

It may be necessary to persuade male lepers to have vasectomy done on them. Affected children should be cared for and all precautions should be taken to prevent healthy children

against coming in contact with infectious cases.

(5) *Last of all and the most important point to realise, is that leprosy, like tuberculosis, is a social disease, and should be dealt with by social hygiene. This means the equalisation of all classes in terms of health.*

(6) Finally, let me repeat what I said at the Cairo Conference: *Leprosy in India is so intimately connected with poor diet, congestion and evil customs that the decrease of the disease will be in proportion to the village uplift work.*

—I. Santra, I. M. J., February, 1940.

VITAMIN "C" CONTENT OF THE CHILLIES, ONION, AND GARLIC, BOTH IN THE RAW STATE AND WHEN BOILED WITH WATER.

It is evident that onion, onion scape, and garlic lose their Vitamin C in the process of cooking. The approximate losses sustained by the above materials on boiling with water are 65, 40, and 55 per cent respectively.

A very small quantity of Vitamin C is present in the green chillies while the ripe one from 2 to 14 times increase is noticed and nearly the same increase is observed when a green sample is boiled with water. In the former case the combined or 'ester' form of ascorbic acid becomes free by the action of the enzyme during the process of ripening, while in the latter case the breaking down

of the ester form is affected possibly by the action of heat and also to some extent by the softening of the pulp in the process of boiling the stuffs with water. The ripe chillies are found to give only about 30 per cent increase of the Vitamin C content on cooking which may be accounted for mostly by the complete extraction of it from the softening of the pulps. It is also noticed that big onions are richer in Vitamin C than the small ones and onion scape, which is largely consumed in winter, is not a negligible source of the vitamin.

—*Indian Journal of Medical Research*
27, 1, July, 1939.

CAUSES OF POST-PARTUM HÆMORRHAGE.

By FARQUHAR MURRAY, M.D., F.R.C.S., F.R.C.O.G.,

Professor of Midwifery and Gynæcology, University of Durham College of Medicine.

The causes of post-partum hæmorrhage can be divided into two main groups. The first and larger consists of cases where an otherwise normal uterus

has been treated unkindly by Nature or other agencies; the second includes cases in which there is some pathology or possibly a misplaced placental site.

GROUP I: The Normal Uterus.

Many primiparae after a spontaneous delivery have cervical lacerations, a few of which extend above the level of the vaginal vault or have some degree of perineal laceration. It is a rarity for such cervical or perineal lacerations to give rise to alarming or dangerous bleeding. If, however, an incompletely dilated os is forcibly stretched by the premature application of forceps or an injection of pituitary extract, or by an accelerated breech delivery, the cervical lacerations are considerably increased, and indeed may assume the nature of a minor degree of rupture of the uterus. Too rapid stretching of the perineum by forceps or pituitary extract or by imperfect control of the head during a spontaneous delivery also results in severe trauma. It is surprising how seldom severe bleeding occurs even in these cases, although there may be considerable shock.

The most important bleeding point is the placental site. Prolonged or obstructed labours exhaust the uterine muscle and predispose to an imperfect third stage as regards the mechanism and control of bleeding. Mismanagement of an otherwise perfectly normal third stage is a prolific cause of difficulty and bleeding at this time. The uterus if well treated performs its work satisfactorily. At the Tarnier Clinic in Paris I noted that the women were delivered on their backs, and the resident doctor left them alone after delivery during the third stage. He returned from time to time to palpate the uterus. This procedure struck me as somewhat casual, and as different from what is the general rule in this country, where the patient is usually delivered on her left side and may remain in this position for some time before she is turned on her back

to await the separation of the placenta, and where the massage of the uterus is often performed.

A study of some hundreds of cases of incomplete B.B.A.'s on the hospital district, where the baby had been born but the placenta had not come away by the time the nurse arrived, showed that in only one instance was a slight post-partum hæmorrhage reported. These women had no skilled attention before the arrival of the nurse or district doctor.

A series of cases injected with 1 c.cm. of pituitary extract immediately after the delivery of the baby with a view to studying the effect on the third stage and the amount of blood loss, revealed that the only cases in which there was any trouble were those which had been allowed to remain unduly long on their side after the injection was given or in which the uterus had been massaged. It is well known that a uterus which is kept out of the pelvis either at laparotomy or by means of a full bladder tends to bleed. If a patient lies for long on her side before the placenta comes away the uterus tends to fall up into the abdomen, with disturbance of its neuromuscular mechanism.

With the rarest possible exceptions I deliver patients in the lithotomy and cross bed position aided by a Clover's crutch. Unless there has been a long labour and much anaesthetic has been used I do not allow anyone to touch the uterus, but proceed to repair any laceration or episiotomy wound which may be present and merely lightly palpate the fundus from time to time to determine if the placenta has separated. The third stage is uniformly most satisfactory, and there is a minimum of blood loss. The time factor is a most important one, especially at

night. The time of delivery should be noted, and at least ten to fifteen minutes allowed to elapse—unless there is bleeding—before deciding whether the placenta is ready for expulsion or not.

Occasionally one meets with post-partum hæmorrhage of an insidious nature if the placental separation is not going according to plan. This is most likely to be found if the patient is nervous or has had a long and tiring labour or a lot of anaesthetic. The placenta in these cases has left the fundus but has not yet been completely detached from the lower part of its site. The physical signs are misleading. An attempt at expression fails to deliver the placenta, but a mass of blood clot the size of a small orange is squeezed out. There is no active continuous bleeding, but merely expulsion of a mass of blood clot each time an attempt is made to express the placenta. Each clot represents several ounces of blood and the patient slowly deteriorates. It is a sound rule to remove these placenta manually while the patient's condition is good.

I have never seen sepsis arise where a manual removal of the placenta followed by an intra-uterine antiseptic douche was done while the patient was in fairly good condition. Delay in doing this owing to a dread of causing sepsis or because the blood loss is intermittent and slight, and not continuous and severe, is responsible for many bad results.

Group II: The Pathological Uterus.

In the other group of cases there is some intrinsic mischief in the uterus. One such, a multipara, was referred to me as her two previous confinements had been followed by a most profuse hæmorrhage after the third

stage, was complete. I made a point of personally attending her in the maternity ward. After the labour and the third stage, which were perfectly normal, she suddenly started to bleed profusely from the placental site, which was checked only by prolonged bimanual compression and the injection of pituitary extract.

The explanation of such a case is extremely difficult, as the course of labour, and also the third stage, on each occasion appeared normal. This in my opinion would rule out disease and also deficient retraction. There was no suggestion of placenta prævia. I think it may be explained by an experience I had when curetting a patient who had been bleeding for many weeks following a miscarriage at the fourth month. The curetting was done with a sharp curette. She bled so profusely and so persistently in spite of treatment that a vaginal hysterectomy was performed. Section of the uterus showed a large vessel the size of the normal uterine artery passing through the musculature to the placental site.

I suggest that some of those rare and unaccountable hæmorrhages from an apparently normal and empty uterus may be due to the presence of some unusually large arterial trunks in close proximity to the placental site. Occasionally cases which have been treated for ante-partum hæmorrhage of the accidental type have a serious post-partum hæmorrhage. Fortunately, the more serious cases of this condition, especially where the bleeding is concealed, are operated on, and this enables the operator to estimate the extent of the damage to the musculature, and whether or not it is safe to conserve the uterus without risking a severe and fatal post-partum hæmorrhage. Many of these cases,

however, are dealt with by domestic measures and have a spontaneous delivery or one aided by forceps, and there is no way of assessing the condition of the uterus. In one such case where there had been some concealed hæmorrhage the thirdstage concluded with a most profuse and continuous hæmorrhage. It was quite impossible to perform bimanual compression, as the empty uterus lay relaxed and flaccid in the abdomen and no mass of muscle substance could be squeezed. She died before a laparotomy could be performed. All cases of accidental hæmorrhage, especially of the concealed type, should, if possible be dealt with in a nursing home or hospital.

In cases of placenta prævia there is always the risk of a severe post-partum hæmorrhage, but fortunately it is a rarity. I have met only one such case which failed to respond to any of the usual routine procedures, including bimanual compression. In this connexion it must be borne in mind that the rapid extraction of a breech baby in such a case may very readily cause a tear of the cervix and lower uterine segment and result

in profound and even fatal hæmorrhage.

Conclusion.

As regards the problem of post-partum hæmorrhage in general, with the exception of the rarer conditions, if the uterus is handled properly it will very rarely give rise to anxiety on account of bleeding, and with the rarest possible exceptions an empty uterus will not bleed. The rule is to empty the uterus if the bleeding is to be stopped. The pathological uterus which is deficient in contractile and retractile power is less likely to respond if it is distended. I never repair cervical lacerations, and would perform bimanual compression followed by a hot douche in preference to packing if faced with serious bleeding from such a lesion. My experience of cases sent into hospital with the vagina reported to have been packed before admission would in itself make me opposed to advocating deeper tamponage.

I consider that many of the cases at present treated by blood transfusions would do equally well if they were given gum or glucose saline.

—B. M. J., December 16, 1939.

"ON ERGOMETRINE"

I was privileged to see the action of ergometrine brilliantly demonstrated by Professor Chassar Moir at the Radcliffe Infirmary, Oxford, in September, 1938. I was so impressed that since then I have used it in cases of threatened severe post-partum hæmorrhage, both before and after delivery

of the placenta, in preference to pituitary extract, and in my all-too-limited experience have found it vastly superior in action in both rapidity and degree to the time-honoured product.

A. G. HASTINGS.

—B. M. J., January 6, 1940.

Examination Howlers.

Here are a few extracts from the answer papers at a recent examination in Obstetrics which will be found interesting:

(1) The signs of pregnancy include internal velotomy and external velotomy,

(2) Varieties of abortion—historical abortion and silent abortion,

(3) In milder cases of P. P. H. vaginal douches are effective, the temperature of the douche being 120 to 150°C,

(4) If all these treatments fail for P. P. H. the following measures are adopted: removal of the uterus, removal of some portion of the vagina and relaxing the cervix,

(5) Pre-eclamptic toxæmia.—I would treat this condition by sedation, starvation and elimination,

(6) Treatment of P. P. H.—Bregston Hicks method and the use of Willet forceps will be found advantageous.

(7) Pre-eclamptic toxæmia is a toxic condition which occurs during pregnancy or shortly after,

(8) Among the signs of pregnancy may be mentioned changes in the breast, Morgagnian bodies are found in the areola,

(9) Points to diagnose pregnancy in woman 18 weeks pregnant. As the woman walks into the consulting room, notice her gait. If pregnant she will have the characteristic gait of a pregnant woman,

(10) P. P. H.—Sometimes the placenta cannot be separated at all as in cases of placenta anasarca,

(11) Pre-eclamptic toxæmia.—Some may complain of increase in weight out of proportion to the normal course. This occurs only in those fashionable fastidious women who keep on weighing themselves daily to watch their school-girl figure,

(12) Signs of pregnancy in most pregnant women—Hyperemesis gravidarum is common in early months. When it is present, it is a sure sign of pregnancy.

IN MEMORIUM

In Memoriam.

RAI SAHIB DR. G. RAMA RAO, M.B. & C.M. (1860-1940)

With deep regret, we record the passing away of Rai Sahib Dr. G. Rama Rao, retired Professor of Anatomy in the Madras Medical College, which took place at Kilpauk, Madras, on 14th February, 1940, at the age of 79. He was connected with the College for a period of nearly thirty years, first as Assistant Professor and then as Professor of Anatomy, and was one of the most beloved and respected members on the staff. The Madras Medical College and Stanley Medical College were closed on the 14th February out of respect to his memory.

Dr. Rama Rao was born in 1860 at Muniyur, a village in Kasargod Taluk, South Kanara District. His father was in the village Shanbogue, earning a salary of Rupees Seven, per month and so young Rama Rao had to live his early days and prosecute his early education, in extreme poverty.

To add to the misfortune his father passed away, while he was only one year of age leaving a family of six children, four brothers and two sisters of whom Rama Rao was the youngest. Under these circumstances, he was not sent to school till he was eight years of age, when one of his sisters took charge of him and brought him to the village of Ullal where he had his primary education. He had his secondary and high school education at Mangalore and he was enabled to do this, on account of the generosity of one of his relations living there and the free scholarships which he earned year after year by securing the first

rank in every class. He passed his Matriculation examination in 1880 and in the following year joined the F.A. class at Government College, Mangalore.

In 1882, he obtained a Government Scholarship, of Rs. 15 per month, to join the medical course as a civil apothecary student. He underwent the first year of this course in the Wenlock Hospital at Mangalore and in 1883, he came to Madras for the first time, to join the Medical College. That year he appeared privately for the F.A. Examination and passed and so was allowed to join the L. M. & S. classes. He qualified for this degree in 1886. In the Medical College, his career was uniformly brilliant and his record splendid. He carried off all the certificates of honour, prizes and gold medals, except the one for Midwifery. Rama Rao was first in Surgery, Medicine and Midwifery and it was reported that the Professor of Midwifery did not like that the same student should get all the prizes and so he gave the Midwifery Medal to the next best student. Col. Sibthorpe, who was the principal and Professor of Surgery at that time, was not pleased at this and so he ordered for books of equal value and presented them to Rama Rao as his own special prize. In 1887 he was awarded the Johnstone Gold Medal—the blue ribbon of the Medical College.

Thus Rama Rao grew out of humble beginning and patient industry. Contented industry is the mainspring of human happiness. Riches are so



RAI SAHIB DR. G. RAMA RAO, M.B. & C.M.
(1860—1940)

Professor of Anatomy, 1916—1920.

—From an Oil Painting in the Anatomy Dept.

the service of Anatomy in the Madras Medical College, a period of nearly 28 years, and of which any one might justly be proud. But it is, above all, Rama Rao, the man that so many will remember and miss. His lean spare body, with a stern face, the kindly look with such a warm welcome, the pleasure that he evinced whenever an old student visited him, and the great laugh at a good joke, which no one enjoyed more or told better than he did.

He was a simple, upright with a straightforward character, and it was the simple things that he loved and of which he had such an amazing knowledge; the wind and the rain; the blue sky and the sunshine; the birds and the beasts and the flowers and all the beauties of nature; and

good hard work. He hated artificiality of any kind and was incapable of talking a lie to save his soul. Once when an intimate friend of his asked him, why he spent all his time with the dead instead of with the living, his characteristic reply was "because the dead tell no lies and because they are as nature made them".

Rama Rao was a man whom it was a privilege to know and whose friendship was a priceless treasure. May his memory never fade but live as a shining example to every one of us who love him dearly. To the College, Rama Rao has left behind, his last born Dr. G. Dinkar Rao, Additional Professor of Medicine to whom we extend our sympathies in a loss which we consider general.

5th (MADRAS) Bn. U. T. C. 'A' COMPANY (MEDICALS)
Winners of the Guard Mounting Cup

December 1939.



Top Row :—Cdt. Williams, Cdt. Sivaprakasam, Cdt. Kothaneth,
2nd Row :—U. O. Paul, Cdt. Kabir, Cdt. Abraham, C. Q. M. S. Joshi, Cdt. Lakshminarayana Ganti,
Cdt. Madhavan Nambiar, Cdt. Lobo, U. O. Ganapathy,
Sitting :—Sgt. Velayudhan Pillai, Lieut. Viswanathan, Lieut. Ramachandra Rao, L. Cpl. Rangaraj,
(Guard Commander.) (Guard Corporal)
Floor :—Cdt. Usman Sheriff, Cdt. Sadasiva Menon.

In Memoriam

Dr. A. VASUDEVAN, M.B., B.S.
1926-1939
Tutor in Pathology and Curator of Pathology Museum
Retired December 1939.

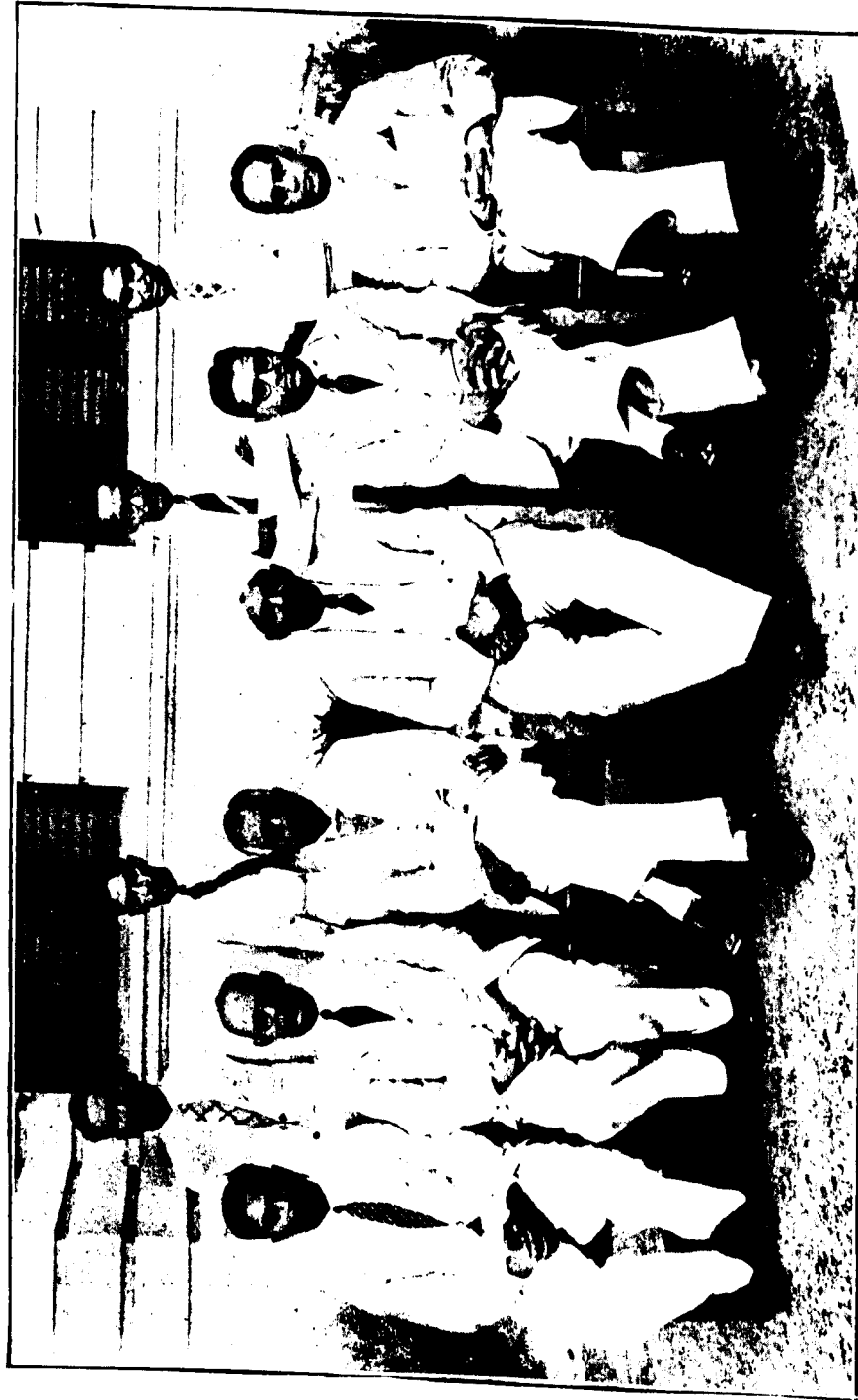
likely to encourage waste of time and changing of objectives in life. How many families have been ruined by money, which has taken away from the younger members the desire to labour and achieve and have introduced elements into their lives whereby instead of being useful citizens, they have become wasteful and sometimes profligate.

Rama Rao entered the Madras Medical Service in 1886 as a Civil Apothecary on Rs. 50 per mensem. In 1889, he was appointed as Medical Officer in charge of the Royapuram Moneger Choultry. During this period, he wanted to appear for the M.B. & C.M. Examination of the Madras University and as a result of a special resolution of the syndicate of that body, he was allowed to do so, and he qualified for that degree in 1889. In 1890 he was transferred to the Medical College as Assistant Professor of Anatomy, which post, he held in conjunction with Biology, Pathology and Jurisprudence. The latter two subjects were subsequently separated and he continued as Assistant Professor of Anatomy and Biology till 1914. In recognition of his long service in the College, he was awarded the title of Rai Sahib by the Government that same year and he was transferred to Cochin as Civil Surgeon on promotion.

About this time, the question of provincialising the chair of Anatomy was engaging the attention of the Government and when it was finally decided upon, Rama Rao was appointed the first non-I. M. S. Professor of Anatomy in the Madras Medical College. The contest for the appointment, we heard, was keen, but Government had already decided upon Rama Rao as the proper incumbent for the post. He joined the

Medical College in his new capacity, in October, 1916. The news of his appointment was received with great joy in the College, firstly because he was the first old student of the College to become a professor and secondly, he was the Assistant Professor of Anatomy in the College for nearly twenty-five years. As he was promoted to the Professorship, rather late in life, Government was pleased to grant him extension of service for three years and he retired from the post in December, 1920. All the students of the College from the First year to the Final assembled in a farewell function to Professor Rama Rao and Col. Giffard, the then Principal, presided and spoke in very high terms about his services. At this function, he advised the students to hold as their philosophy of life, that they are in the world not to get what they could out of it but to do what they could for the happiness of others—advice which he was accustomed to give to all his old students. About the same time or somewhat earlier, in view of his impending retirement, all the old students and admirers of Rama Rao, subscribed liberally for a fund, out of the proceeds of which, an oil painting was put up in the College—the one that we now see in the dissection hall of the Anatomy Department, showing Rama Rao in his characteristic austere pose—and two gold medals were founded, one for the best student in Anatomy in the Medical College and the other for the best student in that subject in the Royapuram Medical School. Year after year Rama Rao was as anxious to see the winners of the Medal, as the latter were to see him in person. He used to send for them, entertain them to tea and bless them. Such was his good and kindly nature.

Rama Rao dedicated the active period of his life, almost entirely to



Sitting :—Mr. K. V. Pillai, B.A., Ex-Secretary
Dr. S. Ramakrishnan, L.M. & S. (Mad.), L.R.C.P. & S. (Edin.), D.T.M. & H. (Lond.)
Dr. N. S. Narasimhan, L.R.C.P. (Lond.), F.R.C.S. (Eng.) and F.R.C.S. (Edin.)
Dr. A. Lakshminarasimham, M.D. (Lond.), F.R.C.S. (Edin.)
Dr. R. V. Raghun. M.B.M.S., M.R.C.P., President
Mr. S. Ranganathan, B.A., Asst. Secretary
Mr. P. Chandrasekara Reddy, General Secretary
Mr. P. Umamaheswara Rao, Student Editor

The Madras Medical College Magazine



WE heartily congratulate Lt.-Col. G.R. McRobert, M.D. F. R. C. P. (Lond), I. M. S., on his appointment as Superintendent, Government General Hospital, Madras.

Lt.-Col. M. M. Cruickshank, M.D. Mch., F. R. C. S., F. R. S., F. A. C. S., has been transferred as Chief Medical Officer and Civil Surgeon, Delhi. He endeared himself to everyone in the Hospital and College and set a good example by his sincere and devoted service. We wish him all success in his new appointment.

"The Fixed Period"

"THE real work of life is done before the fortieth year and that after the sixtieth year it would be best for the world and best for

themselves if men retired from their labours."—Sir William Osler. In the science and art of medicine young or comparatively young men have made every advance of the first rank. Vesalius, Harvey, Hunter, Bichat, Lænnec, Virchow, Lister, Koch were young when their epoch-making studies, were made.

The history of the world shows that a very large proportion of the evils may be traced to sexagenarians, nearly all the great mistakes.

The students and doctors who may have the misfortune to read or to listen to unscientific ideas of sexagenarians should be able to sift the truth for themselves and not to blindly accept the statements as correct.

College Comments

College Comments.

This term has been a rather hectic one, we dare say what with the various socials, teas, dinners, and sports. In addition we have the added thrills of the coming examinations and more than that the plans to skip the last few days of the term that one may lengthen ones Mid-summer holidays without appreciably going down in class attendance. We wish all the students and members of the staff a fine holiday. The College elections are all over and we congratulate the new office-bearers and wish them all a successful year but let them not forget that their troubles have only started and not ended. This year we had very hard-working office-bearers as the General Secretary, the Asst. Secretary and others, thanks to whom we had many new social events and the new office-bearers will have a rather tough time keeping up to this high standard of efficiency. In this connection one can't fail to mention the Sports Secretary Mr. Sarathy who had a very successful season which he brought to a fine climax with a very well conducted sportsday and a fancy dress Dinner that same evening. The same mistake was in evidence in the dinner as was to be seen in the graduates reception. There were many nice things about the Dinner. The fancy costumes were very fanciful indeed, the spirits were high, we had a very clear sky with fine bright stars, and the waiters were in spotless white, and the dinner—and we had many other nice things. It is very unfortunate why the co-operative club is not asked to cater on these occasions. The only thing one

was served with was orange crush which unhappily dissolved itself into pure water by the time dessert was served (to a fortunate few)



The Artist's idea of the Sport's Secretary.

In the midst of pleasure came in misfortune most relentlessly and cruelly in the form of the death of Dr. Rama Rao, retired professor of

Anatomy. His life was a dedication to science and to rigid principles and his name will live as long as the scientific teaching of Anatomy lives.

In his speech at the student's farewell party to Col. Cruickshank, Col. McRobert said that Col. Cruickshank had to give up his duties as Supt. of the General Hospital to take up appointment as civil surgeon, Delhi. He also said that this transfer was effected as result of the decision made by the Central Government to start an Imperial Medical College at Delhi. We are very sorry we are losing Col. Cruickshank. We will be missing a

Jovial Superintendent, a good Surgeon a fine teacher and a perfect gentleman. We cannot seriously grudge our loss for his valuable services are better required elsewhere.

The duty of Superintendent of the General Hospital now falls on Col. McRobert. We are sure he will carry out the good changes that his predecessor has effected. We wish him all success.

Major Collins who is not new to the College takes up Col. Cruickshank's place as Surgeon and we welcome him on his new appointment.

"Personal"

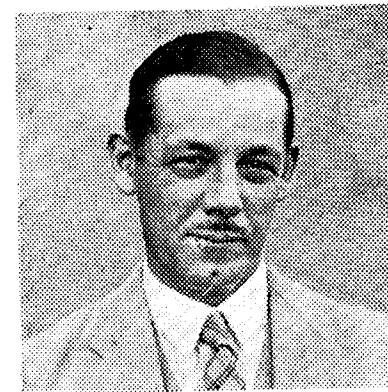
H. E. the Governor is pleased to place the services of Lt.-Col. M. M. Cruickshank, I.M.S., Superintendent, Government General Hospital, Professor of Surgery, Medical College, and Specialist (Senior) in Surgery, Madras, at the disposal of the Government of India for appointment as Chief Medical Officer and Civil Surgeon, Delhi, for a period of four years. The officer will retain a lien on an Indian Medical Service post in this province, for the above period.

H. E. the Governor is pleased to make the following appointments:

Major F. M. Collins, I.M.S., District Medical Officer, North Arcot, and

Superintendent, Government Headquarters Hospital, Vellore, to be Specialist (Senior) in Surgery, Professor of Surgery, Medical College, and Surgeon, Government General Hospital, Madras, from the date of taking charge, *vice* Lt.-Col. M. M. Cruickshank.

Lt.-Col. G. R. McRobert, I.M.S., Specialist (Senior) in Medicine, Professor of Medicine, Medical College and Physician, Government General Hospital, Madras, to be Superintendent, Government General Hospital, Madras, in addition to his duties, from the date of taking charge, *vice* Lt.-Col. M. M. Cruickshank.



Lt.-Col. G. R. McROBERT,
M.D., F.R.C.P., I.M.S.,

—By kind courtesy "The Hindu".

A CORRECTION.

The Madras Medical College Magazine. Volume XVIII. No. 4. July 1939.

The three reproductions of the skiagrams of the chests included between pages 266 and 267 belong to the article "X-ray Study and Electrocardiographic tracings of a few patients with infantile liver." The notes for the three pictures are as below :—

Error.	Correction.
Patrick.—Foreign body in the right bronches.	III. X-ray chest (2-11-37). Antero-posterior view. Narasimha Reddi.
Case No. II.	II. X-ray chest (2-11-1937). Antero-posterior view. Alimelu.
Case No. III.	I. X-ray chest (1-11-1937). Antero-posterior view. Prakasa Rao.





LT.-COL. M. M. CRUICKSHANK,
M.D., F.R.C.S., F.R.S., F.A.C.S., L.M.S.,
—By kind courtesy "The Hindu".



SPORTS

"The College Athletic Club"

ANNUAL REPORT (1939—1940.)

This season particularly, our College has been very successful in Cricket winning all the three championships being unbeaten even once. To begin with we won the Inter-Collegiate Championship remaining unbeaten. In continuation with this we won the Zone Championship by beating Nizam's College. It was a terrible handicap for us because it came off near the time of our University Examination. Still our players rallied round and won the most thrilling match of the season. Finally we bagged up the Inter-Divisional Championship by beating Agricultural College, Coimbatore. Credit goes to our Cricket Captain Mr. M. Muthukumaraswamy for his ability and tact which have been his characteristic features.

Although we did not have a successful season in foot-ball this year, we played all the games. What we lack now is young talents as most of our good veteran players have passed out. Thanks to Mr. Shambu Shetty (captain) for his untiring efforts and patience.

In Hockey too we have had a successful season. We won the Stokes shield for the first time after 3 years, the Inter-Divisional Championship by beating St. Joseph's College, Bangalore, and shared honours with Y.M.C.A. for the Inter-Collegiate Championship.

Besides these I am proud to say that our College has proceeded very far in the field of Hockey. To begin

with ours is the only College which enters for all the three major open Tournaments of the City and has brought forth many a brilliant performance. We must congratulate Mr. E. O'Neill our (old tough guy who was selected for the All-Madras XI against the Bhopal XI.) Our College has lost in him one of the best sportsmen and a wonderful personality. Coming next, recently two of our college players namely Mr. P. V. Krishnamurthy and Mr. Linton took part in the trials for the selection of the All-Madras XI. Mr. Krishnamurthy, our Hockey Captain did good work by getting success after success to our college in Hockey.

Our Tennis Club has missed this season one of its best and creditable players in Dr. Mohanrangan who has passed out of college. Anyway we sent the best of our men namely Mr. A. V. Rajagopal and Mr. A. K. Haridoss for doubles and the former for singles in the Inter-Collegiate Championship. Though our players did not go far in the championship tale they played the game to the best of their ability and sportingly too. Anyway I wish the next season will be successful one due to the incoming of Mr. P. P. Paulose, our present college triple champion and some very good young players, who will prove our motto "Old medicoes never die". Praise goes to Mr. V. P. Naidu, our Tennis Captain for his untiring efforts throughout the season for getting round Tennis members as much as

possible and also for the remarkable ability with which he was able to finish up the Inter-class matches which I thought would almost be impossible.

In Athletics, this year our College has been successful to a certain extent though not complete. To begin with an Athletic team was sent to Annamalai, to compete in an Inter-Collegiate Championship though it did not contain all our best men. Anyway our men brought laurels to our college by winning the Annamalai Trophy. We must congratulate Mr. A. J. Nicholas the individual champion who was mostly responsible for this, by his brilliant performance. Proceeding further I would like to mention that some of our men took part in the Olympics and Inter-Divisional Sports and brought credit to our college. Coming next to our Inter-Collegiate Championship we were rather unfortunate to lose it, as some of our best athletes were unable to take part. Mr. J. Muthia, our Athletic captain did his job well and to the best of his ability.

As far as Boxing is concerned our college is not given a fair chance to show itself off. The reason is that the Inter-Collegiate Boxing Championship is held during the beginning of November, and it is almost impossible for us to send in a complete representative team due to our University examinations coming off in the same month. As such we should feel highly thankful if the Inter-Collegiate authorities think over this matter and hold this championship either in the beginning of October or in the beginning of January. Anyhow this year Mr. D'Sena and Mr. Bartlay represented our College and came out with flying

colours. With the provision of a new practice Boxing ring this year, I wish that more people will practise and win the coveted shield for our College next time.

I would like to mention that we sent in a volley-ball team for the Inter Collegiate knock-out Tournament for the first time. Our College met the Engineers who are far superior to any other college in this game. Though we lost to them, we put up a good show being the first time. There are some really good players in this game in our College and if more chances are given to them by entering for as many tournaments as possible, there is every chance that our College will get another Inter-Collegiate laurel to its credit.

Finally I need not dwell much upon this year's Annual Sports. It is a generally accepted fact that it was one of the best of its kind held so far in the history of the College and to add to it we ended the sports day by day an excellent Costume Dinner which is unprecedented. In this connection I would like to thank the Physical Director, the Lady Sports Secretary and all those who helped me to bring the Annual Sports to a success and the Costume Dinner Committee for their part in bringing the sports day to a fitting end.

Now ladies and gentlemen, I think I will be withdrawing very soon from the office for which you were kind enough to elect me and I hope I have done my duty to the best of my ability and conscience. I wish the best of luck for my successor and great days for our College Athletic Club.

K. P. SARATHY,
Sports Secretary.

MADRAS MEDICAL COLLEGE SPORTS

B. J. Pereira Retains Championship

The Madras Medical College ground presented a picturesque and lively appearance yesterday afternoon, when the annual sports of the College were held before a large gathering of students present and past, ladies, members of the staff and guests. The Hon. the Chief Justice Sir Lionel Leach presided on the occasion and Mrs. N. M. Wilson, wife of the Surgeon-General, distributed the prizes.

Besides the track and field events, there were other competitions such as the tug-of-war, mixed race, ladies hurdles, staff race, and disguise competition which proved quite interesting.

Some new records were set up for the College, B. J. Pereira (holder) was again the Champion athlete.

Sports over, Rao Bahadur Dr. S. Ramakrishnan, Vice-Principal and President of the Madras Medical College Athletic Association, gave an interesting account of the sporting activities of the College and the many triumphs it registered during the past year in Inter-College and University Championships.

Mrs. N. M. Wilson then distributed the prizes to the winners and runners-up in the various events. In a short speech, the Hon. Sir Lionel Leach congratulated the Medical College on the excellent record they held in games and athletics and wished them continued success.

Proposing a vote of thanks, Dr. A. Lakshmanaswami Mudaliar, Principal

of the College, observed it was in the fitness of things that the President of their Association should have invited Sir Lionel Leach to preside that afternoon as no two other professions have to be in such close touch with each other for the well-being of the mind and body as the medical and legal professions.

The following are the results of important events:—

400 Metres Hurdles: B. J. Pereira (1) A. J. Nicholas (2) time 59 4/5 secs. (new record); 16 lbs. Shot Put: J. A. Muthia (1), J. C. A. Dique (2), distance 31 ft. 11 3/4 in.; 16 lbs. Hammer Throw: G. W. Bird (1) J. C. A. Dique (2), distance 82 ft 2 in. (new record); 800 Metres Race: A. J. Nicholas (1), G. Crosse (2), time 2 min. 22 2/5 secs.; Discus Throw: G. W. Bird (1), B. D'L. Carvalho (2), distance 95 ft. 5 in.; Hop, Step and Jump: M. Hussain (1), B. J. Pereira (2), distance 40 ft. 1 3/4 in.; 200 Metres Hurdles: B. J. Pereira (1), C. Alexander (2), time 27 3/5 secs. (new record); 110 Metres Hurdles: B. J. Pereira (1), B. D'L. Carvalho (2), time 16.6 secs. (new record); Javelin Throw: L. M. Hogg (1), J. T. Marshall (2), distance 107 ft. 8 in. (new record); Pole Vault: N. J. Punja (1), H. Gnanavolivu (2), distance 9 ft. 11 3/4 in. (new record); 100 Metres Race: A. J. Ralston (1), B. J. Pereira (2), time 11.2 secs. (new record); Long Jump: B. J. Pereira (1), C. Alexander (2), distance 20 ft. 6 in.; 200 Metres Race: B. J. Pereira (1), A. J. Nicholas (2) time 24.4 secs.; 1,500 Metres Race: M. A. Gidney (1), A. J. Ralston (2), time 4 min. 51.6 secs.;

High Jump: B. Mahadevan (1). V. P. Naidu (2), height 5 ft. 2 in.; 400 Metres Race: M. Hussain (1), A. J. Raiston (2), time 56 secs.; 4 × 200 Metres Relay Race: Medical College (1), Christian College (2); Ladies 100 Metres Race: Miss Hargreaves (1) Miss Welsh (2); Ladies Hurdles Race: Miss Hargreaves (1), Miss O. Hughes (2). — "Hindu," February 22.

Hockey

As even the Mail put it, we fully maintained our reputation as the leading Collegiate Hockey XI in Southern India by winning the triple Crown in Collegiate Hockey. We shared honours with the Y. M. C. A. College in the Inter-Collegiate League for the Mysore Cup. We won the elusive Stokes Shield for the knock-out tournament after a lapse of three years. We retained the University Championship for the fourth year in succession, ever since it was instituted. That is really something to write home about. In addition we entered the open M. U. C. Gold Cup tournament. After defeating the Chinglepet Reserve Police and the Mambalam Hockets in the earlier rounds, we met the M & S. M. Ry. in the semi-final. After giving, what was acknowledged on all hands to be one of the finest displays seen this season in the city, we drew with them on the first day. Dame fortune was cruel to us for with a little bit of luck we should have romped home triumphant. In the replay we just could not do anything right and made a rather tame exit.

Our second XI was also entered for the M. U. C. tournament. After a very long fight they lost narrowly to the Muslims, Stephen's great goal-keeping being a feature of the match.

Our best display of the year was certainly that against the M. & S. M.

Ry. in the first M. U. C. semi-final tie. Some fine defensive work was seen in our matches against the Mambalam Hockets, Nizam's College, Hyderabad and the Bangalore St. Joseph's in the University Final. The best forward displays were seen in our games against the Chinglepet Reserve Police, both the League and knock-out games against Technology and the League game against the Christians. Curiously enough O'Neill had to score two corner goals against the Christians to get us a win, despite the smart work of the forwards.

Without disparagement to others, it must be mentioned that O'Neill and Pereira were the two best players of the year. O'Neill is certainly the most outstanding contribution, our College has made to Madras Hockey since Cullen, the Olympic pivot. After a series of consistently brilliant displays during the season he walked into the All-Madras team by sheer merit and played a memorable game against Bhopal. Though a defence player he was a regular goal-getter for our side, having out-christianed Christian of the Telegraphs at his own game of smacking in short corners. A wonderful player and a fine sportsman, in his departure Madras has lost a great hockey personality.

With a galaxy of goal-keepers in residence at College, it speaks to the

MADRAS MEDICAL COLLEGE HOCKEY XI.



Varsity Champions, Madras Zone Winners, and Winners of Mysore and Stokes Shield.

THE MADRAS MEDICAL COLLEGE CRICKET XI.



Winners of Inter-Collegiate Championship Zone Finalists and Inter-Divisional Champions.

Sports

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credit of Carvalho that he is keeping up his place safe in the team. Possessing a keen eye, a sure kick and presence of mind in plenty, he has been doing grand work under the bar. If he has a weakness it is his liking for the spectacular and an irritating habit of chronic late coming. It is better he gets rid of both. Ince, the strong silent man at left back proved a perfect foil to O'Neill. He has an uncanny anticipation and a particularly snappy pick-up on the left. A very safe full-back he can do even better if he concentrates on first time clearances.

The half-backs, Krishnamurti, Pereira and Jansen are an understanding and hardworking trio. Pereira, at pivot, in particular, has been playing at the peak of his form, even better than in those palmy days of 1936. It is difficult to be a top-notcher game after game but it can be truly said of Pereira that he was always at his best. Jansen, on his left is a safe, steady and sincere player. His positioning on the field is faultless and the way the bottled-up Smith in the M. U. C. semi-final tie will linger long in our memory.

The forwards are a fast and clever quintette, and if only their finish is on a par with their delightful approach work, they will be unstoppable front time—Linton proved himself to be a capable leader of the forward bloc and is our most consistent goal scorer. Diminutive in stature, he is a tricky as he is small, and forms a spectacular inside trio with Hogg and Nugent. Hogg at inside-right was brilliant on occasions but he is not the same match-winning forward he had been in previous years. When he gets going he is pretty to watch but at times he is forgetful of the presence of other forwards on

the field. Nugent, the new comer, is the big find of the year and has gingered up the forward line quite a lot. Possessing deft stickwork and a terrific smashing finish, he was rather unlucky in not scoring more goals, since some of his brilliant shots sailed over the cross-bar more often than under. He should however shake off his occasional lapses into lazy logrolling.

It was a pity that Ralston, the human 'Blue-peter' of the side chose to keep out of hockey. Harirajan, who stepped in at the far right proved quite competent. He is speedy and is improving with each game. His shots however should be hit harder. Gomez, the left winger, is very tricky and has a fine back-hand stroke. If only he dishes in more of dash and enthusiasm into his game there is no reason why he should not step into the shoes of his famous brother, Sidney Gomez, in big hockey. Crosse is a capable half-back and will be a worthy successor to Jansen. Although a half-back he has a happy trait of going all out for a goal wherever there is a chance.

Linton and Krishnamurti were chosen to play for the 'Rest of Madras' in the Exhibition match against the M. & S. M. Ry., the Madras League Champions. They failed to strike their best form and in the end it was just "giving them the Irishmen's rise". It was hard luck on Linton that he was tried at inside right instead of his usual position at centre.

Viewing the work of our team dispassionately it has to be pointed out that the inside forwards should open out the game more often on the wing-men and the wing half-backs should get over their habit of straying in.

Medical College Magazine

We can face the future with optimism, with a number of good reserve players, there is no dearth of talent and given proper encouragement they will certainly be in the first flight. It was my privilege to have had the splendid co-operation of a happy band and I wish Mr. E.S. Linton, the next year's captain, all luck.

The team.—Carvalo; O'Neill and Ince; Krishnamurthi, Pereira and Jansen; Harirajan, Hogg, Linton, Nugent and Gomez.

P. V. KRISHNAMURTHY,

Captain, Hockey.

Foot Ball

There were two singular features about the College foot ball team. If we won the toss we invariably lost the match. Secondly we had the good fortune to win over all the tough teams, but put up a poor show against the others. These are singular facts which I cannot explain. The foot ball team this year was as good as last year's and the defence was strengthened by the inclusion of the two old timers Omen and Ralston. Stephens at goal was a very good custodian and with Omen and Sri-dharan at back and Ralston and Viswanathan in the half line the defence was almost impregnable. The forwards were however not as good

as was expected and it was only the occasional solo efforts of A. K. Haridoss that maintained our reputation. We are ranked fifth in the league but it may be remembered that many of our veterans could not play for us for some reason or other. Should be guilty of ingratitude if I do not thank the many of the youngsters who rallied round and filled up the gaps in the last minute absence of the veterans. My thanks are due to Ralston, Stephens and Viswanathan who kept up with spirit of the game to the end in spite of our bad luck. I wish the future captain all luck.

SHAMBU SHETTY,
Captain, Foot Ball.

Cricket.

The banner of victory was unfurled throughout, due mainly to the kind co-operation and splendid performance of the members of the team. Always they understood the position, and played to a man, a fact which has been well demonstrated in the result, the wresting of the triple crown of Inter-Collegiate League, Inter-Divisional and University Championship, for the first time. I thank all the

members of the team for keeping up the splendid tradition of our College.

All the matches except the last two have been ably reviewed by 'Senex' and I shall follow up the lost trail. The most important fixture and significant victory for us, this year, was our match against The Nizam's College team. The match came off on November 6th on our grounds. My team



Professors and the Asst. Professors Tug-of-War



Sac Fight



The Ladies Race



A. J. Ralston finishing the 100 Meters Race



The Staff Mixed Race



Punja clearing the Pole Vault



The Students Mixed Race

Sports



Mr. A. V. RAJAGOPALAN



Bhaskara Mahadevan clearing the High Jump

—By courtesy "The Hindu"

mates with examinations at their throats who have been persistently out watching the stars, were really not in the pink of their mettle, when they nobly responded to uphold their college prestige. We were all out for a paltry 132, Haridoss 34, Harben 33, and myself 36. We had an uphill task of getting them out to this small total, by no means an easy task considering they had players of inter-provincial reputation with them. It was the team that won the match, but special mention must be made on the catches of Harben and Herbert and a splendid and inspired bowling by A. V. Rajagopalan and Padmanabhan. They were 86 for 4 on 6th evening but on 7th morning A. V. and Pattu ran through the side in just under an hour with their fine break back (inswingers). I am proud of their performance and the congratulations they received all round showed me that the College too is of my way of thought.

Our finals against Agricultural College too is of my way of thought.

Our finals against Agricultural College, Coimbatore, was a tame affair. A. V. and Haridoss batted well in both innings and A. V. lived up to his reputation as the best hitter in inter-collegiate cricket and as one of the best all-rounders.

Some of our players have made their mark in the 'A' division League matches conducted by the Madras Cricket Association. Haridoss was selected for the M.C.A. 2nd XI against Mysore. He captained the combined College XI and also the Madras Varsity XI.

He has been our mainstay in batting and he topped the batting average once again. A. V. Rajagopalan topped

the bowling averages. Though the figures did not favour Padmanabhan he still remains the lion-hearted bowler and the mainstay of our attack.

I will be failing in my duty if I don't mention of the great performance of A. V. Rajagopalan against Minerva in the League final. He broke not only the back of bowlers of Inter-provincial and All-India repute but broke all existing records. His 171 not out consisting of 17 fours and 6 sixers, made with a sure eye, perfect timing and delightful ease and in the quickest time is not only a ground record and league record but the most delightful and scientific hitting seen in the past decade. He had the power of Willard and the timing and grace of Yardley. I congratulate him and the College and University must be proud of its alumnus.

I would be guilty of a serious omission if I did not express my heartfelt gratitude to those students of the college who cut their classes incurred the wrath of professors, and gave up valuable time by coming and seeing us in action encouraging us and advising us. Without them we wouldn't have had the pep and cheer for what is sports if it doesn't cheer the multitude.

The year's cricket brought to a close with Interclass matches which the final years won. In this connection I would stress once again that if the regular players of the College XI keep out of these fixtures, they would be more interesting and better contested.

With the new captain A. K. Haridoss all luck.

MUTHUKUMARASWAMY,
Captain, Cricket.

Ladies' Section

(Report for the Year 1939-40)

We started the year with great enthusiasm and high hopes, rosy visions of winning the Inter-Collegiate Championship looming ahead, and though bitter disappointment awaited us, we still believe in and practise aiming high so that one may not actually touch the bottom at the end. The tournaments in Throw Ball and Tenuquoit were conducted during the first term, and we won four and lost three matches in the former, and won three and lost four in the latter. It was the old old story throughout, of players not turning up in time or sometimes not at all, for the various matches as well as for practice. In the second term we entered only for Badminton, the Net Ball Court due to financial stringency being left to the mercy of next year's Committee. We were rather more earnest about things in the Second Term, and were Runners-up in Badminton having lost to the Women's Christian College in the finals, the element of pick-tilting the balance in favour of the Christians, rather than actual superiority or merit. It was rather unfortunate that we were not able to enter for the Base Ball Tournament during the Third Term, but we more than made up for it by winning the Tennis Championship for the Fourth Year in succession, our congratulations to Miss Leelavathi Bai and Miss Noreen Hughes on their splendid performance.

In fact we (as well as the other competitors) have almost come to look upon the Tennis Cup as being the property of the Medicæes.

Women's Hockey has been making rapid strides in the city during recent years and we are looking forward to the day when it will be included in the activities of the Inter-Collegiate Athletic Association. In this connection, it is well-worth mentioning that two of our players, Miss Olive Hughes and Miss Noreen Hughes had the proud privilege of being chosen to play for Madras in the All-India Inter-Provincial Tournament.*

It is a pity that we so often forget that the best of things need practice, it is true that the play-grounds being situated in the Hostel premises at Kilpauk, it is very inconvenient for the majority of the day scholars to take active interest in the various games. Even so with the wealth of talent at our disposal and the fact that a particular batch of students continue to be in the same institution for five or more years (a pet grouse against medicæes) we ought to do infinitely better, of course a little more co-operation being necessary particularly from the day scholars.

P. K. DEVI,
(Ladies) Sports Secretary.

* Why not start a Women Medicæes Hockey XI?

The Military Students

BY

A Military Student.

Being honoured by a request from the Editors we append a brief resume of the Military Students' activities—academic, athletic and social for the year 1939-40.

After giving a progressively better account of ourselves in the final examination each year we rose to exceptional heights last November; our three final year students securing four open prizes. A. J. Ralston obtained two, while E. P. O'Neill and D. S. B. Stephens secured one each. In the other years we maintained a high standard E. P. O'Neill was ranked fourth in the final M.B.B.S. examination.

E. S. Linton was selected to play in the final match to select the Madras Hockey XI to compete in the All-India Tournament at Bombay.

L. M. Hogg was selected to Captain the Combined Colleges Cricket XI.

In the Inter-Collegiate Sports at the Annamalai University, Annamalai-nagar, Chidambaram. A. J. Nicholas won the Individual Championship and four events, viz., 100 metres, 200 metres hurdles and 400 metres; while G. W. Bird won the 16 lbs. Shot Put and B. D. Carvalho the 100 metres hurdles.

In the University of Madras Sports, both in the Madras division as well as the Inter-divisional meeting, A. J. Ralston won the 100 and 200 metres while B. J. Pereira won the 200 metres hurdles.

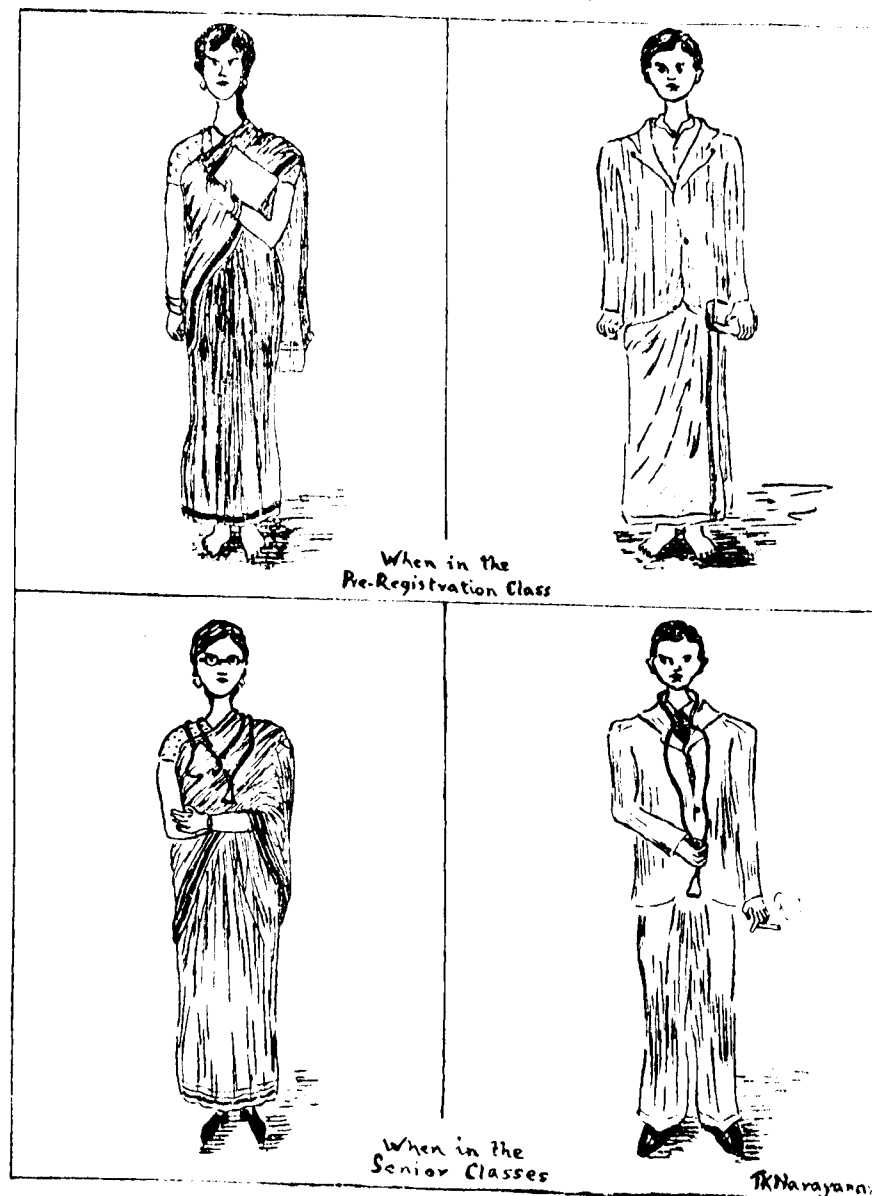
In the Inter-Collegiate Sports (Madras) B. J. Pereira won the 110 metres hurdles, the 200 metres hurdles and the 400 metres hurdles.

At the Mysore State Olympic Games, G. W. Bird won the 16 lbs. Hammer throw.

In our College Sports, B. J. Pereira won the Individual Championship and five events namely the Long Jump, 200 metres and the three hurdle races. G. W. Bird won the Discus throw and the 16 lbs. Hammer throw, A. J. Ralston won the 100 metres, A. J. Nicholas the 800 metres, M. A. Gidney the 1500 metres and L. M. Hogg the Javelin throw.

We regretted very much that we could not extend our usual warm welcome to the new students as none were recruited this year. In July we had a social and dance in the College Hall and spent a most enjoyable time. In December the present Final Year gave a farewell dinner to the outgoing Military Students. This function was much a great success that we propose to make it a regular feature. Our Annual Ball was held in February in the College Hall. The function was enjoyable as usual most of the College Staff were present and enjoyed the function as much as we did. L. M. Hogg was the Secretary. We desire to express our thanks to J. C. A. Dique for devoting so much of his time in making the tasteful decorations.

EVOLUTION



A Biological Excursion To Ennore.

BY S. A. MUGADAM,

Representative Pre-Registration Class.

The Biology students of the Pre-Registration Class went on a Biological Excursion to Ennore. The students gathered at the Madras Central Station on the 26th August 1939, punctually at 8-30 a. m. fully equipped with cameras, film spools, and 'Flakes' to last for a week. Precisely at 8-46 a. m. just as the guard whistled, No. 155 Ponneri Passenger proudly steamed out of the station conscious of carrying 25 girls, 63 boys, two demonstrators all under the able guidance and command of our learned Professor Mr. Sundra Rao.

The journey was made pleasant by the nightingales of our class. At 9-40 a. m. we got down from the train at Ennore Station whence we had to walk to the cottage. We walked along the bushes making some collection of the plants. At the Bangalow we were cordially received by Mr. Balamukandara Rao and party who came overnight to look after our comforts. All the men of our party were comfortably lodged in some of the rooms of the cottage and the ladies were accommodated in a separate pretty well furnished room of our cottage, which was lavishly scented with perfumes and cosmetic.

Our work at Ennore started with light refreshment. At 10-30 a. m. we all assembled out with our loaded cameras, and the Professor came out with his walking stick and in his usual graceful tone ordered us to quick march. We followed him to the Museum managed by the Department

of fisheries, where he, with the help of the demonstrators explained us the life-history of the various sea-animals preserved there. Leaving the Museum we walked along the shore and made a good collection of the most common cryptogams. The blaze of the heavenly conflagration discouraged most of us from entering the fields and the forests of that place. Unnoticed by the Professor, some of our friends skulked away to our sweetly scented cottage. Yet the adventurous few, refreshing themselves with "Elnear" Drinks followed the steps of our able and energetic Professor. With a very good collection of plants, returned the tired party at 12-30 p. m. After a refreshing wash, followed by a lecture delivered by Mr. K. K. Menon on the peculiarities and the Ecological modifications of the collected specimens we had our 'Lunch' and a few minutes of much required rest to render us fit for renewing our strenuous collection. Exactly at 3 p. m. we started in boats for the island in front. There we collected few of the rare-specimens—specimens foreign to the climatic conditions of Madras; and soon returned to get into the boat in time to set sail. We were not lucky enough to have a sacred sea-bath to wash off our sins as the Professor strictly warned us from bathing in the sea.

The sabbish-waters of the deep on the deck behind, the distant horizon in front, the green forest on the right and the yellow cottage on the left, filled us with a sense of sublimity of the

scene. Though we rowed for a short-time, yet it was very pleasant and we enjoyed it to the full by drenching deliberately those who chose to pull a long face when the occasion called for mirth and jollity.

Deriving the full pleasure of boating we returned to the cottage. Before we could recollect the pleasant incidents, Mr. C. J. Jayadev delivered the evening lecture on specimens collected in the island. This lecture was followed by a most humorous and entertaining concluding speech by our Professor. Immediately after the lecture the thirsty souls had tea, cakes and biscuits.

Bidding good-bye to the land of the Naturalist, we started for the station unfortunately our two miles long party march so slowly, that the train whistled off before the front end of our party could reach the station. All our efforts to call back the train proved futile. Hence ladies and all gentlemen had to wait at the moonlit platform till 8-30 p. m. Here again the nightingales flocked round and entertained their friends with the sweet music of their songs till the next train kindly dropped us at Madras Central much to the relief of most of us, though to the disillusionment of a few.

Thus ended our maiden delight. We are not likely to forget it for ever. The merry laughs coming from merrier moonlit faces, the pleasant jokes suggestive of boisterous mirth, the half serious countenance of the Professor, who in spite of his commanding position, could not but chose to mingle with his beloved students, the learning expressions of the ladies, their extraordinarily energetic gail, the sublimity of our

surroundings, tending to drift our memories back to a thousand years, when kings held their own within small circles, which they called their dominions, consisting of grassy lands and forgoing rivers, surrounding the place in which they lived. The pure God-gifted air, laden with rich perfumes, giving its message (of freedom) to whom so ever it met, the thick forests—aweful but majestic, standing in strange contrast to the man made gardens in front of them, the simple but happy faces of the muscular fishermen—all, all flash past a man's imagination, so swiftly yet so deliberately, that as he could dwell on so happy a picture, it fades and thus enhances its own sweetness.

What we learn within the four-walls of our lecture room lacks the reality of the experience of the outside world and especially to the students of Biology, the knowledge they derive in their lecture room is in my opinion rather insignificant when compared to what they gain from nature during such excursions because nature is a better teacher of Biology—the science to which it is so closely attached.

In conclusion, we take this opportunity of thanking our Professor who so kindly accompanied us to Ennore in spite of the bad weather and gave us due liberty to enjoy the excursion. Some of our most energetic and enthusiastic classmates do deserve our heartiest congratulations at their long yearned success, in entertaining the much depressed ladies on the moonlit platform. Of course, our gratitude is due to many of the ladies who kindly served the servers of our party sacrificing their much needed rest after their heavy meals.

An Excursion to Mahabalipuram.

BY P. D. LONAPPAN, (1st Year, M.B.)

The organisers of this excursion were a batch of first year (Junior) students of the College. They, recollecting the sweet experiences during the excursion in the Pre-Registration class, wanted to carry out one more excursion. This idea entered their heads soon after the reopening of the College after the Christmas vacation. It was rather premature and they seemed to have forgotten in the heat of the moment the great responsibilities they had to shoulder in carrying out an excursion successfully. And, in their attempt to popularise it among our class-mates they failed miserably. Many of the enthusiastic supporters of this excursion fell through; even more responsible persons felt shy when faced with realities to keep up their promises. So much so, the representative character of our excursion was lost and the number of those who actually partook in it came down to sixteen—a lucky number. We were very lucky throughout the excursion.

We started from Madras Fort Station early in the morning of 17th February. In the train we did a lot of fooling, shouting and singing. We halted at Tambaram for breakfast on *dosais* and *vadais*. Though the staff was not exceptionally good, we enjoyed the bargaining better. Our second halt was at Chingleput. The halt at Chinglepet provided a wide scope for fun and laughter on account of a row between two bus drivers of the place as to who should have the honour of giving us a lift to Mahabalipuram. The halt at Chinglepet provided more interest for us as

we caught the scent of another batch of excursionists from Lady Willingdon's Training College; and we reached Tirukalukunram at about 10 a.m.

At Tirukalukunram, we made a long halt. We visited all the temples there. We climbed the uphill mountain—a baffling task. Our hearts beat high and fast as we went up, firstly because it was so steep an ascent, secondly because we expected to see some miraculous birds up on the rocks and thirdly because we hoped to meet our co-excursionists there. As we reached the hill we paused to watch the birds, and the other excursionists there. We saw a pair of birds, a pair of white kites, which according to current report visited those hills daily at about noon time after taking their bath in the holy rivers for receiving the sacrificial food offered to them by the pujarin of the temple. We saw the feeding of the miraculous birds which kept us spell bound for some times. Here we made a contact with the excursionists from Lady Willingdon's Training College. After visiting the temple on the hills, we retired to a hotel for dinner. The dinner was served by a girl of twelve and her father. She soon became popular among us as our 'Angachi'. With the memory of our 'Angachi' fresh in our minds we left the place and shot our bus forwards to Mahabalipuram, "to fresh fields and pastures new."

At Mahabalipuram, we saw many enchanting things. We saw our sisters from Lady Willingdon's who had

got there earlier than us helping themselves to a hearty repast. There we were joined by a guide, Mari who expounded to us in his characteristic way the stories of Sri Pandavas, Sri Krishna, and a whole host of puranic and mythological heroes and heroines. He told us how they lived, sat, chatted, bathed, danced and slept, pointing to the images and figures done on the rocky walls of the ruins there. The stories of Sri Krishna and Govardhana, Krishna and the Gopis, Krishna's butter balls, Arjuna's tapas and many others were brought home to our mind forcibly and lucidly by his illustrative lectures, and, our wonder grew at every word and gesture of his.

We took snapshots of the place. We partook of our evening tiffin on the last of the Seven Pagodas just on the verge of the waves. Some of our company sat on the rocks among the waves and bathed in the stormy waters. Our sisters from the Lady Willingdon's College were also there. They kindly supplied us with many sweets. When the time came for us to depart, we left the place with heavy hearts, with "longing lingering looks" towards those scenes of happy memories.

The return journey was full of fun and laughter. We made speeches in the train. Our budding orators dwelt at length on the excursion, the non-co-operation of our class-mates, and, on 'love and its manifold reactions on us in our daily life'. One gentleman in our compartment observing the enthusiasm and vivacity of our company remarked "I feel years younger now". On hearing the stations near our homes, we got ourselves disbanded cheering lustily and vociferously, and wishing each other very delicious and sweet dreams in sleep.

Thus ended our excursion to Mahabalipuram which indeed made a lot of noise among the first year students. It was a grand success on account of the forethought and organising ability of our leaders and our keen enthusiasm and hearty co-operation.

A visit to Mahabalipuram is worthwhile because of the historic, æsthetic and religious importance of the place. Mahabalipuram is known to students of South Indian History as a port under the Palla Kings. It was a seat of maritime power which enabled our ancient kings to extend their conquest, trade and civilisation outside India to such distant countries like Burma, Malaya and the East Indies. It stands therefore as a living testimony to our ancient maritime glory. Mahabalipuram is also famous for its Seven Pagodas. They are passing quickly out of sight on account of the onslaught of the Bay of Bengal, the lashing of the restless waves, the frequent tempests and the neglect of the place by the Government. The last of them is still there on the sea-shore inviting every curious traveller, excursionist and research scholar. It defies our imagination and intelligence to form an idea about the greatness of those ancient people. It appeals to the artistic mind both from its site as well as its architecture. Majestically it overlooks the sea; the Light-House, the green foliage, the rock palaces and temples, the hillocks the winding paths and the dotted houses form a background to this immense work of art showing it in bold relief and thereby enhancing its beauty and lustre. Its magnificence when clothed in the golden evening sun light "break through the bonds of words and escape" adequate expression. The temples and palaces of Mahabalipuram are hewn out of rocks. The style of these structures is "simple

and severe but indicative of great strength and durability". They are decorated with figures and images carved on the walls depicting stories from Mahabharatha. The fine carving, the polish and the finish, the

the pose and the style, the fine proportion, of these images speak eloquently about the æsthetic and sculptural perfection of our forefathers. We are indeed proud of them.

“The Medicoes”

I believe, that it is my duty to apologise at the onset for the subject of this article, which I am afraid may offend some sensitive souls, or draw praise from others, who like me, have no eyes for the bright patches, but only for the dark spots. I really feel very small for washing the dirty linen of my own comrades, just for a passing whim of mine. I set on this unpleasant job with a lingering pen and the same time cursing that ‘whim’ as eve would have cursed the serpent for the fruit of the forbidden tree. As my hand is laid on the yoke, I am not going to turn back but go through the ordeal, grinning, to be labelled down at the end as the Tom O’Bedlam and, this piece, as the unhealthy product of a perverted brain. If I seriously offend anybody—God forbid, the fault isn’t so much mine, as it is of the God that made me.

As the morning breaks out our five hundred and odd Adams Yawn, wriggle and struggle out of their beds, to study their morning faces in a mirror and consider what they really lack, either a fairer complexion, a straight nose, a well arranged set of teeth, or a pair of well set eye brows, God hasn’t perfectly fashioned any mortal, my dear, and that is the despair of one and all. With the dawn came the thoughts of the day, not so much about their books, as sartorial graces. The usual morning bath, a clean shave and a hasty chota see them dusting their books and finally off in immaculate dresses to different conveyances speeding towards one destination—their Eden.

When the time for the class comes, boys rush in with a view to

occupy seats as much near to the first branch as their masculine strength and elbowing could help them. In the struggle ties get ruffled up, bows incline at comic angles, and some of the well polished shoes change their desired colour. As they sit panting and heaving, the demonstrator enters the class for the roll call and in his wako sail in the Muses, for whose homage so much dust had risen in the class and out of the benches. From a sinking ship they are the first to escape, but in an assembled class they are the last to enter. How could the charming and the sweet stand up to rougher things! The lordly lot of students, who think that they are above lectures, and that the examination is not the acid test for their supposed abilities, for there even a fool can sometimes ask what a wise man may fail to answer, just toll up quite leisurely, with measured steps, past the first benches thinking that each in his turn will be the object of attraction.

Bleeding the larky purses of their parents, boys of my pattern get money for the latest edition of their text, but instead they purchase a combination of tie and kerchief. With the maxim that “one guesses the goodness of the posture by the mantle one sees it wears” they work out the little plans of their cherished lives. As regards the ‘darlings,’ it is quite different. God knows, what havoc is played by these philomels in flamboyant sarees-sarees that suit their sweet charm to perfection—or the poems in high heels on the moon stricken Endymious in Pantaloon. For a kind word they eat their hearts

“The Medicoes”

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away, starve for a smile and pine for a glance of favour. Some are really lifted out of the ranks, some to those rarefied heights where breathing is so difficult. Sometimes, accidents has provided the ‘Open sesame’. And the unlucky some, in their effort, fall down with their wings burnt, as the ill-fated ‘Icarus’ even without the passing tribute of a solitary tear. The moods of the delicate are as unreliable and varied as those of the seven seas. That they could blow hot and cold in one breath is a decided fact. They would without regret cut you dead at one place, and recognize with a gracious smile at the other. So the only thing for you young hearts, is to avoid their path and glue your eyes to the ground before you, and go ahead.

The companion of a senior medico as he fondly calls himself is a stethoscope, a companion in the early days of its possession is never parted with. Like every other object of desire, it is full of hopes from which the bird has flown. A week back I saw a speaking acquaintance of mine of the race course decidedly an unhealthy place and he was consequently whipping out the steth and putting it

back, due perhaps to his assimilation in the general excitement of the place. Our friend was a puntee too, but not a wise one at that! He had backed one horse, which I guessed would be one of the “Also-ran” Near the finish his horse was tailing off last, but it was fun good enough, to see our medico swirl his steth, in the air, lasting, as the thought, the jockey to make his horse win “Hands down” as the punters say. But, this is beside the point. With some the stethoscope becomes such an inseparable part of their personality, that one could see it on them when they go out for an evening stroll on the Marina and sometimes even in the talkie houses at the night performance. But I haven’t seen the lady medicoes with that ‘stamp’ on such occasions, because I suppose they have no pockets on their sarees.

Many of you will be highly stung with curiosity to know who I am—well one who hasn’t decided to give up the mute company of the “*disembered dead*”; one who is quite content to be one of the crowd of your well-wishers.

“A PARROT.”

M. D.—Doctor of Murder: A Short Story.

BY S. SWAMINATHAN,

1st Year, M.B.

Nowadays one is familiar with detective fiction where medical men are often found to be connected with the most horrible crimes perpetrated either by them or being instrumental to others who do them. Books with striking head lines like "the mystery of the hollow lancet", "the dilemma of Dr. Dobrovosky" and Umpteen others could be had for six pence half penny in England. For another four pence, you could know the psychological moment when the hypodermic needle assists itself. Nurses too, I mean the female species, are often not spared. But that is all only in fiction. I shall relate to you an actual catastrophe, quite singular, which overtook one of our doctors in this very city.

Bangulpet is dark even on a full moon. Dilapidated buildings lean heavily upon one another and throw fantastic and eerie shadows in the nights. The houses are dark and the streets dirty. Almost at once after nine in the night one hears steady whispers which occasionally are raised into brawls. If one cares to listen intently to the whispers one could find the men and women quite conversant with Billings gate. At the dead hour, burglary is the watch word. Let sleeping dogs lie. But none sleep! Crimed Bat would loathe themselves and loth the light to which they would be brought! But they were never brought to light.

In Bungalpet lived a doctor and a briefless barrister. Don't ask me why they were there. When I think of

them I am reminded of a mundane civilian who settled in a military town where everybody except himself added on O.B.E. to his name in his professional board. The civilian got worried and finally he also decided to add an O.B.E. to his name, when somebody asked him about it, he seemed to have replied that he was the "Only Bloody Exception". This is by the way. Our crime doctor lived quite an uneventful life though he was the only one of his kind. In spite of his M. D. private *practice produced him*. So he was going thorough a monotonous and regular zog trot. But momentous things might happen.

It happened one of those days in April when the temperature was very high and temper higher still. Street quarrels were becoming as common as quarrels between dogs over a bone. It is possible there might have been a gentleman amongst the canine species in Bungalpet but not one amongst the human. The doctor was already beginning to make up his mind as to the advisability for a change of waters. Throughout the evening he had not been feeling quite well with a headache. He cut out his food and tried to sleep over a cup of milk and some aspirin. But sleep he couldn't get.

He was lying in his bed restless quite for a long time and even heard his clock strike the half hour after eleven. After that, in spite of himself sleep came and along with it dreams too, horrible ones. He half awoke

M. D.—Doctor of Murder: A Short Story

and turned to the other side in his bed. Just then he heard a distinct buzzing sound which mounted up to a droning. This droning went on steadily and refused to be put up. It came at least ten times in a minute within an arm's length of the doctor's bed. The doctor's blood ran cold. His lips came dump and his limbs numb. He knew what was coming on him. It had been a surprise to him that he was left to live peacefully in Bangulpet. As he thought of this, he found to his surprise that the number of droning monsters were beginning to swell up and they were already more than six of them there. Colossal inactivity followed. He froze in his bed with fear, when suddenly there was a biting slap made on his chest. He shrieked loudly in his sleep and it rent the silent air of the night.

The barrister heard it and many others of the under world. The latter never worried. The barrister hurried on with light and tapped at the door of the doctor's house. But the doctor would not open for a long time, in spite of the lawyer's protests, orders and entreaties. In the end the doctor

took courage and opened the door. What both of them saw in the light of the barrister's lantern made them shudder. The doctor began to wonder why his life had not become extinct by that time. There was a purple patch of blood on the clean white shirt hideously glaring in front of his chest the sight of which left his retina quivering. The barrister at once expected to find a pool of blood somewhere there. But there was not another drop of it.

The doctor tried in vain to keep his wits around him. He remembered nothing after that painful stab. Gradually he began to recollect reluctantly buzzing.....droning.....stabbing as with a lancet....Yes it might have been a mosquito that stung him.....mosquito and murder; they were poles asunder.....Yes it was definitely a mosquito a fat anopheles which he had crushed.....the purple patch of blood on a shirt. "Mosquito and murder" he said to himself half aloud. He felt ashamed.

The barrister felt beaten and could do nothing but bid good night to the doctor of murder.

To the Sparrow

I have seen so many a busy being,
Yet none busier than thee, blithe spirit!
Tell me, dear bird, what is it thou doest?
Thou comest in and goest out,
In and out and out and in all day long!
While I, a hapless one, compelled to rest,
Am jealous of thy eternal freedom!
A blade of grass, a piece of rhyme
Thou bringest with thee every time;
With a merry twitter and mad delight
Thou art gone to bring some more!
Know thee not what fatigue is?
Heard thee ever of indolence? or of pain,
Which has so much over-powered man?
My heart throbs to see thee so gay,
And to make the best of what thou hast!
We weep and pine for what is not;
The more we have the more we want.
Thou, happy soul, mockest at the wily man
That hath destroyed thy own little paradise!
Thou curstest him not but buildest anew,
With joy renewed and thus tellest him
To teach himself to laugh even at death!

K.

The Eternal Truth

Asketh thou of me, my beloved friend,
If thou and I are a passing dream?
If Love is a truth that Nature made,
Or only the light that but once did gleam?

What is Life of Love deprived? Love—
That is the only bow on Life's dark cloud,
The only melody that the world does fill,
And changes worthless things to joy.

Upon the new-born babe it does shine,
Sheds its radiance on the silent tomb;
Inspires poet, patriot philosopher, all alike,
And gives the nightingale its melodious tune.

Love's the only flame that the storm endures,
't is that sacred passion that for e'er lives
And makes heaven of earth and life divine.
Nature knows but one Eternal Truth—it's LOVE.

K.

"Pharmacology"

[Two Weeks before the University Examination]

You double-distilled damnation,
Of incredible doses and drugs!
You awful, insane Galenic creation,
Of roots and leaves and bugs!

For a month and a half I've swatted you;
—By Gad! How I have tried.
A little more and I may be thru';
—A little more and I may have died.

Curse it! You do not form a Habit;
Nor do you cause Euphoria.
If only you were cumulative—damn it!
There would not be this mania.

Of knowing this stimulates, that depresses
—I'm afraid you do the latter.
I don't know doses but by guesses.
—Thy brain is one big clatter!!

E. S. L.

"III Yr. Mania"

[A Thought Suggested in O. P. by the Asst. Prof. of Medicine]

Up to the end of the II Yr. I was normal.
My heart and lungs they were sound ;
In my bones and joints --nothing to be found,
And my behaviour was far from abnormal
But when into the III Yr. I toddled,
With a stethoscope and tendon hammer,
My brain became absolutely addled,
And I acted in a very strange manner.
For I found, to my extreme horror,
That I had all the diseases under the Sun.
I knew I might live for to-day or to-morrow,
But sooner or later I'd be a "dead 'un"!
I was sure I had upper and lower motor neurone lesions,
And all the chronic array of nervous disorders.
High infective fevers and diseases of all seasons,
And all the remaining medical bothers.
Since then I have learnt not to despair,
—I am as good as I was last year.
Let sickness and bacteria foul the air,
For I am cured of my III Yr. mania!

E. S. L.

On Seeing an Old Professor in a Sorrowful Mood

With face, bent low, and eyes fixed fast
On the ground in a mood of sorrow,—
Sorrow that of present, 'nd of past,
Shattering the sweet hope of the morrow:

Alone but for the corpse well nigh,
And the sad singing Coovum river,
Stand you on the balcony so high,
To ponder on cold Fate 'nd shiver:

I see you so sad at these years ;
What you feel for I knew not :
But yet my eyes are full with tears
As I think of my humble lot.

Dear Sir! this life of fear and fret,
With little charm and more of pain ;
Oft drowns me in thought to forget
Of sorrows incessant on me that rain :

Duty at hand hurries me back to toil :
A slave, to harsh adversity in short ;
To cool down the emotions that so toil
With a noble and sunken heart.

By a Lunatic

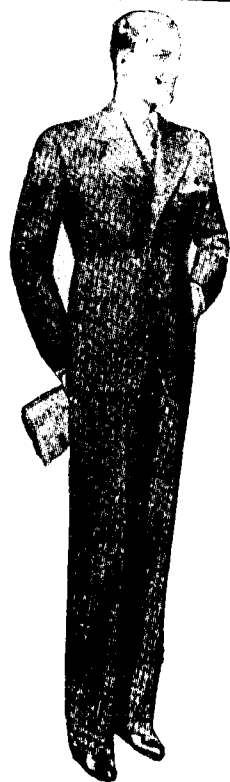


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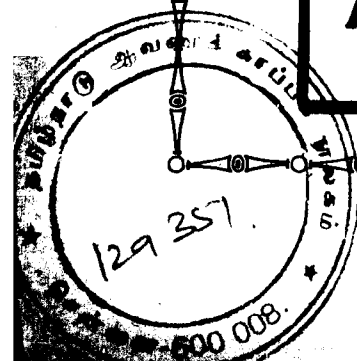


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